Evidence-based positioning of sodium-glucose co-transporter 2 inhibitors and glucagon-like peptide-1 receptor agonists in the management of chronic kidney disease with type 2 diabetes and overweight or obesity: A systematic literature review

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Short title: Systematic review on SGLT2is and GLP-1 RAs in management of CKD

Supplementary Materials

1. Search Strategy

Supplementary Table 1. Search Strategy Used in MEDLINE, Embase, CENTRAL, CDSR and DARE (Searched Simultaneously via the Ovid SP Platform)

Term Group	#	Search Terms	Hits (12th May 2025)
CKD	1	*Chronic kidney failure/ or Chronic kidney failure.kw.	176567
	2	exp *Renal Insufficiency, Chronic/ or Chronic Renal Insufficiency.kw.	209475
	3	*Kidney disease, chronic/ or Chronic kidney disease.kw.	157646
	4	((chronic kidney or chronic renal or end stage renal or end stage kidney) adj (disease or failure)).ti,ab.	415119
	5	or/1-4	488018
GLP-1	6	glucagon like peptide 1 receptor agonist/ or albiglutide/ or dulaglutide/ or exendin 4/ or liraglutide/ or lixisenatide/ or semaglutide/ or tirzepatide/ or glucagon like peptide 1 receptor agonist.kw. or albiglutide.kw. or dulaglutide.kw. or exendin 4.kw. or liraglutide.kw. or lixisenatide.kw. or semaglutide.kw. or tirzepatide.kw.	52846
	7	("Glucagon-like peptide-1 receptor agonist$" or "GLP-1 receptor agonist$" or "GLP-1 RA$" or "incretin mimetic$").ti,ab.	24580
	8	(albiglutide or syncria or gsk716155a or gsk716155 or "gsk 716155a" or "gsk 716155" or albugon or naliglutide or eperzan or tanzeum).ti,ab.	855
	9	(dulaglutide or trulicity or "ly 2189265" or ly2189265).ti,ab.	3374
	10	(exenatide or bydureon or byetta or "ex4 peptide" or "exendin 4" or "ac 2993" or ac2993 or ly2148568 or "ly2148568").ti,ab.	13326
	11	(liraglutide or "nn 2211" or nn2211 or victoza or "nnc 90 1170" or "nnc90 1170" or saxenda).ti,ab.	15555
	12	(lixisenatide or zp10a peptide or "aqve 10010" or aqve10010 or "ave 0010" or ave0010 or lyxumia or "zp 10" or zp10 or adlyxin).ti,ab.	2046
	13	(semaglutide or ozempic or nn9535 or "nn 9535" or rybelsus).ti,ab.	8981
	14	("tirzepatide" or LY3298176 or "dual GIP/GLP-1" or "GIP/GLP-1 receptor co-agonist").ti,ab.	2823
	15	or/6-14	66549
SGLT2i	16	Sodium-Glucose Transporter 2 Inhibitors/ or canagliflozin/ or dapagliflozin/ or empagliflozin/ or ertugliflozin/ or Sodium-Glucose Transporter 2 Inhibitors.kw. or canagliflozin.kw. or dapagliflozin.kw. or empagliflozin.kw. or ertugliflozin.kw.	47812
	17	(SGLT2 inhibitor$ or "Sodium-glucose co-transporter-2 inhibitor$" or Gliflozin$).ti,ab.	22360
	18	(canagliflozin or Invokana or JNJ-28431754 or TA-7284 or "TA 7284").ti,ab.	5937
	19	(dapagliflozin or Farxiga or "BMS 512148" or BMS512148).ti,ab.	12071
	20	(empagliflozin or Jardiance or BI10773 or "BI 10773").ti,ab.	11861
	21	(ertugliflozin or "PF 04971729" or "PF-04971729" or PF04971729 or Steglatro).ti,ab.	1076
	22	or/16-21	58299
RCTs	23	Randomized Controlled Trials as Topic/ or "randomized controlled trial (topic)"/	526346

Term Group	#	Search Terms	Hits (12th May 2025)
	24	Randomized Controlled Trial/	1556810
	25	Random Allocation/ or randomization/	234748
	26	Double-Blind Method/ or double blind procedure/	598623
	27	Single-Blind Method/ or single blind procedure/	125261
	28	Cross-Over Studies/ or crossover procedure/	193351
	29	Placebos or placebo/	511162
	30	exp Clinical Trials as Topic/ or exp "clinical trial (topic)"/	992729
	31	Clinical Trial/	1733396
	32	Clinical Trial, Phase II/ or phase 2 clinical trial/ or Clinical Trial, Phase III/ or phase 3 clinical trial/ or Clinical Trial, Phase IV/ or phase 4 clinical trial/	287157
	33	Controlled Clinical Trial/ or Adaptive Clinical Trial/ or multicenter study/	1287453
	34	randomized controlled trial.pt.	638951
	35	clinical trial.pt.	636781
	36	(clinical trial, phase ii or clinical trial, phase iii or clinical trial, phase iv).pt.	69030
	37	(controlled clinical trial or multicenter study).pt.	463399
	38	(clinical adj trial$).ti,ab,kf.	1665396
	39	((singl$ or doubl$ or treb$ or tripl$) adj (blind$3 or mask$3)).ti,ab,kf.	877345
	40	placebo$.ti,ab,kf.	1065941
	41	(allocat$ adj2 random$).ti,ab,kf.	173364
	42	Randomi?ed adj2 trial$.ti,ab,kf.	1668109
	43	rct.ti,ab,kf.	152883
	44	or/23-43	6648245
Observational	45	Epidemiologic Studies/	315162
	46	Observational Study/	612109
	47	Cohort Studies/ or cohort analysis/	1707053
	48	exp Case-Control Studies/ or exp case control study/	1887742
	49	Cross-Sectional Studies/ or cross-sectional study/	1275535
	50	Clinical Study/	175160
	51	Follow-Up Studies/ or follow up/	3161035
	52	Longitudinal Studies/ or longitudinal study/	432388
	53	Retrospective Studies/ or retrospective study/	3115880
	54	(Prospective Studies/ not Randomized Controlled Trials as Topic/) or (prospective study/ not "randomized controlled trial (topic)"/)	1807327
	55	(observational adj (study or studies)).ti,ab,kf.	528687
	56	(cohort adj (study or studies)).ti,ab,kf.	993094
	57	cohort analy$.ti,ab,kf.	40490
	58	case control.ti,ab,kf.	408518
	59	cross sectional.ti,ab,kf.	1458404

Term Group	#	Search Terms	Hits (12th May 2025)
	60	(follow up adj (study or studies)).ti,ab,kf.	153242
	61	longitudinal.ti,ab,kf.	920027
	62	retrospective.ti,ab,kf.	2410917
	63	(chart adj3 review$).ti,ab,kf.	195274
	64	exp Registries/ or exp disease registry/	339840
	65	(registry or registries).ti,ab,kf.	585007
	66	or/45-65	12020426
Meta-Analysis	67	Meta-Analysis as Topic/	86218
	68	exp *Meta-Analysis/	19912
	69	(meta analy$ or metaanaly$).ti,ab,kf.	817735
	70	or/67-69	864552
Exclusions	71	conference$.pt.	6514954
	72	Limit 71 to yr="1974-2022"	5845860
	73	exp animals/ not exp humans/	11108857
	74	(comment or editorial or case reports or historical article or preprint).pt.	5440465
	75	editorial/ or case report/	4639195
	76	(case stud$ or case report$).ti.	978608
	77	or/72-76	24677879
Combination	78	5 and 15 and 22 and (44 or 66 or 70)	985
	79	78 not 77	916
	80	5 and 15 and 22	1518
	81	79 use ppez	183
	82	79 use oemezd	707
	83	80 use coch	3
	84	80 use cctz	37
	85	84 not 77	29
	86	80 use dare	0
	87	81 or 82 or 83 or 85 or 86	922
	88	remove duplicates from 87	**745**

Database(s): EBM Reviews - CENTRAL April 2025, EBM Reviews - CDSR 2005 to 7th May 2025, EBM Reviews - DARE 1st Quarter 2016, Embase 1974 to 9th May 2025, Ovid MEDLINE(R) Epub Ahead of Print and In-Process, In-Data-Review & Other Non-Indexed Citations and Daily 9th May 2025.
Abbreviations: CKD: chronic kidney disease; GIP: gastric inhibitory polypeptide; GLP-1 RA: glucagon-like peptide-1 receptor agonist; RCT: randomised control trial; SGLT2i: sodium-glucose transport protein 2 inhibitor.

Supplementary Table 2. Search Strategies used for Hand-Searching of Relevant Congresses

Congress	Link	Search Strategy	Hits (22nd May 2025)
European Association for the Study of	2024: PDF abstract book 2023:	**2024 and 2023:** In Adobe, used Ctrl+F and clicked the cog icon and then 'Show More Options' Under 'Return results containing', selected 'Match Exact word or phrase'	**2024 (0 included):** • Chronic kidney disease: 72 hits • CKD: 265 hits

Congress	Link	Search Strategy	Hits (22nd May 2025)
Diabetes (EASD)	PDF abstract book	Typed in the following search terms sequentially and clicked search: • Chronic kidney disease • CKD Clicked through and highlighted the title for each abstract that came up Screened titles for relevance against the eligibility criteria	**2023 (1 included):** • Chronic kidney disease: 55 hits • CKD: 213 hits
European Renal Association (ERA)	2024: Volume 39 Issue Supplement_1 | Nephrology Dialysis Transplantation | Oxford Academic 2023: PDF abstract book	**2024:** Selected 'This Issue' in drop down option next to search bar Typed in search terms using 'Modify your search' box on the left hand side: • SGLT2* OR sodium glucose cotransporter 2 OR canagliflozin OR dapagliflozin OR empagliflozin OR ertugliflozin • SGLT2* OR sodium-glucose cotransporter 2 OR canagliflozin OR dapagliflozin OR empagliflozin OR ertugliflozin • GLP* OR glucagon like peptide OR exendin 4 OR liraglutide OR semaglutide OR tirzepatide OR albiglutide OR dulaglutide • GLP* OR glucagon-like peptide OR exendin 4 OR liraglutide OR semaglutide OR tirzepatide OR albiglutide OR dulaglutide Screened titles for relevance against the eligibility criteria **2023:** In Adobe, used Ctrl+F and clicked the cog icon and then 'Show More Options' Under 'Return results containing', selected 'Match Exact word or phrase' Typed in the following search terms sequentially and clicked search: • Type II diabetes • Type 2 diabetes • T2D • SGLT2 • SGLT2i • Sodium-glucose cotransporter 2 inhibitors • Sodium glucose cotransporter 2 inhibitors • Canagliflozin • Dapagliflozin • Empagliflozin • Ertugliflozin • GLP1 • GLP-1 • Glucagon-like peptide-1 receptor agonist • Glucagon like peptide 1 receptor agonist • Exendin 4 • Liraglutide • Semaglutide • Tirzenatide • Albiglutide • Dulaglutide	**2024 (0 included):** **Boolean searches:** • SGLT2* OR sodium glucose cotransporter 2 OR canagliflozin OR dapagliflozin OR empagliflozin OR ertugliflozin: 75 hits • SGLT2* OR sodium-glucose cotransporter 2 OR canagliflozin OR dapagliflozin OR empagliflozin OR ertugliflozin: 75 hits • GLP* OR glucagon like peptide OR exendin 4 OR liraglutide OR semaglutide OR tirzepatide OR albiglutide OR dulaglutide: 11 hits • GLP* OR glucagon-like peptide OR exendin 4 OR liraglutide OR semaglutide OR tirzepatide OR albiglutide OR dulaglutide: 11 hits **2023 (1 included):** **Individual searches:** • Type 2 diabetes: 130 hits • T2D: 165 hits • Type ii diabetes: 8 hits • SGLT2: 162 hits • SGLT2i: 109 hits • Sodium-glucose cotransporter 2 inhibitors: 17 hits • Sodium glucose cotransporter 2 inhibitors: 24 hits • Canagliflozin: 6 hits • Dapagliflozin: 75 hits • Empagliflozin: 57 hits • Ertugliflozin: 0 hits • GLP1: 25 hits • GLP-1: 29 hits • Glucagon like peptide 1 receptor agonist: 4 hits • Glucagon-like peptide-1 receptor agonist: 2 hits • Exendin 4: 0 hits • Liraglutide: 4 hits • Semaglutide: 35 hits • Tirzenatide: 0 hits • Albiglutide: 0 hits • Dulaglutide: 1 hit

Congress	Link	Search Strategy	Hits (22nd May 2025)
		Clicked through and highlighted the title for each abstract that came up Screened titles for relevance against the eligibility criteria	
European Congress on Obesity (ECO)	2025: PDF abstract book 2024: PDF abstract book 2023: PDF abstract book	**2025, 2024 and 2023:** In Adobe, used Ctrl+F and clicked the cog icon and then 'Show More Options' Under 'Return results containing', selected 'Match Exact word or phrase' Typed in the following search terms sequentially and clicked search: • Chronic kidney disease • CKD • Type II diabetes • Type 2 diabetes • T2D • SGLT2 • SGLT2i • Sodium-glucose cotransporter 2 inhibitors • Sodium glucose cotransporter 2 inhibitors • Canagliflozin • Dapagliflozin • Empagliflozin • Ertugliflozin • GLP1 • GLP-1 • Glucagon-like peptide-1 receptor agonist • Glucagon like peptide 1 receptor agonist • Exendin 4 • Liraglutide • Semaglutide • Tirzenatide • Albiglutide • Dulaglutide Clicked through and highlighted the title for each abstract that came up Screened titles for relevance against the eligibility criteria	**2025 (0 included):** • Chronic kidney disease: 26 hits • CKD: 93 hits • Type 2 diabetes: 232 hits • T2D: 306 hits • Type ii diabetes: 3 hits • SGLT2: 44 hits • SGLT2i: 25 hits • Sodium-glucose cotransporter 2 inhibitors: 2 hits • Sodium glucose cotransporter 2 inhibitors: 2 hits • Canagliflozin: 6 hits • Dapagliflozin: 22 hits • Empagliflozin: 4 hits • Ertugliflozin: 0 hits • GLP1: 46 hits • GLP-1: 452 hits • Glucagon like peptide 1 receptor agonist: 46 hits • Glucagon-like peptide-1 receptor agonist: 38 hits • Exendin 4: 0 hits • Liraglutide: 90 hits • Semaglutide: 332 hits • Tirzepatide: 182 hits • Albiglutide: 0 hits • Dulaglutide: 10 hits **2024 (0 included):** • Chronic kidney disease: 16 hits • CKD: 149 hits • Type 2 diabetes: 273 hits • T2D: 265 hits • Type ii diabetes: 1 hit • SGLT2: 56 hits • SGLT2i: 37 hits • Sodium-glucose cotransporter 2 inhibitors: 2 hits • Sodium glucose cotransporter 2 inhibitors: 2 hits • Canagliflozin: 0 hits • Dapagliflozin: 12 hits • Empagliflozin: 19 hits • Ertugliflozin: 0 hits • GLP1: 68 hits • GLP-1: 214 hits • Glucagon like peptide 1 receptor agonist: 13 hits • Glucagon-like peptide-1 receptor agonist: 9 hits • Exendin 4: 0 hits • Liraglutide: 131 hits • Semaglutide: 193 hits • Tirzepatide: 59 hits • Albiglutide: 0 hits

Congress	Link	Search Strategy	Hits (22nd May 2025)
			• Dulaglutide: 16 hits **2023 (0 included):** • Chronic kidney disease: 10 hits • CKD: 138 hits • Type 2 diabetes: 127 hits • T2D: 170 hits • Type ii diabetes: 3 hits • SGLT2: 22 hits • SGLT2i: 7 hits • Sodium-glucose cotransporter 2 inhibitors: 1 hit • Sodium glucose cotransporter 2 inhibitors: 1 hit • Canagliflozin: 0 hits • Dapagliflozin: 12 hits • Empagliflozin: 1 hit • Ertugliflozin: 0 hits • GLP1: 49 hits • GLP-1: 56 hits • Glucagon like peptide 1 receptor agonist: 8 hits • Glucagon-like peptide-1 receptor agonist: 6 hits • Exendin 4: 0 hits • Liraglutide: 95 hits • Semaglutide: 107 hits • Tirzepatide: 16 hits • Albiglutide: 0 hits • Dulaglutide: 7 hits
American Diabetes Association (ADA)	2024: Volume 73 Issue Supplement_1 | Diabetes | American Diabetes Association 2023: Volume 72 Issue Supplement_1 | Diabetes | American Diabetes Association	**2024 and 2023:** Typed in first search term into the 'Search within issue:' box. Then selected Add term on the left-hand side and add the further search terms. Selected 'Meeting Abstracts'. Selected date range from 06/01/2024 to 06/30/2024 or 06/01/2023 to 06/30/2023. Note that only the AND Boolean operator is used here: • Chronic kidney disease • CKD • SGLT2* and GLP* • Sodium glucose cotransporter 2 AND glucagon like peptide 1 • Sodium-glucose cotransporter 2 AND glucagon like peptide 1 • Sodium glucose cotransporter 2 AND glucagon-like peptide-1 • Sodium-glucose cotransporter 2 AND glucagon-like peptide-1 Clicked through and highlighted the title for each abstract that came up Screened titles for relevance against the eligibility criteria	**2024 (1 included):** • Chronic kidney disease: 49 hits • CKD: 54 hits • SGLT2* and GLP*: 40 hits • Sodium glucose cotransporter 2 AND glucagon like peptide 1: 12 hits • Sodium-glucose cotransporter 2 AND glucagon like peptide 1: 12 hits • Sodium glucose cotransporter 2 AND glucagon-like peptide-1: 12 hits • Sodium-glucose cotransporter 2 AND glucagon-like peptide-1: 12 hits **2023 (1 included):** • Chronic kidney disease: 72 hits • CKD: 56 hits • SGLT2* and GLP*: 31 hits • Sodium glucose cotransporter 2 AND glucagon like peptide 1: 2 hits • Sodium-glucose cotransporter 2 AND glucagon like peptide 1: 2 hits • Sodium glucose cotransporter 2 AND glucagon-like peptide-1: 2 hits • Sodium-glucose cotransporter 2 AND glucagon-like peptide-1: 2 hits

Congress	Link	Search Strategy	Hits (22nd May 2025)
American Society of Nephrology (ASN)	2024: PDF abstract book 2023: PDF abstract book	**2024 and 2023:** In Adobe, used Ctrl+F and clicked the cog icon and then 'Show More Options' Under 'Return results containing', selected 'Match Exact word or phrase' Typed in the following search terms sequentially and clicked search: • SGLT2 • SGLT2i • Sodium-glucose cotransporter 2 inhibitor • Sodium glucose cotransporter 2 inhibitor • Canagliflozin • Dapagliflozin • Empagliflozin • Ertugliflozin • GLP1 • GLP-1 • Glucagon-like peptide-1 receptor agonist • Glucagon like peptide 1 receptor agonist • Exendin 4 • Liraglutide • Semaglutide • Tirzenatide • Albiglutide • Dulaglutide Clicked through and highlighted the title for each abstract that came up Screened titles for relevance against the eligibility criteria	**2024 (1 included):** • SGLT2: 646 hits • SGLT2i: 377 hits • Sodium-glucose cotransporter 2 inhibitor: 25 hits • Sodium glucose cotransporter 2 inhibitor: 25 hits • Canagliflozin: 39 hits • Dapagliflozin: 171 hits • Empagliflozin: 76 hits • Ertugliflozin: 0 hits • GLP1: 73 hits • GLP-1: 99 hits • Glucagon-like peptide-1 receptor agonist: 12 hits • Glucagon like peptide 1 receptor agonist: 32 hits • Exendin 4: 0 hits • Liraglutide: 27 hits • Semaglutide: 97 hits • Tirzepatide: 24 hits • Albiglutide: 0 hits • Dulaglutide: 13 hits **2023 (2 included):** • SGLT2: 551 hits • SGLT2i: 303 hits • Sodium-glucose cotransporter 2 inhibitor: 25 hits • Sodium glucose cotransporter 2 inhibitor: 30 hits • Canagliflozin: 61 hits • Dapagliflozin: 188 hits • Empagliflozin: 88 hits • Ertugliflozin: 0 hits • GLP1: 46 hits • GLP-1: 58 hits • Glucagon-like peptide-1 receptor agonist: 13 hits • Glucagon like peptide 1 receptor agonist: 15 hits • Exendin 4: 0 hits • Liraglutide: 17 hits • Semaglutide: 34 hits • Tirzepatide: 8 hits • Albiglutide: 1 hit • Dulaglutide: 10 hits

Footnote: 36 records were identified as potentially relevant and screened at the abstract review stage, as summarised in the PRISMA flow diagram.
Abbreviations: ADA: American Diabetes Association; ASN: American Society of Nephrology; CKD: chronic kidney disease; EASD: European Association for the Study of Diabetes; ECO: European Congress on Obesity; ERA: European Renal Association; GLP1: glucagon like peptide 1; SGLT2i: sodium-glucose transport protein 2 inhibitor; T2D: type 2 diabetes.

Supplementary Table 3. Search Strategy used for ClinicalTrials.gov

Specification	ClinicalTrials.gov	Hits (29th May 2025)
Condition or Disease	CKD OR T2D	60 (0 included)
Intervention/Treatment	SGLT2i OR canagliflozin OR dapagliflozin OR empagliflozin OR ertugliflozin	

	AND GLP-1 OR albiglutide OR dulaglutide OR exendin 4 OR liraglutide OR lixisenatide OR semaglutide OR tirzepatide	
Study Status	All studies	
Age	Adult (18–64); Older adult (65+)	
Study Type	Interventional OR Observational	

Abbreviations: CKD: chronic kidney disease; GLP-1: glucagon-like peptide-1; SGLT2i: sodium-glucose transport protein 2 inhibitor; T2D: type 2 diabetes.

Supplementary Table 4: Eligibility Criteria for the SLR

Domain	Inclusion Criteria	Exclusion Criteria
Patient Population	Adult patients (≥18 years of age) with chronic kidney disease (CKD) and type 2 diabetes (T2D) and/or obesity/overweight Subgroups of interest: - Body mass index (BMI) ranges (e.g., ≥30, ≥35, ≥40 kg/m²) - Age - Sex - T2D versus non-T2D - Baseline kidney function - Estimated glomerular filtration rate (eGFR) strata (e.g., ≥60, 30–59, <30) - Albuminuria status and outcomes (<3, 3–30, >30 mg/mmol) - Prior cardiovascular disease including heart failure (HF) - Race/ethnicity	Patients ≤18 years of age
Intervention and Comparator	Sodium-glucose cotransporter protein 2 inhibitors (SGLT2is) or glucagon-like peptide-1 receptor agonists (GLP-1 RAs), directly or indirectly compared against one another in the same study SGLT2is and GLP-1 RAs, formally investigated in combination – this may include sequential treatment studies or studies exploring an additive benefit of SLGT2is/GLP-1 RAs	The study only examines SGLT2is or GLP-1 RAs alone Patients may have received both SGLT2is and GLP-1 RAs, but the combination is not formally assessed as part of the study (or subgroup analysis) Studies are not reporting sequential treatment or additive benefits of SGLT2is or GLP-1 RAs
Outcomes	Renal outcomes, including but not limited to: CKD progression End-stage kidney disease (ESKD) Renal death Reduction in eGFR Change from baseline in urinary albumin-to-creatinine ratio (UACR) Change in albuminuria class Acute kidney injury (AKI) Hyperkalaemia Kidney replacement therapy (KRT) Other outcomes, including but not limited to:	Studies not presenting any outcomes of relevance

Domain	Inclusion Criteria	Exclusion Criteria
	Blood glucose changes (change in fasting glucose, glycated haemoglobin A1c [HbA1c]) Change in bodyweight BMI Adverse events (AEs) Cardiovascular (CV) events Death	
Study Design	Comparative studies of interventions, including: randomised controlled trials (RCTs), cohort studies, case control studies, database/registry studies Meta-analyses	Case studies, letters without original data, editorials, narrative reviews, opinion articles, single-arm trials
Language	English language abstract or full text	Articles in non-English languages
Other	Conference abstracts from 2023 onwards	Conference abstracts from before 2023 Non-peer-reviewed publications, including pre-prints Retracted articles In vitro/animal/foetal studies

Footnotes: Note that relevant discussion points identified from studies comparing SGLT2is and GLP-1 RAs (e.g., including mechanism of action) were captured within the extraction grid.
Abbreviations: AE: adverse event; AKI: acute kidney injury; BMI: body mass index; CKD: chronic kidney disease; CV: cardiovascular; eGFR: estimated glomerular filtration rate; ESKD: end-stage kidney disease; GLP-1: glucagon-like peptide-1; HbA1c: glycated haemoglobin; HF: heart failure; KRT: kidney replacement therapy; RCT: randomised clinical trial; SGLT2i: sodium-glucose transport protein 2 inhibitor; SLR: systematic literature review; T2D: type 2 diabetes; UACR: urine albumin-to-creatinine ratio.

2. Study Selection, Data Extraction and Quality Assessment

Study Selection

Eligibility for inclusion was defined using the Population, Intervention, Comparators, Outcome, Study design (PICOS) framework. Primary studies were not limited by study design to ensure a broad range of trials were captured, including real-world evidence to reflect real-life context. Meta-analyses (MAs) were included in this review to ensure indirect comparisons based on robust placebo-controlled trials were identified, given the known lack of head-to-head studies. The most stringent record screening process, as recommended by the Cochrane Collaboration, was followed at each review stage.[1] At each stage, records were dual-screened with a third independent reviewer arbitrating the decision if required. Excluded studies are included in **Supplementary Table 5.**

To capture a comprehensive view on possible positioning strategies, included studies were categorised into four evidence streams: (1) indirect comparisons, (2) direct comparisons, (3) combination use, and (4) sequencing strategies. This structure was designed to highlight areas of strength, alongside evidence gaps for both sodium-glucose co-transporter 2 inhibitors (SGLT2is) and glucagon-like peptide-1 receptor agonists (GLP-1 RAs), based on existing evidence.

Data Extraction and Quality Assessment

For each included study, key information was extracted into a prespecified data extraction grid. For both primary studies and MAs, extracted data included characteristics of the included patient population and study; efficacy outcomes including kidney, cardiovascular and composite outcomes; and safety outcomes, such as mortality rates and adverse events (AEs). Specific data relating to populations with obesity (body mass index ([BMI] >30 kg/m^2) were also investigated. The data extraction was performed by a single reviewer and independently verified by a second reviewer, in line with guidelines from the University of York Centre for Reviews and Dissemination (CRD).[2] If necessary, a third reviewer was enlisted to arbitrate the final decision.

Quality assessments were conducted by one reviewer and verified by a second independent reviewer for all extracted studies using the Cochrane Risk of Bias 2 (RoB 2) tool for randomised control trials (RCTs);[3] Risk of Bias in Non-Randomised studies - of Interventions (ROBINS-I) tool for observational studies;[4] and AMSTAR-2 tool for MAs.[5]

Supplementary Table 5: Excluded Studies From Database Searches: Abstract and Full-Text Sifting

Record ID	Authors	Year	Title	Journal	Volume(Issue)	Reason for Exclusion
Excluded Abstracts (n=564)						
4	NA	2023	The Effect of Dapagliflozin on Weight Loss in Obese Adults Without Diabetes	NA	NA	E1
6	NA	2024	Goreisan Prospective Randomized Evaluation Study	NA	NA	E3
7	NA	2024	11. Chronic Kidney Disease and Risk Management: Standards of Care in Diabetes-2024	Diabetes Care	47(Supplement 1)	E1
8	Abdelrahman, A. M., Awad, A. S. and Abdel-Rahman, E. M.	2024	Sodium-Glucose Co-Transporter 2 Inhibitors: Mechanism of Action and Efficacy in Non-Diabetic Kidney Disease from Bench to Bed-Side	Journal of Clinical Medicine	13(4) (no pagination)	E1
9	Abdul Wahab, R., Cohen, R. V. and le Roux, C. W.	2023	Recent advances in the treatment of patients with obesity and chronic kidney disease	Annals of Medicine	55(1) (no pagination)	E1
12	Abu-Alfa, A. K., Atallah, P. J., Azar, S. T., Dagher, E. C., Echtay, A. S., El-Amm, M. A., Hazkial, H. G., Kassab, R. Y., Medlej, R. C. and Mohamad, M. A.	2023	Recommendations for Early and Comprehensive Management of Type 2 Diabetes and Its Related Cardio-Renal Complications	Diabetes Therapy	14(1)	E1
13	Abubaker, M., Mishra, P. and Swami, O. C.	2017	Teneligliptin in management of diabetic kidney disease: A review of place in therapy	Journal of Clinical and Diagnostic Research	11(1)	E1

Record ID	Authors	Year	Title	Journal	Volume(Issue)	Reason for Exclusion
14	Adamczak, M., Kurnatowska, I., Naumnik, B., Stompor, T., Tylicki, L. and Krajewska, M.	2024	Pharmacological Nephroprotection in Chronic Kidney Disease Patients with Type 2 Diabetes Mellitus-Clinical Practice Position Statement of the Polish Society of Nephrology	International Journal of Molecular Sciences	25(23) (no pagination)	E1
15	Adrian, T., Hornum, M., Knop, F. K., Almdal, T., Rossing, P., L, I. L., Heinrich, N. S., Boer, V. O., Marsman, A., Petersen, E. T., Siebner, H. R. and Feldt-Rasmussen, B.	2023	Nonalcoholic Fatty Liver Disease in Patients with Type 2 Diabetes and Chronic Kidney Disease	Nephron	147(6)	E3
16	Agarwal, R., Anker, S. D., Filippatos, G., Pitt, B., Rossing, P., Ruilope, L. M., Boletis, J., Toto, R., Umpierrez, G. E., Wanner, C., Wada, T., Scott, C., Joseph, A., Ogbaa, I., Roberts, L., Scheerer, M. F. and Bakris, G. L.	2022	Effects of canagliflozin versus finerenone on cardiorenal outcomes: exploratory post hoc analyses from FIDELIO-DKD compared to reported CREDENCE results	Nephrology Dialysis Transplantation	37(7)	E4
18	Agarwal, R., Green, J. B., Heerspink, H. J. L., Mann, J. F. E., McGill, J. B., Mottl, A. K., Rosenstock, J., Rossing, P., Vaduganathan, M., Brinker, M., Edfors, R., Li, N., Scheerer, M. F., Scott, C., Nangaku, M. and investigators, C.	2025	COmbinatioN effect of FInerenone anD EmpaglifloziN in participants with chronic kidney disease and type 2 diabetes using a UACR Endpoint (CONFIDENCE) trial: baseline clinical characteristics	Nephrology, dialysis, transplantation	NA	E1
19	Agarwal, R., Pitt, B., Rossing, P., Anker, S. D., Filippatos, G., Ruilope, L. M., Kovesdy, C. P., Tuttle, K.,	2023	Modifiability of Composite Cardiovascular Risk Associated with Chronic Kidney Disease in Type 2 Diabetes with Finerenone	JAMA Cardiology	8(8)	E3

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	Vaduganathan, M., Wanner, C., Bansilal, S., Gebel, M., Joseph, A., Lawatscheck, R. and Bakris, G. L.					
21	Akhter, M. S. and Uppal, P.	2020	Toxicity of Metformin and Hypoglycemic Therapies	Advances in Chronic Kidney Disease	27(1)	E1
22	Al-Chalabi, S., Syed, A. A., Kalra, P. A. and Sinha, S.	2024	Mechanistic Links between Central Obesity and Cardiorenal Metabolic Diseases	CardioRenal Medicine	14(1)	E1
24	Al-Ozairi, E., Jallo, M. K., Hafidh, K., Alhajeri, D. M., Ashour, T., Mahmoud, E. F. N., Abd ElAal, Z. and Loulou, M.	2021	Prevalence of Cardiovascular and Renal Co-morbidities in Patients with Type 2 Diabetes in the Gulf, a Cross-sectional Observational Study	Diabetes Therapy	12(4)	E5
25	Al-Ozairi, E., Narula, K., Miras, A. D., Taghadom, E., Samad, A. E., Al Kandari, J., Alyosef, A., Mashankar, A., Al-Najim, W. and le Roux, C. W.	2024	Obesity Treatments to Improve Type 1 Diabetes (OTID): a randomized controlled trial of the combination of glucagon-like peptide 1 analogues and sodium-glucose cotransporter 2 inhibitors-protocol for Obesity Treatments to Improve Type 1 Diabetes (the OTID trial)	Trials	25(1) (no pagination)	E2
26	Alawadi, F., Rashid, F., Bashier, A., Abdelgadir, E., Al Saeed, M., Abuelkheir, S., Khalifa, A., Al sayyah, F., Bachet, F., Elsayed, M., Abdallah, K. and Hassanein, M.	2019	The use of Free Style Libre Continues Glucose Monitoring (FSL-CGM) to monitor the impact of Ramadan fasting on glycemic changes and kidney function in high-risk patients with diabetes and chronic kidney disease stage 3 under optimal diabetes care	Diabetes Research and Clinical Practice	151	E3

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27	Albai, O., Braha, A., Timar, B. and Timar, R.	2024	Predictive Factors for Altered Quality of Life in Patients with Type 2 Diabetes Mellitus	Journal of Clinical Medicine	13(15) (no pagination)	E3
28	Alcazar, R., Escobar, C., Palacios, B., Aranda, U., Varela, L., Capel, M., Sicras, A., Hormigo, A., Manito, N. and Botana, M.	2022	Risk of outcomes in a Spanish population with chronic kidney disease	Clinical Kidney Journal	15(7)	E4
29	Ali, A. S., Khan, M., Ortega, D., Jaffery, S., Lamerato, L. E. and Budzynska, K.	2022	Prescription Patterns of Novel Antihyperglycemic Medications	Journal of the American Board of Family Medicine	35(2)	E5
30	Ali, S., Dave, N., Virani, S. S. and Navaneethan, S. D.	2019	Primary and Secondary Prevention of Cardiovascular Disease in Patients with Chronic Kidney Disease	Current Atherosclerosis Reports	21(9) (no pagination)	E1
32	Alicic, R. Z., Neumiller, J. J. and Tuttle, K. R.	2025	Combination therapy: an upcoming paradigm to improve kidney and cardiovascular outcomes in chronic kidney disease	Nephrology Dialysis Transplantation	40(Supplement_1)	E1
33	Alkabbani, W. and Gamble, J. M.	2023	Prescribing Trends of the Sodium-Glucose Cotransporter-2 Inhibitors Among Different Physician Specialties in Canada (2015-2021)	Canadian Journal of Diabetes	47(2)	E4
34	Alshaya, O. A., Korayem, G. B., Alghwainm, M., Alyami, W., Alotaibi, A., Alyami, M. S. and Almohammed, O. A.	2024	The prevalence of cardiovascular diseases, chronic kidney disease, and obesity in patients with type 2 diabetes mellitus and the description of concurrent treatments: A two-center retrospective cross-sectional study in Saudi Arabia	Saudi Pharmaceutical Journal	32(5) (no pagination)	E5

Record ID	Authors	Year	Title	Journal	Volume(Issue)	Reason for Exclusion
35	Amamoo, J. J., Brady, B. L., Noone, J., Xie, L., Mehanna, S., Varker, H. V. and Bakris, G. L.	2023	Treatment Utilization and Disease Burden Associated with CKD Progression in Patients with Type 2 Diabetes	Journal of the American Society of Nephrology	Conference: Kidney Week 2023 Annual Meeting. Philadelphia, PA United States. 34	E5
38	Anderson, J., Meneghini, L., Hinnen, D., Gill, J., Coudert, M., Evenou, P. and Munshi, M.	2021	Target attainment in insulin-naive patients at high risk for hypoglycemia: Results from ACHIEVE Control	Journal of Diabetes and its Complications	35(4) (no pagination)	E3
39	Anonymous	2017	Microvascular complications and foot care	Diabetes Care	40(Supplement 1)	E1
41	Anonymous	2022	FINErenone druG Utilization Study and Assessment of Temporal Changes Following Availability of Different Treatment Options in Patients With Chronic Kidney Disease and Type 2 Diabetes	clinicaltrials.gov.	19	E5
42	Anonymous	2023	The Effect of Sodium Glucose Co-transporter 2 Inhibitor (dapagliflozin) on Weight Loss in Non-diabetic Adults with Obesity: Triple-blinded, Randomized, Placebo-controlled Trial	clinicaltrials.gov.	14	E4
43	Anonymous	2023	in this issue	Kidney International	103(4)	E1
44	Anonymous	2024	Erratum: 2023 ESC Guidelines for the management of cardiovascular disease in patients with diabetes: Developed by the task force on the management of cardiovascular disease in patients with diabetes of the European Society of Cardiology (ESC) (European Heart Journal (2023) 44: 39	European Heart Journal	45(7)	E1

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			(4043-4140) DOI: 10.1093/eurheartj/ehad192)			
47	Anson, M., Zhao, S. S., Austin, P., Ibarburu, G. H., Malik, R. A. and Alam, U.	2023	SGLT2i and GLP-1 RA therapy in type 1 diabetes and reno-vascular outcomes: a real-world study	Diabetologia	66(10)	E2
48	Antsiferov, M. B., Kotenko, O. N., Kobalava, Z. D., Demidova, T. Y., Markova, T. N., Tolkacheva, V. V., Morgunov, L. Y., Andreeva, A. V., Pashkova, E. Y., Khaziakhmetova, M. R., Samburova, E. S., Vedyashkina, S. G., Mkrtumyan, A. M., Petunina, N. A., Serebrov, A. N., Deeva, T. M. and Karaeva, A. Y.	2024	Prevalence of chronic kidney disease in patients with type 2 diabetes admitted to multidisciplinary hospitals: results of a prospective observational multicenter study (credo). [Russian]	Diabetes Mellitus	27(3)	E5
50	Anwar, R., Khan, M. A. N., Bajwa, N. A., Najmi, L., Rafiq, S. and Alamir, O. A.	2023	Effect of Vitamin D on Arterial Stiffness in People with Type 2 Diabetes and Intermediate Chronic Kidney Disease	Pakistan Journal of Medical and Health Sciences	17(5)	E3
51	Anyanwagu, U., Donnelly, R. and Idris, I.	2019	Individual and Combined Relationship between Reduced eGFR and/or Increased Urinary Albumin Excretion Rate with Mortality Risk among Insulin-Treated Patients with Type 2 Diabetes in Routine Practice	Kidney Diseases	5(2)	E3
55	Apperloo, E. M., Tuttle, K. R., Pavo, I., Haupt,	2025	Tirzepatide Associated With Reduced Albuminuria in	Diabetes Care	48(3)	E4

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	A., Taylor, R., Wiese, R. J., Hemmingway, A., Cherney, D. Z. I., Sattar, N. and Heerspink, H. J. L.		Participants With Type 2 Diabetes: Pooled Post Hoc Analysis From the Randomized Active- and Placebo-Controlled SURPASS-1-5 Clinical Trials			
57	Ardiles, L. and Lorca, E.	2025	Glomerular hyperfiltration: a pathophysiological view to unders-tand its consequences and treatment. [Spanish]	Revista de Nefrologia, Dialisis y Trasplante	45(1)	E1
59	Arnold, S. V., Gosch, K., Kosiborod, M., Wong, N. D., Sperling, L. S., Newman, J. D., Gamble, C. L., Hamersky, C., Rajpura, J. and Vaduganathan, M.	2023	Contemporary use of cardiovascular risk reduction strategies in type 2 diabetes. Insights from the diabetes collaborative registry	American Heart Journal	263	E5
60	Arnold, S. V., Jones, P. G., Beasley, M., Cordova, J., Goyal, A., Fonarow, G. C. and Seman, L.	2020	Heart failure documentation in outpatients with diabetes and volume overload: an observational cohort study from the Diabetes Collaborative Registry	Cardiovascular Diabetology	19(1) (no pagination)	E3
62	Arnott, C., Li, J. W., Cannon, C. P., de Zeeuw, D., Neuen, B. L., Heerspink, H. J. L., Charytan, D. M., Agarwal, A., Huffman, M. D., Figtree, G. A., Bakris, G., Chang, T. I. H., Feng, K., Rosenthal, N., Zinman, B., Jardine, M. J., Perkovic, V., Neal, B. and Mahaffey, K. W.	2021	The effects of canagliflozin on heart failure and cardiovascular death by baseline participant characteristics: Analysis of the CREDENCE trial	Diabetes, Obesity and Metabolism	23(7)	E5

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64	Ashmawy, R., Hamouda, E. A., Zeina, S., Sharaf, S., Erfan, S. and Redwan, E. M.	2025	Impact of COVID-19 on preexisting comorbidities	Progress in Molecular Biology and Translational Science	213	E1
65	Au, P. C. M., Tan, K. C. B., Cheung, B. M. Y., Wong, I. C. K., Li, H. L. and Cheung, C. L.	2022	Association Between SGLT2 Inhibitors vs DPP4 Inhibitors and Renal Outcomes Among Patients With Type 2 Diabetes	Journal of Clinical Endocrinology and Metabolism	107(7)	E4
66	Avxentyev, N. A. and Makarova Yu, V.	2022	Long-term analysis of canagliflozin budget impact in adult patients with type 2 diabetes mellitus and diabetic nephropathy in the Russian Federation. [Russian]	Farmakoekonomika	15(3)	E5
67	Bae, J., Liu, D., Chinthammit, C., Kadziola, Z., Boye, K. and Mather, K.	2022	Type 2 diabetes pharmacotherapy trends in high-risk subgroups	Diabetes, Obesity and Metabolism	24(6)	E5
68	Bae, J. P., Kadziola, Z. A., Liu, D., Chinthammit, C., Boye, K. S. and Mather, K. J.	2022	An Early Assessment of the Real-World Treatment Patterns of Type 2 Diabetes: A Comparison to the 2018 ADA/EASD Consensus Report Recommendations	Diabetes Therapy	13(8)	E5
69	Baharum, N. H., Wan Muhammad Hatta, S. F., Zainordin, N. A. and Abdul Ghani, R.	2024	Safety and efficacy of different basal insulin in type 2 diabetes mellitus with chronic kidney disease in Ramadan: prospective observational study	BMC Endocrine Disorders	24(1) (no pagination)	E3
70	Bain, S. C., Mosenzon, O., Arechavaleta, R., Bogdanski, P., Comlekci, A., Consoli, A., Deerochanawong, C., Dungan, K., Faingold, M. C.,	2019	Cardiovascular safety of oral semaglutide in patients with type 2 diabetes: Rationale, design and patient baseline characteristics for the PIONEER 6 trial	Diabetes, Obesity and Metabolism	21(3)	E4

Record ID	Authors	Year	Title	Journal	Volume(Issue)	Reason for Exclusion
	Farkouh, M. E., Franco, D. R., Gram, J., Guja, C., Joshi, P., Malek, R., Merino-Torres, J. F., Nauck, M. A., Pedersen, S. D., Sheu, W. H. H., Silver, R. J., Tack, C. J., Tandon, N., Jeppesen, O. K., Strange, M., Thomsen, M. and Husain, M.					
71	Bansal, S., Canziani, M. E. F., Birne, R., Anker, S. D., Bakris, G. L., Filippatos, G., Rossing, P., Ruilope, L. M., Farjat, A. E., Kolkhof, P., Lage, A., Brinker, M. and Pitt, B.	2024	Finerenone cardiovascular and kidney outcomes by age and sex: FIDELITY post hoc analysis of two phase 3, multicentre, double-blind trials	BMJ Open	14(3) (no pagination)	E3
72	Barkhordari, S., Ghaffariyan, S., Banei, F., Shirvani, M., Yazdanjou, F., Ghaseminejad Kermani, S., Akbari, M., Baghaei, A. and Mohammadtabar, M.	2024	The association between the utilization of SGLT2 inhibitors and diabetic retinopathy; a systematic review and meta-analysis of cohort studies	Journal of Nephropharmacology	13(2) (no pagination)	E2
73	Barrios, V. and Escobar, C.	2021	Canagliflozin: metabolic, cardiovascular and renal protection	Future Cardiology	17(3)	E1
74	Barutta, F., Bellini, S., Corbetta, B., Durazzo, M. and Gruden, G.	2020	The future of diabetic kidney disease management: what to expect from the experimental studies?	Journal of Nephrology	33(6)	E1
75	Bashier, A., Farghaly, M., Alali, J. Y., Alhadari, A. K., Ajaz, Y., Warrier, V. K., Abdelgadir, E., Farooqi, M. H., Qamar,	2023	Real-World Evaluation of Demographics, Treatment Pattern, and Economic Burden of Heart Failure and Kidney Disease in Type 2	Dubai Diabetes and Endocrinology	29(1)	E5

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	S., Alsayed, M., Fahmy, M. S., Tannouri, D., Gowda, A. J., Awad, N. S., Ramachandrachar, B. C. and Natarajan, A.		Diabetes Mellitus Patient Population in Dubai, United Arab Emirates			
76	Bashkin, A., Shehadeh, M., Shbita, L., Namoura, K., Haiek, R., Kuyantseva, E., Boulos, Y., Yakir, O. and Kruzel-Davila, E.	2022	Baseline moderate-range albuminuria is associated with protection against severe COVID-19 pneumonia	World Journal of Diabetes	13(12)	E3
77	Basu, R., Noureddin, M. and Clark, J. M.	2022	Nonalcoholic Fatty Liver Disease: Review of Management for Primary Care Providers	Mayo Clinic Proceedings	97(9)	E1
78	Beaudrey, T., Bedo, D., Weschler, C., Caillard, S. and Florens, N.	2025	From Risk Assessment to Management: Cardiovascular Complications in Pre- and Post-Kidney Transplant Recipients: A Narrative Review	Diagnostics	15(7) (no pagination)	E1
80	Beghini, A., Sammartino, A. M., Papp, Z., von Haehling, S., Biegus, J., Ponikowski, P., Adamo, M., Falco, L., Lombardi, C. M., Pagnesi, M., Savarese, G., Metra, M. and Tomasoni, D.	2025	2024 update in heart failure	ESC Heart Failure	12(1)	E1
81	Bell, D. S. H., McGill, J. B. and Jerkins, T.	2023	Management of the 'wicked' combination of heart failure and chronic kidney disease in the patient with diabetes	Diabetes, Obesity and Metabolism	25(10)	E1
83	Bertoluci, M. C., Salles, J. E. N., Silva-Nunes, J., Pedrosa, H. C., Moreira, R. O., Da Silva Duarte, R. M. C., Da Costa	2020	Portuguese-Brazilian evidence-based guideline on the management of hyperglycemia in type 2 diabetes mellitus	Diabetology and Metabolic Syndrome	12(1) (no pagination)	E1

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	Carvalho, D. M., Trujilho, F. R., Dos Santos Raposo, J. F. C., Parente, E. B., Valente, F., De Moura, F. F., Hohl, A., Melo, M., Araujo, F. G. P., De Araujo Principe, R. M. M. C., Kupfer, R., Costa, E. F. A., Valerio, C. M., Ferreira, H. J., Duarte, J. M. S., Saraiva, J. F. K., Rodacki, M., Castelo, M. H. C. G., Monteiro, M. P., Branco, P. Q., De Matos, P. M. P., De Melo Pereira De Magalhaes, P. C., Betti, R. T. B., Rea, R. R., Trujilho, T. D. G., Pinto, L. C. F. and Leitao, C. B.					
84	Bismpos, D., Wintrich, J., Hovelmann, J. and Bohm, M.	2024	Latest pharmaceutical approaches across the spectrum of heart failure	Heart Failure Reviews	29(3)	E4
85	Blum, M. F., Neuen, B. L. and Grams, M. E.	2025	Risk-directed management of chronic kidney disease	Nature Reviews Nephrology	21(5)	E1
87	Bodoarca, R., Yeung, R. O. and Lau, D.	2022	New Diabetes Guidelines: Impact on Eligibility for Sodium-Glucose Cotransporter-2 Inhibitors and Glucagon-like Peptide-1 Receptor Agonists in Canada	Canadian Journal of Diabetes	46(7)	E5
88	Bonner, R., Albajrami, O., Hudspeth, J. and Upadhyay, A.	2020	Diabetic Kidney Disease	Primary Care - Clinics in Office Practice	47(4)	E1
89	Bonora, B. M., Morieri, M. L., Marassi, M.,	2023	Improved prediction of long-term kidney outcomes	Diabetologia	66(12)	E3

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	Cappellari, R., Avogaro, A. and Fadini, G. P.		in people with type 2 diabetes by levels of circulating haematopoietic stem/progenitor cells			
90	Bosch, C., Carriazo, S., Soler, M. J., Ortiz, A. and Fernandez-Fernandez, B.	2023	Tirzepatide and prevention of chronic kidney disease	Clinical Kidney Journal	16(5)	E1
91	Bowen, M. E., Marble, K., Mai, C., Pak, J., Basit, M. and Lingvay, I.	2023	Guideline-Indicated Prescribing of Sglt2 Inhibitors and Glp1 Receptor Agonists for Type 2 Diabetes among Primary Care and Specialty Care Providers	Journal of General Internal Medicine	38(supplement 2)	E5
94	Brown, E., Heerspink, H. J. L., Cuthbertson, D. J. and Wilding, J. P. H.	2021	SGLT2 inhibitors and GLP-1 receptor agonists: established and emerging indications	The Lancet	398(10296)	E1
95	Buchan, T. A., Malik, A., Chan, C., Chambers, J., Suk, Y., Zhu, J. W., Ge, F. Z., Huang, L. M., Vargas, L. A., Hao, Q., Li, S., Mustafa, R. A., Vandvik, P. O., Guyatt, G. and Foroutan, F.	2021	Predictive models for cardiovascular and kidney outcomes in patients with type 2 diabetes: Systematic review and meta-analyses	Heart	107(24)	E5
96	Burnier, M.	2025	Hypertension in chronic kidney disease and future heart failure	Current Opinion in Cardiology	40(3)	E1
97	Burnier, M. and Damianaki, A.	2023	Hypertension as Cardiovascular Risk Factor in Chronic Kidney Disease	Circulation Research	132(8)	E1
98	Burra, P., Bizzaro, D., Gonta, A., Shalaby, S., Gambato, M., Morelli, M. C., Trapani, S., Floreani, A., Marra, F., Brunetto, M. R., Taliani, G. and Villa, E.	2021	Clinical impact of sexual dimorphism in non-alcoholic fatty liver disease (NAFLD) and non-alcoholic steatohepatitis (NASH)	Liver International	41(8)	E1

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100	Buse, J. B., Wexler, D. J., Tsapas, A., Rossing, P., Mingrone, G., Mathieu, C., D'Alessio, D. A. and Davies, M. J.	2020	2019 update to: Management of hyperglycaemia in type 2 diabetes, 2018. A consensus report by the American Diabetes Association (ADA) and the European Association for the Study of Diabetes (EASD)	Diabetologia	63(2)	E1
101	Buysschaert, M., Buysschaert, B., Paris, I., Medina, J. L., Bergman, M. and Preumont, V.	2020	New type 2 diabetes treatments: Cardiovascular safety/benefit and neproprotection. [French]	Louvain Medical	139(1)	E1
102	Buysschaert, M., Preumont, V. and Buysschaert, B.	2020	Hypoglycemic medications in type 2 diabetes and renal protection: A new therapeutic area?	Medecine des Maladies Metaboliques	14(1)	E1
103	Bzowyckyj, A.	2020	Managing the multifaceted nature of type 2 diabetes using once-weekly injectable GLP-1 receptor agonist therapy	Journal of Clinical Pharmacy and Therapeutics	45(S1)	E1
104	Cai, Y. X., Liu, F. H., Sun, J. H. and Lin, C. H.	2025	The Cardiovascular Outcomes Between Liraglutide and Dulaglutide Among Different Chronic Kidney Disease Stages in Patients With Type 2 Diabetes	Endocrine Practice	31(3)	E4
105	Cambier, J. F.	2019	Management of Type 2 diabetes in 2019: The same cost/efficiency ratio?: The nephrologist's perspective. [French]	Louvain Medical	138(3)	E1
106	Cardoza, K., Kang, A., Smyth, B., Yi, T. W., Pollock, C., Agarwal, R., Bakris, G., Charytan, D.	2024	Geographic and racial variability in kidney, cardiovascular and safety outcomes with canagliflozin:	Diabetes, Obesity and Metabolism	26(9)	E4

Record ID	Authors	Year	Title	Journal	Volume(Issue)	Reason for Exclusion
	M., de Zeeuw, D., Wheeler, D. C., Zhang, H., Cannon, C. P., Perkovic, V., Arnott, C., Levin, A. and Mahaffey, K. W.		A secondary analysis of the CREDENCE randomized trial			
107	Castrillon-Ramirez, F., Reid, J., Yau, K., Welk, B. and Clemens, K.	2024	Association Between Glucagon-Like Peptide 1 Receptor Agonists and Dementia: A Population-based Cohort Study of Adults Aged 40 Years and Older in Ontario, Canada	Canadian Journal of Diabetes	48(7 Supplement)	E5
108	Ceriello, A., Catrinoiu, D., Chandramouli, C., Cosentino, F., Dombrowsky, A. C., Itzhak, B., Lalic, N. M., Prattichizzo, F., Schnell, O., Seferovic, P. M., Valensi, P. and Standl, E.	2021	Heart failure in type 2 diabetes: current perspectives on screening, diagnosis and management	Cardiovascular Diabetology	20(1) (no pagination)	E1
110	Chan, J. C. H. and Chan, M. C. Y.	2022	Novel Drugs for Diabetes Also Have Dramatic Benefits on Hard Outcomes of Heart and Kidney Disease	Current Cardiology Reviews	18(6)	E1
111	Chan, J. C. N., Yang, A., Chu, N. and Chow, E.	2024	Current type 2 diabetes guidelines: Individualized treatment and how to make the most of metformin	Diabetes, Obesity and Metabolism	26(S3)	E1
112	Chan, K. W., Kwong, A. S. K., Tsui, P. N., Chan, G. C. W., Choi, W. F., Yiu, W. H., Cheung, S. C. Y., Wong, M. M. Y., Zhang, Z. J., Tan, K. C. B., Lao, L., Lai, K. N. and Tang, S. C. W.	2024	Add-on astragalus in type 2 diabetes and chronic kidney disease: A multi-center, assessor-blind, randomized controlled trial: Astragalus for chronic kidney disease in T2DM	Phytomedicine	130(no pagination)	E3

Record ID	Authors	Year	Title	Journal	Volume(Issue)	Reason for Exclusion
113	Chang, H. C., Chen, Y. Y., Kuo, T. T., Lin, Y. J., Chien, K. L., Chang, H. Y., Hung, C. L. and Chung, F. P.	2024	Sodium Glucose Transporter 2 Inhibitors Versus Metformin on Cardiovascular and Renal Outcomes in Patients With Diabetes With Low Cardiovascular Risk: A Nationwide Cohort Study	Journal of the American Heart Association	13(8) (no pagination)	E4
114	Chao, T. H., Lin, T. H., Cheng, C. I., Wu, Y. W., Ueng, K. C., Wu, Y. J., Lin, W. W., Leu, H. B., Cheng, H. M., Huang, C. C., Wu, C. C., Lin, C. F., Chang, W. T., Pan, W. H., Chen, P. R., Ting, K. H., Su, C. H., Chu, C. S., Chien, K. L., Yen, H. W., Wang, Y. C., Su, T. C., Liu, P. Y., Chang, H. Y., Chen, P. W., Juang, J. M. J., Lu, Y. W., Lin, P. L., Wang, C. P., Ko, Y. S., Chiang, C. E., Hou, C. J. Y., Wang, T. D., Lin, Y. H., Huang, P. H. and Chen, W. J.	2024	2024 Guidelines of the Taiwan Society of Cardiology on the Primary Prevention of Atherosclerotic Cardiovascular Disease---Part II	Acta Cardiologica Sinica	40(6)	E1
115	Charytan, D. M., Yu, J., Jardine, M. J., Cannon, C. P., Agarwal, R., Bakris, G., Greene, T., Levin, A., Pollock, C., Powe, N. R., Arnott, C. and Mahaffey, K. W.	2022	Potential Effects of Elimination of the Black Race Coefficient in eGFR Calculations in the CREDENCE Trial	Clinical Journal of the American Society of Nephrology	17(3)	E4
116	Chaudhry, K. and Karalliedde, J.	2024	Chronic kidney disease in type 2 diabetes: The size of the problem, addressing residual renal risk and what	Diabetes, Obesity and Metabolism	26(S5)	E1

Record ID	Authors	Year	Title	Journal	Volume(Issue)	Reason for Exclusion
			we have learned from the CREDENCE trial			
117	Chen, J. J., Wu, C. Y., Jenq, C. C., Lee, T. H., Tsai, C. Y., Tu, H. T., Huang, Y. T., Yen, C. L., Yen, T. H., Chen, Y. C., Tian, Y. C., Yang, C. W. and Yang, H. Y.	2022	Association of Glucagon-Like Peptide-1 Receptor Agonist vs Dipeptidyl Peptidase-4 Inhibitor Use With Mortality Among Patients With Type 2 Diabetes and Advanced Chronic Kidney Disease	JAMA Network Open	5(3)	E4
119	Chen, T. S., Yu, T. S., Lin, C. L., Hsu, C. Y. and Hu, W. S.	2023	Role of sodium-glucose cotransporter-2 inhibitors in risk of chronic kidney disease among patients with type 2 diabetes mellitus	Journal of Nephrology	36(3)	E5
120	Chen, W., Zheng, L., Wang, J., Lin, Y. and Zhou, T.	2023	Overview of the safety, efficiency, and potential mechanisms of finerenone for diabetic kidney diseases	Frontiers in Endocrinology	14(no pagination)	E1
121	Chen, X., Wang, C. Y. and Ko, Y.	2022	An investigation of physicians' prescribing behaviors related to antidiabetic agents for Type 2 diabetes mellitus patients and associated factors in Taiwan	Current Medical Research and Opinion	38(11)	E5
123	Cheng, D., Huang, P. C., Noe, M. and Ma, K.	2024	50965 Effect of Sodium-glucose Co-transporter 2 Inhibitors on Clinical Outcomes in Patients with Hidradenitis Suppurativa and Concomitant Type 2 Diabetes Mellitus	Journal of the American Academy of Dermatology	91(3 Supplement)	E2
124	Cheng, Y., Liu, Y., Lin, L., Li, D., Peng, L., Zheng, K., Tao, J. and Li, M.	2024	The effects of Tripterygium wilfordii Hook F on renal outcomes in type 2 diabetic kidney disease patients with severe proteinuria: a single-center cohort study	Renal Failure	46(1) (no pagination)	E3

Record ID	Authors	Year	Title	Journal	Volume(Issue)	Reason for Exclusion
125	Cherney, D. Z. I., Bell, A., Girard, L., McFarlane, P., Moist, L., Nessim, S. J., Soroka, S., Stafford, S., Steele, A., Tangri, N. and Weinstein, J.	2023	Management of Type 2 Diabetic Kidney Disease in 2022: A Narrative Review for Specialists and Primary Care	Canadian Journal of Kidney Health and Disease	10(no pagination)	E1
126	Cherney, D. Z. I., Ferrannini, E., Umpierrez, G. E., Peters, A. L., Rosenstock, J., Carroll, A. K., Lapuerta, P., Banks, P. and Agarwal, R.	2021	Efficacy and safety of sotagliflozin in patients with type 2 diabetes and severe renal impairment	Diabetes, Obesity and Metabolism	23(12)	E4
127	Cherney, D. Z. I. and Perkins, B. A.	2014	Sodium-Glucose Cotransporter 2 Inhibition in Type 1 Diabetes: Simultaneous Glucose Lowering and Renal Protection?	Canadian Journal of Diabetes	38(5)	E1
128	Cheung, J. T. K., Yang, A., Wu, H., Lau, E. S. H., Lui, J., Kong, A. P. S., Ma, R. C. W., Luk, A. O. Y., Chow, E. and Chan, J. C. N.	2024	Association of dipeptidyl peptidase-4 inhibitor initiation at glycated haemoglobin <7.5% with reduced major clinical events mediated by low glycated haemoglobin variability	Diabetes, Obesity and Metabolism	26(8)	E3
129	Cheung, J. T. K., Yang, A., Wu, H., Lau, E. S. H., Shi, M., Kong, A. P. S., Ma, R. C. W., Luk, A. O. Y., Chan, J. C. N. and Chow, E.	2023	Initiation of sodium-glucose cotransporter-2 inhibitors at lower HbA1c threshold attenuates eGFR decline in type 2 diabetes patients with and without cardiorenal disease: A propensity-matched cohort study	Diabetes Research and Clinical Practice	195(no pagination)	E4

Record ID	Authors	Year	Title	Journal	Volume(Issue)	Reason for Exclusion
130	Chiang, C. E., Lin, S. Y., Lin, T. H., Wang, T. D., Yeh, H. I., Chen, J. F., Tsai, C. T., Hung, Y. J., Li, Y. H., Liu, P. Y., Chang, K. C., Wang, K. L., Chao, T. H., Shyu, K. G., Yang, W. S., Ueng, K. C., Chu, P. H., Yin, W. H., Wu, Y. W., Cheng, H. M., Shin, S. J., Huang, C. N., Chuang, L. M., Lin, S. J., Yeh, S. J., Sheu, W. H. H. and Lin, J. L.	2018	2018 consensus of the Taiwan Society of Cardiology and the Diabetes Association of Republic of China (Taiwan) on the pharmacological management of patients with type 2 diabetes and cardiovascular diseases	Journal of the Chinese Medical Association	81(3)	E1
131	Chiang, C. E., Ueng, K. C., Chao, T. H., Lin, T. H., Wu, Y. J., Wang, K. L., Sung, S. H., Yeh, H. I., Li, Y. H., Liu, P. Y., Chang, K. C., Shyu, K. G., Huang, J. L., Tsai, C. D., Hung, H. F., Liu, M. E., Chao, T. F., Cheng, S. M., Cheng, H. M., Chu, P. H., Yin, W. H., Wu, Y. W., Chen, W. J., Lai, W. T., Lin, S. J., Yeh, S. J. and Hwang, J. J.	2020	2020 consensus of taiwan society of cardiology on the pharmacological management of patients with type 2 diabetes and cardiovascular diseases	Journal of the Chinese Medical Association	83(7)	E1
132	Chiang, C. E., Ueng, K. C., Chao, T. H., Lin, T. H., Wu, Y. J., Wang, K. L., Sung, S. H., Yeh, H. I., Li, Y. H., Liu, P. Y., Chang, K. C., Shyu, K. G., Huang, J. L., Tsai, C. D., Hung, H. F., Liu, M. E., Chao, T. F., Cheng, S. M., Cheng,	2021	2021 Consensus Pathway of the Taiwan Society of Cardiology on Novel Therapy for Type 2 Diabetes	JACC: Asia	1(2)	E1

Record ID	Authors	Year	Title	Journal	Volume(Issue)	Reason for Exclusion
	H. M., Chu, P. H., Yin, W. H., Wu, Y. W., Chen, W. J., Lai, W. T., Lin, S. J., Yeh, S. J., Hwang, J. J. and Hou, C. J. Y.					
133	Chiang, C. E., Wang, K. L., Cheng, H. M., Sung, S. H. and Chao, T. F.	2020	Second revolution in cardiovascular prevention	Journal of the Chinese Medical Association	83(4)	E1
134	Choosongsang, P. and Soonthornpun, S.	2022	Overestimation of glomerular filtration rate calculated from creatinine as compared with cystatin C in patients with type 2 diabetes receiving sodium-glucose cotransportor 2 inhibitors	Diabetic Medicine	39(1) (no pagination)	E4
135	Chowdhury, T. A. and Ali, O.	2021	Diabetes and the kidney	Clinical Medicine, Journal of the Royal College of Physicians of London	21(4)	E1
136	Chowdhury, T. A. and Ali, O.	2021	Diabetes and the kidney	Clinical Medicine	21(4)	E1
140	Chung, M. C., Hung, P. H., Hsiao, P. J., Wu, L. Y., Chang, C. H., Hsiao, K. Y., Wu, M. J., Shieh, J. J., Huang, Y. C. and Chung, C. J.	2023	Sodium-Glucose Transport Protein 2 Inhibitor Use for Type 2 Diabetes and the Incidence of Acute Kidney Injury in Taiwan	JAMA Network Open	6(2)	E4
141	Cice, G.	2025	Preserving renal function: gliflozins, GLP1 agonists, and antialdosterones	European Heart Journal, Supplement	27(3)	E1
142	Cipriani, C., Lauriero, G., Tripepi, G., Ferrari, S., Bover, J., Ravera, M., Barbuto, S., Cianciolo, G., De Nicola, L., Brandi, M. L., Minisola, S., Mereu, M. C., Corrao, G., Del	2023	Effect of Antidiabetic Drugs on Bone Health in Patients with Normal Renal Function and in Chronic Kidney Disease (CKD): Insight into Clinical Challenges in the Treatment of Type 2 Diabetes	Journal of Clinical Medicine	12(23) (no pagination)	E1

Record ID	Authors	Year	Title	Journal	Volume(Issue)	Reason for Exclusion
	Vecchio, L. and Fusaro, M.					
143	Clemens, K. K., Ouedraogo, A. M., Lam, M., Muanda, F. T., Loeschnik, E., Wilk, P. and Shariff, S. Z.	2022	Trends in basal insulin prescribing in older adults with chronic kidney disease in Ontario, Canada: A population-based analysis from 2010 to 2020	Diabetes, Obesity and Metabolism	24(4)	E3
144	Clements, J. N.	2022	Diabetes: how to manage chronic kidney disease	Drugs in Context	11(no pagination)	E1
146	Cohen, R. V., Pereira, T. V., Aboud, C. M., Petry, T. B. Z., Lopes Correa, J. L., Schiavon, C. A., Pompilio, C. E., Pechy, F. N. Q., Da Costa Silva, A. C. C., De Melo, F. L. G., Cunha Da Silveira, L. P., De Paris Caravatto, P. P., Halpern, H., Monteiro, F. D. L. J., Da Costa Martins, B., Kuga, R., Palumbo, T. M. S., Docherty, N. G. and Le Roux, C. W.	2020	Effect of Gastric Bypass vs Best Medical Treatment on Early-Stage Chronic Kidney Disease in Patients with Type 2 Diabetes and Obesity: A Randomized Clinical Trial	JAMA Surgery	155(8)	E3
148	Colombijn, J. M. T., Idema, D. L., Van Beem, S., Blokland, A. M., Van Der Braak, K., Handoko, M. L., In, T. V. L. F. H., Kaul, T., Kolagasigil-Akdemir, N., Kusters, M. P. T., Meijvis, S. C. A., Oosting, I. J., Spijker, R., Bots, M. L., Hooft, L., Verhaar, M. C. and Vernooij, R. W. M.	2024	Representation of Patients with Chronic Kidney Disease in Clinical Trials of Cardiovascular Disease Medications: A Systematic Review	JAMA Network Open	7(3)	E3

Record ID	Authors	Year	Title	Journal	Volume(Issue)	Reason for Exclusion
149	Cook, S., Schmedt, N., Broughton, J., Kalra, P. A., Tomlinson, L. A. and Quint, J. K.	2023	Characterising the burden of chronic kidney disease among people with type 2 diabetes in England: A cohort study using the Clinical Practice Research Datalink	BMJ Open	13(3) (no pagination)	E5
150	Cromer, S. J., Lauffenburger, J. C., Levin, R. and Patorno, E.	2023	Deficits and Disparities in Early Uptake of Glucagon-Like Peptide 1 Receptor Agonists and SGLT2i Among Medicare-Insured Adults Following a New Diagnosis of Cardiovascular Disease or Heart Failure	Diabetes Care	46(1)	E5
151	Czupryniak, L., Mosenzon, O., Rychlik, I., Clodi, M., Ebrahimi, F., Janez, A., Kempler, P., Malecki, M., Moshkovich, E., Prazny, M., Sourij, H., Tankova, T. and Timar, B.	2024	Barriers to early diagnosis of chronic kidney disease and use of sodium-glucose cotransporter-2 inhibitors for renal protection: A comprehensive review and call to action	Diabetes, Obesity and Metabolism	26(10)	E1
153	Daminov, B., Abdullaev, S., Igamberdieva, R. and Sharapov, O.	2020	Nephroprotective effects of 2nd type sodium-glucose co-transporter inhibitors: A literature review	Indian Journal of Forensic Medicine and Toxicology	14(4)	E4
154	Danta, C. C., Boa, A. N., Bhandari, S., Sathyapalan, T. and Xu, S. Z.	2021	Recent advances in drug discovery for diabetic kidney disease	Expert Opinion on Drug Discovery	16(4)	E1
155	Dasgupta, I., Zac-Varghese, S., Chaudhry, K., McCafferty, K., Winocour, P., Chowdhury, T. A., Bellary, S., Goldet, G., Wahba, M., De, P., Frankel, A. H., Montero,	2025	Current management of chronic kidney disease in type-2 diabetes-A tiered approach: An overview of the joint Association of British Clinical Diabetologists and UK Kidney Association (ABCD-UKKA) guidelines	Diabetic Medicine	42(2)	E1

Record ID	Authors	Year	Title	Journal	Volume(Issue)	Reason for Exclusion
	R. M., Lioudaki, E., Banerjee, D., Mallik, R., Sharif, A., Kanumilli, N., Milne, N., Patel, D. C., Dhatariya, K., Bain, S. C. and Karalliedde, J.					
156	Davies, M., Chatterjee, S. and Khunti, K.	2016	The treatment of type 2 diabetes in the presence of renal impairment: What we should know about newer therapies	Clinical Pharmacology: Advances and Applications	8	E1
157	Davies, M. J., D'Alessio, D. A., Fradkin, J., Kernan, W. N., Mathieu, C., Mingrone, G., Rossing, P., Tsapas, A., Wexler, D. J. and Buse, J. B.	2018	Management of hyperglycaemia in type 2 diabetes, 2018. A consensus report by the American Diabetes Association (ADA) and the European Association for the Study of Diabetes (EASD)	Diabetologia	61(12)	E1
158	Davies, M. J., Drexel, H., Jornayvaz, F. R., Pataky, Z., Seferovic, P. M. and Wanner, C.	2022	Cardiovascular outcomes trials: a paradigm shift in the current management of type 2 diabetes	Cardiovascular Diabetology	21(1) (no pagination)	E1
159	de Boer, I. H., Caramori, M. L., Chan, J. C. N., Heerspink, H. J. L., Hurst, C., Khunti, K., Liew, A., Michos, E. D., Navaneethan, S. D., Olowu, W. A., Sadusky, T., Tandon, N., Tuttle, K. R., Wanner, C., Wilkens, K. G., Zoungas, S., Lytvyn, L., Craig, J. C., Tunnicliffe, D. J., Howell, M., Tonelli, M., Cheung, M., Earley, A. and Rossing, P.	2020	Executive summary of the 2020 KDIGO Diabetes Management in CKD Guideline: evidence-based advances in monitoring and treatment	Kidney International	98(4)	E1

Record ID	Authors	Year	Title	Journal	Volume(Issue)	Reason for Exclusion
160	de Boer, I. H., Khunti, K., Sadusky, T., Tuttle, K. R., Neumiller, J. J., Rhee, C. M., Rosas, S. E., Rossing, P. and Bakris, G.	2022	Diabetes management in chronic kidney disease: a consensus report by the American Diabetes Association (ADA) and Kidney Disease: Improving Global Outcomes (KDIGO)	Kidney International	102(5)	E1
161	de Boer, I. H., Khunti, K., Sadusky, T., Tuttle, K. R., Neumiller, J. J., Rhee, C. M., Rosas, S. E., Rossing, P. and Bakris, G.	2022	Diabetes Management in Chronic Kidney Disease: A Consensus Report by the American Diabetes Association (ADA) and Kidney Disease: Improving Global Outcomes (KDIGO)	Diabetes Care	45(12)	E1
162	De Cosmo, S., Pontremoli, R., Giandalia, A., Manicardi, V., Rocca, A., Nicolucci, A., Rossi, M. C., Lucisano, G., Graziano, G., Di Bartolo, P., Di Cianni, G., Candido, R. and Russo, G. T.	2025	Generalizability of kidney and cardiovascular protection by finerenone to the real world in Italy: insights from Fidelio and Figaro studies	Journal of Nephrology	38(2)	E3
163	De Cosmo, S., Viazzi, F., Piscitelli, P., Leoncini, G., Mirijello, A., Bonino, B. and Pontremoli, R.	2019	Impact of CVOTs in primary and secondary prevention of kidney disease	Diabetes Research and Clinical Practice	(no pagination)	E1
164	De Germay, S., Pambrun, E., Pariente, A., Bezin, J. and Faillie, J. L.	2023	SGLT2 inhibitors use in France: A nationwide drug utilization study	Fundamental and Clinical Pharmacology	37(Supplement 1)	E5
165	de Oliveira, F. M., Chiaradia, C., Zaia, S. M., Ordonha, A. C. X., Garcia, S. A. D., Reis, L. D. D., Ribeiro, M. C. S. A. and Salles, J. E. N.	2023	Evaluation of outpatient health services in diabetes mellitus in a middle-income setting: a retrospective cohort study involving secondary care	Acta Scientiarum - Health Sciences	45(no pagination)	E2

Record ID	Authors	Year	Title	Journal	Volume(Issue)	Reason for Exclusion
166	de Sa, J. R., Rangel, E. B., Canani, L. H., Bauer, A. C., Escott, G. M., Zelmanovitz, T., Bertoluci, M. C. and Silveiro, S. P.	2022	The 2021-2022 position of Brazilian Diabetes Society on diabetic kidney disease (DKD) management: an evidence-based guideline to clinical practice. Screening and treatment of hyperglycemia, arterial hypertension, and dyslipidemia in the patient with DKD	Diabetology and Metabolic Syndrome	14(1) (no pagination)	E1
167	de Vos, L. C., Hettige, T. S. and Cooper, M. E.	2018	New Glucose-Lowering Agents for Diabetic Kidney Disease	Advances in Chronic Kidney Disease	25(2)	E1
168	Deacon, C. F.	2018	A review of dipeptidyl peptidase-4 inhibitors. Hot topics from randomized controlled trials	Diabetes, Obesity and Metabolism	20(Supplement 1)	E1
169	Deerochanawong, C., Vareesangthip, K., Piyayotai, D., Thongsuk, D., Pojchaijongdee, N. and Permsuwan, U.	2021	Cost-Utility Analysis of Dapagliflozin as an Add-On to Standard Treatment for Patients with Type 2 Diabetes and High Risk of Cardiovascular Disease in Thailand	Diabetes Therapy	12(7)	E4
170	DeFronzo, R. A.	2017	Combination therapy with GLP-1 receptor agonist and SGLT2 inhibitor	Diabetes, Obesity and Metabolism	19(10)	E1
172	Desai, N. R., Navaneethan, S. D., Nicholas, S. B., Pantalone, K. M., Wanner, C., Hamacher, S., Gay, A. and Wheeler, D. C.	2023	Design and rationale of FINE-REAL: A prospective study of finerenone in clinical practice	Journal of Diabetes and its Complications	37(4) (no pagination)	E3
173	Devineni, D., Akbarpour, M., Gong, Y. and Wong, N. D.	2024	Inadequate Use of Newer Treatments and Glycemic Control by Cardiovascular Risk and Sociodemographic Groups in US Adults with	Cardiovascular Drugs and Therapy	38(2)	E5

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			Diabetes in the NIH Precision Medicine Initiative All of Us Research Program			
175	Dixon, D. L., Salgado, T. M., Robinson, A., Carbone, S., Wagner, T. D., Hyder, H., Kirschner, B., Musselman, K. T., Buffington, T. M. and Sabo, R. T.	2025	Prescribing Patterns of SGLT2 Inhibitors and GLP-1 Receptor Agonists in Patients With Type 2 Diabetes at Cardiology, Endocrinology, and Primary Care Visits	Mayo Clinic Proceedings	100(4)	E5
176	Do, D., Lee, T., Peasah, S., Inneh, A., Patel, U. and Good, C.	2025	Trends in first-line glucose-lowering medication use among US adults with type 2 diabetes from 2019 to 2023	Journal of Managed Care & Specialty Pharmacy	31(5)	E5
177	Doggrell, S. A.	2021	Finerenone-are we there yet with a non-steroidal mineralocorticoid receptor antagonist for the treatment of diabetic chronic kidney disease?	Expert Opinion on Pharmacotherapy	22(10)	E1
179	dos Santos Borges, R., de Oliveira Almeida, G., Alves, V. F. C., Nienkotter, T. F., Bertoli, E. D. and Simoes e Silva, A. C.	2024	Safety and efficacy of sotagliflozin in patients with type II diabetes mellitus and chronic kidney disease: a meta-analysis of randomized controlled trials	Journal of Nephrology	37(4)	E4
180	Dounousi, E., Duni, A., Leivaditis, K., Vaios, V., Eleftheriadis, T. and Liakopoulos, V.	2015	Improvements in the management of diabetic nephropathy	Review of Diabetic Studies	12(1)	E1
182	Dubrofsky, L., Lee, J. F., Hajimirzarahimshirazi, P., Liu, H., Weisman, A., Lawler, P. R., Farkouh, M. E., Udell, J. A. and Cherney, D. Z.	2022	A Unique Multi- and Interdisciplinary Cardiology-Renal-Endocrine Clinic: A Description and Assessment of Outcomes	Canadian Journal of Kidney Health and Disease	9(no pagination)	E5

Record ID	Authors	Year	Title	Journal	Volume(Issue)	Reason for Exclusion
183	Dubrofsky, L., Srivastava, A. and Cherney, D. Z.	2020	Sodium-Glucose Cotransporter-2 Inhibitors in Nephrology Practice: A Narrative Review	Canadian Journal of Kidney Health and Disease	7(no pagination)	E1
184	Dudzik, A., Byrne, R., Hogan, A., O'Shea, D., Gibney, J., Valderas, J., Boza, C., Pennington, S., Le Roux, C. and McGillicuddy, F.	2024	The HDL proteome represents a novel, sensitive biomarker of metabolic inflammation and metabolic health in obesity that can track both disease progression and regression	Atherosclerosis	NA	E4
185	Dwyer, J. P., Agiro, A., Desai, P. and Cremisi, H.	2023	Short-term costs in patients with chronic kidney disease treated with dapagliflozin: a retrospective cohort study	Expert Review of Pharmacoeconomics and Outcomes Research	23(9)	E5
187	Edmonston, D., Mulder, H., Lydon, E., Chiswell, K., Lampron, Z., Shay, C., Marsolo, K., Jones, W. S., Butler, J., Shah, R. C., Chamberlain, A. M., Ford, D. E., Gordon, H. S., Hwang, W., Chang, A., Rao, A., Bosworth, H. B. and Pagidipati, N.	2024	Kidney and Cardiovascular Effectiveness of Empagliflozin Compared With Dipeptidyl Peptidase-4 Inhibitors in Patients With Type 2 Diabetes	American Journal of Cardiology	221	E4
190	Eleftheriadou, A., Riley, D., Zhao, S. S., Austin, P., Hernandez, G., Lip, G. Y. H., Jackson, T. L., Wilding, J. P. H. and Alam, U.	2024	Risk of diabetic retinopathy and diabetic macular oedema with sodium-glucose cotransporter 2 inhibitors and glucagon-like peptide 1 receptor agonists in type 2 diabetes: a real-world data study from a global federated database	Diabetologia	67(7)	E2
191	Elnaem, M. H., Mansour, N. O., Nahas, A. F., Baraka, M. A., Elkalmi, R. and Cheema, E.	2020	Renal outcomes associated with the use of non-insulin antidiabetic pharmacotherapy: A review	International Journal of General Medicine	13	E1

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			of current evidence and recommendations			
192	Elsayed, N. A., Aleppo, G., Aroda, V. R., Bannuru, R. R., Brown, F. M., Bruemmer, D., Collins, B. S., Hilliard, M. E., Isaacs, D., Johnson, E. L., Kahan, S., Khunti, K., Leon, J., Lyons, S. K., Perry, M. L., Prahalad, P., Pratley, R. E., Seley, J. J., Stanton, R. C. and Gabbay, R. A.	2023	11. Chronic Kidney Disease and Risk Management: Standards of Care in Diabetes-2023	Diabetes Care	46(Supplement 1)	E1
193	Ena, J., Carretero-Gomez, J., Zapatero-Gaviria, A., Carrasco-Sanchez, F. J., Del Romero-Sanchez, M., Gonzalez-Becerra, C., Blazquez-Encinar, J. C., Iguzquiza-Pellejero, M. J., de Escalante Yanguela, B. and Gomez-Huelgas, R.	2021	Use of antihyperglycaemic therapy with cardiovascular benefit in patients with type 2 diabetes who require hospitalisation: A cross-sectional study	Revista Clinica Espanola	221(9)	E5
194	Ena, J., Carretero-Gomez, J., Zapatero-Gaviria, A., del Romero-Sanchez, M., Gonzalez-Becerra, C., Blazquez-Encinar, J. C., Iguzquiza-Pellejero, M. J., Gomez-Huelgas, R., Gavin Blanco, O., Alvarez Padin, P., Segarra Soria, M., Ena Munoz, J., Sanchez Munoz, L. A., Zapatero Gaviria, A., Pardo, A.,	2021	Use of antihyperglycaemic therapy with cardiovascular benefit in patients with type 2 diabetes who require hospitalisation: A cross-sectional study	Revista Clinica Espanola	221(9)	E1

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	Arenas Garcia, V., Lopez Reboiro, M. L., Vaquero Herrero, M. P., Carretero Gomez, J., Menendez Saldana, A., Solis Marquinez, M. N., Garcia Olid, A., Mateos Polo, L., Wikman, P., Chacon Moreno, A. D., Blazquez Encinar, J. C., Fuente Cosio, S., Carrasco Sanchez, F. J., Loscos Aranda, S., Jimenez Rodriguez, A., Toresano Lopez, D., Gonzalez Becerra, C., Valero Novella, B., Otero Moreiras, A., Sanchez Lora, F. J., Tejero Delgado, M. D. L. A., Said Criado, I., Ruiz Arabi, E., Aranda Lobo, J., Llorente Garcia, J., Aguirre Alastuey, M. E., Castro Jimenez, J., Taboada Martinez, M. L., Gonzalez Noya, A., Dios Diez, P., Abad Requejo, P., Rabassa, A., Roura, A. E., Ferullo, J. I., Calvo Romero, J. M., Usandizaga de Antonio, E., Martin Dominguez, C., Garcia Andreu, M. D. M., Villalba Garcia, M. V., Soler i Ferrer, C., Luque Calderon, M. J., Rios Prego, M., Madridano Cobo, O., Pesqueira Fontan, P.					

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	M., Garcia Cors, M., Diaz, V., Gamez Mancera, R. M., Parra Virto, A., Cortes Rodriguez, B., Lopez Rios, M. D. C., Canovas Garcia, V. M., Pujades Tarraga, A. I., Gomez Antunez, M., Casado Escribano, P. P., Ostos Ruiz, A. I., Arjol, A., Estrada Alvarez, F., Tarabini-Castellani, P., Godoy, R., Rodriguez Mangas, C., Bacete Cebrian, M., Lobo Antuna, M., Beato Perez, J. L., Macia Rodriguez, C., Agudo, P., de Escalante Yanguela, B., Alcala Pedrajas, J. N., Gimenez Miranda, L., Polo Romero, F. J., Ortega Reina, M., Iguzquiza Pellejero, M. J., Varela Aguilar, J. M., Casuso Saenz, M. E., Delgado Verges, C., Mari Alfonso, B., Cabrerizo Garcia, J. L., Fernandez Regueiro, R., Ferreiro-Mazon Jenaro, M. M., Castillo Rubio, R., Llamazares Mendo, C., Mejias Real, I., de Andres David, C., Soria Fernandez-Llamazares, G., Perez Soto, M. I., Helguera Amezua, C., Gracia Lorenzo, V.,					

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	Flores Lledo, O., Mato Jimeno, V., Garcia Gonzalez, D. J., Ausin Garcia, C., Moragon Ledesma, S., Muela Molinero, A., Chimeno Vinas, M. M., Garcia Tello, B., Lopez Caleya, J. F., Fernandez-Madera Martinez, R., Martinez Lopez, M. D. M., Santos Seoane, S. M., Arguello, C., Munoz Blanco, A., Moran Casta, C., Yllera, C., Mejide Rodriguez, L., Folgueras, M., Rodriguez Suarez, S. and Guil Garcia, M.					
195	Engstrom, A., Soderling, J., Hviid, A., Eliasson, B., Gudbjornsdottir, S., Wintzell, V., Hveem, K., Jonasson, C., Melbye, M., Pasternak, B. and Ueda, P.	2024	Comparative cardiovascular and renal effectiveness of empagliflozin and dapagliflozin: Scandinavian cohort study	European Heart Journal - Cardiovascular Pharmacotherapy	10(5)	E4
196	Evans, M., Morgan, A. R. and Yousef, Z.	2019	What Next After Metformin? Thinking Beyond Glycaemia: Are SGLT2 Inhibitors the Answer?	Diabetes Therapy	10(5)	E1
197	Even, G., Stenfors, T., Jacobson, S. H., Jernberg, T., Franzen-Dahlin, A., Jaghult, S., Kahan, T. and Spaak, J.	2024	Integrated, person-centred care for patients with complex cardiovascular disease, diabetes mellitus and chronic kidney disease: a randomized trial	Clinical Kidney Journal	17(11) (no pagination)	E3
200	Fadini, G. P., Solini, A., Manca, M. L., Zatti, G., Frittitta, L., Avogaro,	2018	Phenotyping normal kidney function in elderly patients with type 2 diabetes: a	Acta Diabetologica	55(11)	E2

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	A., Consoli, A., Formoso, G., Grossi, G., Pucci, A., Sesti, G., Andreozzi, F., Capobianco, G., Gatti, A., Bonadonna, R., Zavaroni, I., Dei Cas, A., Felace, G., Li Volsi, P., Buzzetti, R., Leto, G., Sorice, G. P., D'Angelo, P., Morano, S., Bossi, A. C., Duratorre, E., Franzetti, I., Morpurgo, P. S., Orsi, E., Querci, F., Boemi, M., D'Angelo, F., Petrelli, M., Aimaretti, G., Karamouzis, I., Cavalot, F., Saglietti, G., Cazzetta, G., Cervone, S., Devangelio, E., Lamacchia, O., Arena, S., Di Benedetto, A., Giordano, C., Piro, S., Rizzo, M., Chianetta, R., Mannina, C., Anichini, R., Penno, G., Fattor, B., Bonora, E., Cigolini, M., Lapolla, A., Chilelli, N. C., Poli, M., Simioni, N., Frison, V. and Vinci, C.		cross-sectional multicentre study			
201	Fan, Y., Lau, E. S. H., Wu, H., Yang, A., Chow, E., Kong, A. P. S., Ma, R. C. W., Chan, J. C. N. and Luk, A. O. Y.	2023	Incident cardiovascular-kidney disease, diabetic ketoacidosis, hypoglycaemia and mortality in adult-onset type 1 diabetes: a population-based retrospective cohort study in Hong Kong	The Lancet Regional Health - Western Pacific	34(no pagination)	E2

Record ID	Authors	Year	Title	Journal	Volume(Issue)	Reason for Exclusion
202	Fediuk, D. J., Gorman, D. N., Stoddard, S. A., Zhang, Y., Ogden, A. G., Winton, J. A. and Saxena, A. R.	2024	Effect of Renal Impairment on the Pharmacokinetics of a Single Oral Dose of Danuglipron in Participants With Type 2 Diabetes	Journal of Clinical Pharmacology	64(4)	E4
203	Fejes, R., Kadar, C., Kovacs-Huber, R., Taybani, Z., Juhasz, L., Rutai, A. and Tallosy, S. P.	2025	Efficacy of Simplifying Complex Insulin Regimen on Glycometabolic Parameters and Target Organ Damage in Type 2 Diabetes: A Retrospective Cohort Study	Journal of Diabetes Research	2025(1) (no pagination)	E2
204	Fenta, E. T., Eshetu, H. B., Kebede, N., Bogale, E. K., Zewdie, A., Kassie, T. D., Anagaw, T. F., Mazengia, E. M. and Gelaw, S. S.	2023	Prevalence and predictors of chronic kidney disease among type 2 diabetic patients worldwide, systematic review and meta-analysis	Diabetology and Metabolic Syndrome	15(1) (no pagination)	E3
205	Ferrannini, E., Solini, A., Baldi, S., Scozzaro, T., Polidori, D., Natali, A. and Hansen, M. K.	2024	Role of Glycosuria in SGLT2 Inhibitor-Induced Cardiorenal Protection: A Mechanistic Analysis of the CREDENCE Trial	Diabetes	73(2)	E4
206	Ferreira, J. P., Mendonca, L. U. I. S. and Neves, J. S.	2024	Does Semaglutide Reduce Kidney Disease Events on Top of SGLT2 Inhibitors in Patients with CKD and T2D?	Journal of Cardiac Failure	30(9)	E1
207	Ferro, E. G., Elshazly, M. B. and Bhatt, D. L.	2021	New Antidiabetes Medications and Their Cardiovascular and Renal Benefits	Cardiology Clinics	39(3)	E1
208	Fetzner, J. and Rafi, E.	2025	Glycemic, Cardiorenal, and Weight Implications on Noninsulin Pharmacotherapy for the Management of Type 2 Diabetes	Journal of Clinical Endocrinology and Metabolism	110(Supplement_2)	E1
209	Filippatos, G., Anker, S. D., Agarwal, R., Ruilope, L. M., Rossing,	2022	Finerenone Reduces Risk of Incident Heart Failure in Patients with Chronic	Circulation	145(6)	E3

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	P., Bakris, G. L., Tasto, C., Joseph, A., Kolkhof, P., Lage, A. and Pitt, B.		Kidney Disease and Type 2 Diabetes: Analyses from the FIGARO-DKD Trial			
210	Filippatos, G., Bakris, G. L., Pitt, B., Agarwal, R., Rossing, P., Ruilope, L. M., Butler, J., Lam, C. S. P., Kolkhof, P., Roberts, L., Tasto, C., Joseph, A. and Anker, S. D.	2021	Finerenone Reduces New-Onset Atrial Fibrillation in Patients With Chronic Kidney Disease and Type 2 Diabetes	Journal of the American College of Cardiology	78(2)	E3
211	Filippatos, G., Pitt, B., Agarwal, R., Farmakis, D., Ruilope, L. M., Rossing, P., Bauersachs, J., Mentz, R. J., Kolkhof, P., Scott, C., Joseph, A., Bakris, G. L. and Anker, S. D.	2022	Finerenone in patients with chronic kidney disease and type 2 diabetes with and without heart failure: a prespecified subgroup analysis of the FIDELIO-DKD trial	European Journal of Heart Failure	24(6)	E3
212	Fisher, M.	2016	Is diabetes still a state of premature cardiovascular death?	Practical Diabetes	33(8)	E1
213	Flack, J. M., Agarwal, R., Anker, S. D., Pitt, B., Ruilope, L. M., Rossing, P., Adler, S. G., Fried, L., Jamerson, K., Toto, R., Brinker, M., Farjat, A. E., Kolkhof, P., Lawatscheck, R., Joseph, A. and Bakris, G. L.	2023	Finerenone in Black Patients With Type 2 Diabetes and CKD: A Post hoc Analysis of the Pooled FIDELIO-DKD and FIGARO-DKD Trials	Kidney Medicine	5(12) (no pagination)	E3
215	Fouli, G. E. and Gnudi, L.	2019	The future: Experimental therapies for renal disease in diabetes	Nephron	143(1)	E1
216	Fountoulakis, N., Miyamoto, Y., Pavkov, M. E., Karalliedde, J. and Maltese, G.	2025	Pathophysiology of vascular ageing and the effect of novel cardio-renal protective medications in	Diabetic Medicine	42(2) (no pagination)	E1

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			preventing progression of chronic kidney disease in people living with diabetes			
217	Freeman, J.	2019	Management of hypoglycemia in older adults with type 2 diabetes	Postgraduate Medicine	131(4)	E1
218	Fried, L., Schmedt, N., Folkerts, K., Bowrin, K., Raad, H., Batech, M. and Kovesdy, C.	2023	High unmet treatment needs in patients with chronic kidney disease and type 2 diabetes: Real-world evidence from a US claims database	Nephrology Dialysis Transplantation	38(3)	E5
219	Friedman, A. N.	2022	Obesity in CKD A Promising Path Forward	Clinical Journal of the American Society of Nephrology	17(12)	E1
224	Fu, H., Liu, S., Bastacky, S. I., Wang, X., Tian, X. J. and Zhou, D.	2019	Diabetic kidney diseases revisited: A new perspective for a new era	Molecular Metabolism	30	E1
225	Fujita, K. K., Ye, F., Collister, D., Klarenbach, S., Campbell, D. J. T., Chew, D. S., Quinn, A. E., Ronksley, P. and Lau, D.	2024	Sodium-glucose co-transporter-2 inhibitors are associated with kidney benefits at all degrees of albuminuria: A retrospective cohort study of adults with diabetes	Diabetes, Obesity and Metabolism	26(2)	E4
226	Furuki, T., Kobayashi, K., Toyoda, M., Hatori, N., Sakai, H., Sato, K., Miyakawa, M., Tamura, K. and Kanamori, A.	2020	The influence of long-term administration of SGLT2 inhibitors on blood pressure at the office and at home in patients with type 2 diabetes mellitus and chronic kidney disease	Journal of Clinical Hypertension	22(12)	E4
227	Gallwitz, B. and Giorgino, F.	2021	Clinical Perspectives on the Use of Subcutaneous and Oral Formulations of Semaglutide	Frontiers in Endocrinology	12(no pagination)	E1
228	Gao, Y., Chen, S., Fu, J., Wang, C., Tang, Y.,	2024	Factors associated with risk analysis for asymptomatic left ventricular diastolic	Renal Failure	46(1) (no pagination)	E3

Record ID	Authors	Year	Title	Journal	Volume(Issue)	Reason for Exclusion
	Luo, Y., Zhuo, X., Chen, X. and Shen, Y.		dysfunction in nondialysis patients with chronic kidney disease			
230	Garcia-Carro, C., Vergara, A., Agraz, I., Jacobs-Cacha, C., Espinel, E., Seron, D. and Soler, M. J.	2019	The new era for reno-cardiovascular treatment in type 2 diabetes	Journal of Clinical Medicine	8(6) (no pagination)	E1
231	Garla, V., Kanduri, S., Yanes-Cardozo, L. and Lien, L. F.	2019	Management of diabetes mellitus in chronic kidney disease	Minerva Endocrinologica	44(3)	E1
233	Georgianos, P. I., Vaios, V., Koufakis, T. and Liakopoulos, V.	2024	Slowing the Progression of Chronic Kidney Disease in Patients with Type 2 Diabetes Using Four Pillars of Therapy: The Time to Act is Now	Drugs	84(11)	E1
234	Georgianos, P. I., Vaios, V., Roumeliotis, S., Leivaditis, K., Eleftheriadis, T. and Liakopoulos, V.	2022	Evidence for Cardiorenal Protection with SGLT-2 Inhibitors and GLP-1 Receptor Agonists in Patients with Diabetic Kidney Disease	Journal of Personalized Medicine	12(2) (no pagination)	E1
235	Gerdes, C., Muller, N., Wolf, G. and Busch, M.	2023	Nephroprotective Properties of Antidiabetic Drugs	Journal of Clinical Medicine	12(10) (no pagination)	E1
239	Ghose, S., Satariano, M., Korada, S., Cahill, T., Shah, R. and Raina, R.	2024	Advancements in diabetic kidney disease management: integrating innovative therapies and targeted drug development	American Journal of Physiology - Endocrinology and Metabolism	326(6)	E1
240	Gianchandani, R. Y., Neupane, S., Iyengar, J. J. and Heung, M.	2017	Pathophysiology and management of hypoglycemiain end-stage renal disease patients: A review	Endocrine Practice	23(3)	E1
242	Giugliano, D., De Nicola, L., Maiorino, M. I., Bellastella, G. and Esposito, K.	2019	Type 2 diabetes and the kidney: Insights from cardiovascular outcome trials	Diabetes, Obesity & Metabolism	21(8)	E1

Record ID	Authors	Year	Title	Journal	Volume(Issue)	Reason for Exclusion
243	Giugliano, D., Esposito, K. and De Nicola, L.	2024	Management of acute kidney disease in type 2 diabetes: the potential role of GLP-1 RAs and SGLT2-Is	Journal of Nephrology	37(8)	E1
244	Gnudi, L. and Karalliedde, J.	2016	Beat it early: Putative renoprotective haemodynamic effects of oral hypoglycaemic agents	Nephrology Dialysis Transplantation	31(7)	E1
245	Goldman, J. D.	2020	Cardiovascular safety outcomes of once-weekly GLP-1 receptor agonists in people with type 2 diabetes	Journal of Clinical Pharmacy and Therapeutics	45(S1)	E1
246	Gonzalez Moret, Y. A., Lo, K. B. and Tan, I. J.	2024	Metformin in Systemic Lupus Erythematosus: Investigating Cardiovascular Impact and Nephroprotective Effects in Lupus Nephritis	ACR Open Rheumatology	6(8)	E3
248	Gonzalez-Manzanares, R., Anguita-Gamez, M., Muniz, J., Barrios, V., Gimeno-Orna, J. A., Perez, A., Rodriguez-Padial, L. and Anguita, M.	2024	Prevalence and incidence of heart failure in type 2 diabetes patients: results from a nationwide prospective cohort-the DIABET-IC study	Cardiovascular Diabetology	23(1) (no pagination)	E2
249	Gor, D., Gerber, B. S., Walton, S. M., Lee, T. A., Nutescu, E. A. and Touchette, D. R.	2020	Antidiabetic drug use trends in patients with type 2 diabetes mellitus and chronic kidney disease: A cross-sectional analysis of the National Health and Nutrition Examination Survey	Journal of Diabetes	12(5)	E5
250	Gorriz, J. L., Romera, I., Cobo, A., O'Brien, P. D. and Merino-Torres, J. F.	2022	Glucagon-Like Peptide-1 Receptor Agonist Use in People Living with Type 2 Diabetes Mellitus and Chronic Kidney Disease: A Narrative Review of the Key	Diabetes Therapy	13(3)	E1

Record ID	Authors	Year	Title	Journal	Volume(Issue)	Reason for Exclusion
			Evidence with Practical Considerations			
251	Gorriz, J. L., Soler, M. J., Navarro-Gonzalez, J. F., Garcia-Carro, C., Puchades, M. J., D'Marco, L., Castelao, A. M., Fernandez-Fernandez, B., Ortiz, A., Gorriz-Zambrano, C., Navarro-Perez, J. and Gorgojo-Martinez, J. J.	2020	GLP-1 receptor agonists and diabetic kidney disease: A call of attention to nephrologists	Journal of Clinical Medicine	9(4) (no pagination)	E1
252	Goto, H., Iseri, K. and Hida, N.	2024	Fibrates and the risk of cardiovascular outcomes in chronic kidney disease patients	Nephrology Dialysis Transplantation	39(6)	E3
254	Granata, A., Maccarrone, R., Anzaldi, M., Leonardi, G., Pesce, F., Amico, F., Gesualdo, L. and Corrao, S.	2022	GLP-1 receptor agonists and renal outcomes in patients with diabetes mellitus type 2 and diabetic kidney disease: State of the art	Clinical Kidney Journal	15(9)	E1
255	Gregg, L. P., Ramsey, D. J., Akeroyd, J. M., Jafry, S. A., Matheny, M. E., Virani, S. S. and Navaneethan, S. D.	2023	Predictors, Disparities, and Facility-Level Variation: SGLT2 Inhibitor Prescription Among US Veterans With CKD	American Journal of Kidney Diseases	82(1)	E4
256	Grunberger, G., Camp, S., Johnson, J., Huyck, S., Terra, S. G., Mancuso, J. P., Jiang, Z. W., Golm, G., Engel, S. S. and Lauring, B.	2018	Ertugliflozin in Patients with Stage 3 Chronic Kidney Disease and Type 2 Diabetes Mellitus: The VERTIS RENAL Randomized Study	Diabetes Therapy	9(1)	E4
257	Guedes, M. and Pecoits-Filho, R.	2022	Can we cure diabetic kidney disease? Present and future perspectives from a nephrologist's point of view	Journal of Internal Medicine	291(2)	E1
259	Gunes-Altan, M., Bosch, A., Striepe, K., Bramlage, P., Schiffer,	2024	Is GFR decline induced by SGLT2 inhibitor of clinical importance?	Cardiovascular Diabetology	23(1) (no pagination)	E4

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	M., Schmieder, R. E. and Kannenkeril, D.					
261	Gupta, S., Dominguez, M. and Golestaneh, L.	2023	Diabetic Kidney Disease: An Update	Medical Clinics of North America	107(4)	E1
262	Guthrie, R.	2020	Linagliptin in patients with type 2 diabetes and cardiovascular and/or renal disease: results from a cardiovascular and renal outcomes trial	Postgraduate Medicine	132(4)	E3
264	Hamann, A.	2020	Update on type 2 diabetes. [German]	Diabetologe	16(5)	E1
265	Hanefeld, M., Fleischmann, H., Siegmund, T. and Seufert, J.	2020	Rationale for Timely Insulin Therapy in Type 2 Diabetes Within the Framework of Individualised Treatment: 2020 Update	Diabetes Therapy	11(8)	E1
266	Hanssen, N. M., Russell, N. and Cooper, M. E.	2015	Recent advances in glucose-lowering treatment to reduce diabetic kidney disease	Expert Opinion on Pharmacotherapy	16(9)	E1
268	Hart, H. E., Kievits, O., Rutten, F. H. and Hollander, M. H.	2023	Evaluation of SGLT-2 inhibitor treatment in type 2 diabetes patients with very high cardiovascular risk	Primary Care Diabetes	17(2)	E4
269	Hartman, R. E., Rao, P. S. S., Churchwell, M. D. and Lewis, S. J.	2020	Novel therapeutic agents for the treatment of diabetic kidney disease	Expert Opinion on Investigational Drugs	29(11)	E1
271	Hasan, I., Rashid, T., Jaikaransingh, V., Heilig, C., Abdel-Rahman, E. M. and Awad, A. S.	2024	SGLT2 inhibitors: Beyond glycemic control	Journal of Clinical and Translational Endocrinology	35(no pagination)	E4
272	Hecking, M., Sharif, A., Eller, K. and Jenssen, T.	2021	Management of post-transplant diabetes: immunosuppression, early prevention, and novel antidiabetics	Transplant International	34(1)	E1

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274	Heerspink, H. J. L., Kosiborod, M., Inzucchi, S. E. and Cherney, D. Z. I.	2018	Renoprotective effects of sodium-glucose cotransporter-2 inhibitors	Kidney International	94(1)	E1
276	Heinrich, N. S., Pedersen, R. P., Vestergaard, M. B., Lindberg, U., Andersen, U. B., Haddock, B., Fornoni, A., Larsson, H. B. W., Rossing, P. and Hansen, T. W.	2025	Kidney fat by magnetic resonance spectroscopy in type 2 diabetes with chronic kidney disease	Journal of Diabetes and its Complications	39(2) (no pagination)	E5
277	Herman-Edelstein, M., Weinstein, T. and Chagnac, A.	2021	Obesity-Related Glomerulopathy: Clinical Management	Seminars in Nephrology	41(4)	E1
278	Hirsch, I. B., Parkin, C. G., Cavaiola, T. S. and Bergenstal, R. M.	2024	Use of continuous glucose monitoring when initiating glucagon-like peptide-1 receptor agonist therapy in insulin-treated diabetes	Diabetes, Obesity and Metabolism	26(S7)	E1
279	Holland, J. A., Martin, W. P., Docherty, N. G. and le Roux, C. W.	2019	Impact of intentional weight loss on diabetic kidney disease	Diabetes, Obesity and Metabolism	21(10)	E1
280	Honda, T., Hirakawa, Y. and Nangaku, M.	2019	The role of oxidative stress and hypoxia in renal disease	Kidney Research and Clinical Practice	38(4)	E1
281	Honigberg, M. C., Chang, L. S., McGuire, D. K., Plutzky, J., Aroda, V. R. and Vaduganathan, M.	2020	Use of Glucagon-Like Peptide-1 Receptor Agonists in Patients With Type 2 Diabetes and Cardiovascular Disease: A Review	JAMA Cardiology	5(10)	E1
284	Htet, Z. M. and Karim, M.	2021	Sodium-glucose co-transporter 2 inhibitors: game changers when handled with care?	Journal of the Royal Society of Medicine	114(7)	E1
289	Huang, C. H., Chen, C. P., Huang, Y. Y. and Hsu, B. R. S.	2020	Modifiable factors related to 7-year renal outcomes in subjects with type 2 diabetes and chronic kidney disease stage 3	Journal of Postgraduate Medicine	66(4)	E3

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290	Huang, H. L., Huang, W. C., Lin, K. D., Liu, S. S., Lee, M. R., Cheng, M. H., Chin, C. S., Lu, P. L., Sheu, C. C., Wang, J. Y., Lee, I. T. and Chong, I. W.	2021	Completion Rate and Safety of Programmatic Screening and Treatment for Latent Tuberculosis Infection in Elderly Patients With Poorly Controlled Diabetic Mellitus: A Prospective Multicenter Study	Clinical Infectious Diseases	73(6)	E2
291	Huang, T. Y., Rodriguez-Watson, C., Wang, T., Calhoun, S. R., Marshall, J., Burk, J., Nam, Y. H., Mendelsohn, A. B., Jamal-Allial, A., Greenlee, R. T., Selvan, M., Pawloski, P. A., McMahill Walraven, C. N., Rai, A., Toh, S. and Brown, J. S.	2022	Using the IMEDS distributed database for epidemiological studies in type 2 diabetes mellitus	BMJ Open Diabetes Research and Care	10(6) (no pagination)	E3
292	Huang, W., Chen, Y. Y., Li, Z. Q., He, F. F. and Zhang, C.	2022	Recent Advances in the Emerging Therapeutic Strategies for Diabetic Kidney Diseases	International Journal of Molecular Sciences	23(18) (no pagination)	E1
293	Iacoviello, M., Marini, M., Gori, M., Orso, F., Gonzini, L., Gorini, M., Fenici, P. and Maggioni, A. P.	2023	DAPA-HF applicability: the point of view of a cardiology setting	Acta Cardiologica	78(7)	E4
294	Iatridi, F., Carrero, J. J., Gall, E. C. L., Kanbay, M., Luyckx, V., Shroff, R. and Ferro, C. J.	2025	KDIGO 2024 Clinical Practice Guideline for the Evaluation and Management of Chronic Kidney Disease in Children and Adults: A commentary from the European Renal Best Practice (ERBP)	Nephrology Dialysis Transplantation	40(2)	E1
295	Idris, I., Zhang, R., Mamza, J. B., Ford, M.,	2021	Lower risk of hospitalization for heart failure, kidney disease and death with	Diabetes, Obesity and Metabolism	23(10)	E4

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	Morris, T., Banerjee, A. and Khunti, K.		sodium-glucose co-transporter-2 inhibitors compared with dipeptidyl peptidase-4 inhibitors in type 2 diabetes regardless of prior cardiovascular or kidney disease: A retrospective cohort study in UK primary care			
296	Idris, I., Zhang, R., Mamza, J. B., Ford, M., Morris, T., Banerjee, A. and Khunti, K.	2022	Significant reduction in chronic kidney disease progression with sodium-glucose cotransporter-2 inhibitors compared to dipeptidyl peptidase-4 inhibitors in adults with type 2 diabetes in a UK clinical setting: An observational outcomes study based on international guidelines for kidney disease	Diabetes, Obesity and Metabolism	24(11)	E4
297	Iglay, K., Hannachi, H., Engel, S. S., Li, X., O'Connell, D., Moore, L. M. and Rajpathak, S.	2021	Comorbidities in type 2 diabetes patients with and without atherosclerotic cardiovascular disease: a retrospective database analysis	Current Medical Research and Opinion	37(5)	E3
298	Inagaki, N., Nangaku, M., Sakata, Y., Sasaki, K., Mori-Anai, K., Iwasaki, T. and Hamada, K.	2022	Real-World Safety and Effectiveness of Canagliflozin Treatment for Type 2 Diabetes Mellitus in Japan: SAPPHIRE, a Long-Term, Large-Scale Post-Marketing Surveillance	Advances in Therapy	39(1)	E4
299	Inker, L. A., Collier, W., Greene, T., Miao, S., Chaudhari, J., Appel, G. B., Badve, S. V., Caravaca-Fontan, F., Del Vecchio, L., Floege,	2023	A meta-analysis of GFR slope as a surrogate endpoint for kidney failure	Nature Medicine	29(7)	E3

Record ID	Authors	Year	Title	Journal	Volume(Issue)	Reason for Exclusion
	J., Goicoechea, M., Haaland, B., Imai, E., Jafar, T. H., Lewis, J. B., Li, P. K. T., Maes, B. D., Neuen, B. L., Perrone, R. D., Remuzzi, G., Schena, F. P., Wanner, C., Wetzels, J. F. M., Woodward, M., Heerspink, H. J. L., Estacio, R. O., Hanratty, R., Chalmers, J., Canetta, P., Barrett, B., Neal, B., Perkovic, V., Mahaffey, K. W., Johnson, D., Jardine, M., von Eynatten, M., Verde, E., Verdalles, U., Arroyo, D., Chapman, A., Torres, V., Yu, A., Brosnahan, G., Hannedouche, T., Chow, K. M., Szeto, C. C., Leung, C. B., Xie, D., Hou, F. F., Dwyer, J., Pohl, M. A., Raz, I., Hunsicker, L. G., Vanacker, A., Malfait, T., Maschio, G., Locatelli, F., Blankestijn, P. J., van Zuilen, A., Kobayashi, F., Makino, H., Chan, J. C. N., Andrulli, S., Pozzi, C., Casartelli, D., Praga, M., Trujillo, H., Cavero, T., Sevillano, A., Ruggenenti, P., Perna, A., Carrara, F., Keane, W. F., Manno,					

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	C., Haynes, R., Herrington, W. G., Baigent, C., Landray, M., Rauen, T., Seikrit, C., Wied, S., Toto, R. D., de Jong, P. E. and Saddelli, M.					
300	Iqbal, A., Zhou, K., Kashyap, S. R. and Lansang, M. C.	2022	Early Post-Renal Transplant Hyperglycemia	Journal of Clinical Endocrinology and Metabolism	107(2)	E1
301	Ishizu, M., Mori, H., Ohishi, M., Kuroda, A., Akehi, Y., Yoshida, S., Aihara, K. I., Aiba, M., Kawano, T., Hashida, S. and Matsuhisa, M.	2021	Urinary adiponectin excretion is an early predictive marker of the decline of the renal function in patients with diabetes mellitus	Journal of Diabetes and its Complications	35(4) (no pagination)	E3
303	Januzzi, J. L., Liu, Y., Sattar, N., Yavin, Y., Pollock, C. A., Butler, J., Jardine, M., Heerspink, H. J. L., Masson, S., Breyer, M. and Hansen, M. K.	2024	Vascular endothelial growth factors and risk of cardio-renal events: Results from the CREDENCE trial	American Heart Journal	271	E4
304	Jensen, J. H., Vestergaard, P. and Jensen, M. H.	2024	Association between Glucose-lowering Treatments and Risk of Diabetic Retinopathy in People with Type 2 Diabetes: A Nationwide Cohort Study	Current Drug Safety	19(2)	E5
305	Jha, K. K., Adhikari, R., Tasdighi, E., Osuji, N., Rajan, T. and Blaha, M. J.	2022	Transitioning to GLP-1 RAs and SGLT2 Inhibitors as the First Choice for Managing Cardiometabolic Risk in Type 2 Diabetes	Current Atherosclerosis Reports	24(12)	E1
308	Jindal, A., Garcia-Touza, M., Jindal, N., Whaley-Connell, A. and Sowers, J. R.	2013	Diabetic Kidney Disease and the Cardiorenal Syndrome. Old Disease, New Perspectives	Endocrinology and Metabolism Clinics of North America	42(4)	E1

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310	Jonny, Sitepu, E. C., Hernowo, B. A., Chiuman, L., Lister, I. N. E. and Putranto, T. A.	2024	Open-Label Clinical Trial on the Impact of Autologous Dendritic Cell Therapy on Albuminuria and Inflammatory Biomarkers (Interleukin-6, Interleukin-10, Tumor Necrosis Factor alpha) in Diabetic Kidney Disease (DKD)	Current Issues in Molecular Biology	46(12)	E3
312	Kale, A., Sharma, A., Anders, H. J. and Gaikwad, A. B.	2023	Diabetes and Cardiorenal Complications: A Clinical Review of Existing Therapies and Novel Combinations, Focusing on SGLT2 Inhibitors	Current Diabetes Reviews	19(8)	E1
314	Kanbay, M., Bulbul, M. C., Copur, S., Afsar, B., Sag, A. A., Siriopol, D., Kuwabara, M., Badarau, S., Covic, A. and Ortiz, A.	2021	Therapeutic implications of shared mechanisms in non-alcoholic fatty liver disease and chronic kidney disease	Journal of Nephrology	34(3)	E1
315	Kanbay, M., Copur, S., Demiray, A., Sag, A. A., Covic, A., Ortiz, A. and Tuttle, K. R.	2022	Fatty kidney: A possible future for chronic kidney disease research	European Journal of Clinical Investigation	52(6) (no pagination)	E1
316	Kanbay, M., Copur, S., Topcu, A. U., Guldan, M., Ozbek, L., Gaipov, A., Ferro, C., Cozzolino, M., Cherney, D. Z. I. and Tuttle, K. R.	2024	An update review of post-transplant diabetes mellitus: Concept, risk factors, clinical implications and management	Diabetes, Obesity and Metabolism	26(7)	E1
317	Kanbay, M., Copur, S., Yilmaz, Z. Y., Tanriover, C., Hasbal, N. B., Ortiz, A. and Perazella, M. A.	2023	A novel risk factor for malignancy: Albuminuria	European Journal of Internal Medicine	118	E1
319	Kao, Y. W., Yen, K. C., Chen, S. W., Chao, T. F. and Chan, Y. H.	2024	Early reduction in albuminuria is associated with a steeper 'dip' in initial estimated glomerular filtration rate but favourable	Diabetes, Obesity and Metabolism	26(9)	E4

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			long-term kidney outcomes in people with diabetes receiving sodium-glucose cotransporter-2 inhibitors			
320	Karagiannis, T., Tsapas, A. and Bekiari, E.	2021	NA	Annals of Internal Medicine	174(3)	E1
321	Karalliedde, J., Winocour, P., Chowdhury, T. A., De, P., Frankel, A. H., Montero, R. M., Pokrajac, A., Banerjee, D., Dasgupta, I., Fogarty, D., Sharif, A., Wahba, M., Mark, P. B., Zac-Varghese, S., Patel, D. C. and Bain, S. C.	2022	Clinical practice guidelines for management of hyperglycaemia in adults with diabetic kidney disease	Diabetic Medicine	39(4) (no pagination)	E1
322	Kasera, S., Hartsell, S. E., Wei, G., Singh, R., Nevers, M. R., Sarwal, A., Chakravartula, A. R., Katkam, N. and Beddhu, S.	2024	Does CKD Modify the Effects of Glucagon-Like Peptide 1 Receptor Agonists (GLP-1 RAs) and SGLT2 Inhibitors on Weight Loss?	Journal of the American Society of Nephrology	Conference: Kidney Week 2024. San Diego, CA United States. 35	E1
324	Katsiki, N., Mantzoros, C. and Mikhailidis, D. P.	2017	Adiponectin, lipids and atherosclerosis	Current Opinion in Lipidology	28(4)	E1
325	Kaul, S. and Butler, J.	2024	Stopping Trials Early for Benefit: Insights From Recent Pivotal Trials in Chronic Kidney Disease	Journal of the American College of Cardiology	84(13)	E1
326	Kawanami, D. and Takashi, Y.	2020	GLP-1 Receptor Agonists in Diabetic Kidney Disease: From Clinical Outcomes to Mechanisms	Frontiers in Pharmacology	11(no pagination)	E1
328	Khan, M. S., Bakris, G. L., Packer, M., Shahid, I., Anker, S. D., Fonarow, G. C., Wanner, C., Weir, M. R., Zannad, F. and Butler, J.	2022	Kidney function assessment and endpoint ascertainment in clinical trials	European Heart Journal	43(14)	E3

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329	Khan, M. S. and Lea, J. P.	2024	Kidney and cardiovascular-protective benefits of combination drug therapies in chronic kidney disease associated with type 2 diabetes	BMC Nephrology	25(1) (no pagination)	E1
330	Khan, M. S., Rashid, A. M., Shafi, T., Rangaswami, J., Cherney, D. Z. I. and Butler, J.	2025	Residual Risk of Adverse Kidney and Cardiovascular Outcomes in Patients with CKD	Clinical Journal of the American Society of Nephrology	20(3)	E1
332	Khidhir, A. and Aladesua, T.	2023	Underprescribing of cardioprotective novel antidiabetic drugs in marginalized patients with type II diabetes mellitus	European Heart Journal. Conference: European Society of Cardiology Congress, ESC	44(supplement 2)	E5
333	Khunti, K., Davies, M. J. and Seidu, S.	2020	Cardiovascular outcome trials of glucose-lowering therapies	Expert Review of Pharmacoeconomics and Outcomes Research	20(3)	E1
334	Kim, D. L., Lee, S. E. and Kim, N. H.	2023	Renal Protection of Mineralocorticoid Receptor Antagonist, Finerenone, in Diabetic Kidney Disease	Endocrinology and Metabolism	38(1)	E1
336	Klein, K. R., Lingvay, I., Tuttle, K. R. and Flythe, J. E.	2025	Glycemic Management and Individualized Diabetes Care in Dialysis-Dependent Kidney Failure	Diabetes Care	48(2)	E1
337	Kleinaki, Z., Kapnisi, S., Theodorelou-Charitou, S. A., Nikas, I. P. and Paschou, S. A.	2020	Type 2 diabetes mellitus management in patients with chronic kidney disease: an update	Hormones	19(4)	E1
338	Kobayashi, K., Toyoda, M., Hatori, N., Furuki, T., Sakai, H., Hatori, Y., Sato, K., Miyakawa, M., Tamura, K. and Kanamori, A.	2022	Polypharmacy influences the renal composite outcome in patients treated with sodium-glucose cotransporter 2 inhibitors	Clinical and Translational Science	15(4)	E4
339	Kobayashi, K., Toyoda, M., Hatori, N., Saito, N.,	2021	Retrospective Analysis of the Renoprotective Effects	Diabetes Technology and Therapeutics	23(2)	E4

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	Kanaoka, T., Sakai, H., Furuki, T., Umezono, T., Ito, S., Suzuki, D., Takeda, H., Minagawa, F., Degawa, H., Yamamoto, H., MacHimura, H., Chin, K., Hishiki, T., Takihata, M., Aoyama, K., Umezawa, S., Minamisawa, K., Aoyama, T., Hamada, Y., Suzuki, Y., Hayashi, M., Hatori, Y., Sato, K., Miyakawa, M., Tamura, K. and Kanamori, A.		of Long-Term Use of Six Types of Sodium-Glucose Cotransporter 2 Inhibitors in Japanese Patients with Type 2 Diabetes Mellitus and Chronic Kidney Disease			
342	Kobayashi, K., Toyoda, M., Kimura, M., Hatori, N., Furuki, T., Sakai, H., Takihata, M., Umezono, T., Ito, S., Suzuki, D., Takeda, H., Kanamori, A., Degawa, H., Yamamoto, H., Machimura, H., Mokubo, A., Chin, K., Obana, M., Hishiki, T., Aoyama, K., Nakajima, S., Umezawa, S., Shimura, H., Aoyama, T., Sato, K. and Miyakawa, M.	2019	Renal effects of sodium glucose co-transporter 2 inhibitors in Japanese type 2 diabetes mellitus patients with home blood pressure monitoring	Clinical and Experimental Hypertension	41(7)	E4
343	Koo, B. K., Chung, W. Y. and Moon, M. K.	2020	Peripheral arterial endothelial dysfunction predicts future cardiovascular events in diabetic patients with albuminuria: A prospective cohort study	Cardiovascular Diabetology	19(1) (no pagination)	E3

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344	Kosaraju, S. and Zhang, R. M.	2024	Retrospective Study on the Efficacy and Safety of Dulaglutide in Patients with Diabetes and Moderate-Advanced Chronic Kidney Disease	International Journal of Nephrology and Renovascular Disease	17	E4
345	Kosiborod, M. N., Deanfield, J., Pratley, R., Borlaug, B. A., Butler, J., Davies, M. J., Emerson, S. S., Kahn, S. E., Kitzman, D. W., Lingvay, I., Mahaffey, K. W., Petrie, M. C., Plutzky, J., Rasmussen, S., Ronnback, C., Shah, S. J., Verma, S., Weeke, P. E. and Lincoff, A. M.	2024	Semaglutide versus placebo in patients with heart failure and mildly reduced or preserved ejection fraction: a pooled analysis of the SELECT, FLOW, STEP-HFpEF, and STEP-HFpEF DM randomised trials	The Lancet	404(10456)	E4
346	Kovesdy, C. P., Isaman, D., Petruski-Ivleva, N., Fried, L., Blankenburg, M., Gay, A., Velentgas, P. and Folkerts, K.	2021	Chronic kidney disease progression among patients with type 2 diabetes identified in US administrative claims: a population cohort study	Clinical Kidney Journal	14(6)	E5
347	Kowalczyk, N. S. and Prochaska, M.	2025	Mitigating heart failure risk in patients with diabetes and chronic kidney disease	Current Opinion in Cardiology	40(3)	E1
349	Krittanawong, C., Britt, W. M., Rizwan, A., Siddiqui, R., Khawaja, M., Khan, R., Joolharzadeh, P., Newman, N., Rivera, M. R. and Tang, W. H. W.	2024	Clinical Update in Heart Failure with Preserved Ejection Fraction	Current Heart Failure Reports	21(5)	E1
350	Kruger, D. and Valentine, V.	2020	Canagliflozin for the Treatment of Diabetic Kidney Disease and Implications for Clinical Practice: A Narrative Review	Diabetes Therapy	11(6)	E1

Record ID	Authors	Year	Title	Journal	Volume(Issue)	Reason for Exclusion
351	Kushner, P., Peach, E., Wittbrodt, E., Barone, S., Chen, H., Sanchez, J. J. G., Jarbrink, K., Arnold, M. and Tangri, N.	2022	Investigating the global prevalence and consequences of undiagnosed stage 3 chronic kidney disease: Methods and rationale for the REVEAL-CKD study	Clinical Kidney Journal	15(4)	E3
353	Lambourg, E. J., Fu, E. L., McGurnaghan, S., Conway, B. R., Dhaun, N., Grant, C. H., Pearson, E. R., Mark, P. B., Petrie, J., Colhoun, H. and Bell, S.	2025	Stopping Versus Continuing Metformin in Patients With Advanced CKD: A Nationwide Scottish Target Trial Emulation Study	American Journal of Kidney Diseases	85(2)	E3
354	Lamprea-Montealegre, J. A., Madden, E., Tummalapalli, S. L., Chu, C. D., Peralta, C. A., Du, Y., Singh, R., Kong, S. X., Tuot, D. S., Shlipak, M. G. and Estrella, M. M.	2022	Prescription Patterns of Cardiovascular- and Kidney-Protective Therapies Among Patients With Type 2 Diabetes and Chronic Kidney Disease	Diabetes Care	45(12)	E5
355	Lamprea-Montealegre, J. A., Madden, E., Tummalapalli, S. L., Peralta, C., Neilands, T. B., Garcia, P. K., Muiru, A., Karliner, L., Shlipak, M. G. and Estrella, M. M.	2022	Association of Race and Ethnicity With Prescription of SGLT2 Inhibitors and GLP1 Receptor Agonists Among Patients With Type 2 Diabetes in the Veterans Health Administration System	Jama	328(9)	E5
356	Lan, N. S. R., Dwivedi, G., Fegan, P. G., Game, F. and Hamilton, E. J.	2024	Unravelling the cardio-renal-metabolic-foot connection in people with diabetes-related foot ulceration: a narrative review	Cardiovascular Diabetology	23(1) (no pagination)	E1
357	Landolfo, M., Spannella, F., Giulietti, F., Ortensi, B., Stella, L., Carlucci, M. A., Galeazzi, R.,	2024	Detecting heart stress using NT-proBNP in patients with type 2 diabetes mellitus and hypertension or high-normal	Cardiovascular Diabetology	23(1) (no pagination)	E2

Record ID	Authors	Year	Title	Journal	Volume(Issue)	Reason for Exclusion
	Turchi, F., Luconi, M. P., Zampa, R., Cecchi, S., Tortato, E., Petrelli, M. and Sarzani, R.		blood pressure: a cross-sectional multicentric study			
358	Lautsch, D., Wang, T., Yang, L. and Rajpathak, S. N.	2019	Prevalence of Established Cardiovascular Disease in Patients with Type 2 Diabetes Mellitus in the UK	Diabetes Therapy	10(6)	E2
360	Lavens, A., De Block, C., Oriot, P., Crenier, L., Philips, J. C., Vandenbroucke, M., Vanherwegen, A. S., Nobels, F. and Mathieu, C.	2024	Metabolic health in people living with type 1 diabetes in Belgium: a repeated cross-sectional study	Diabetologia	67(12)	E2
361	Lee, B., Holstein-Rathlou, N. H., Sosnovtseva, O. and Sorensen, C. M.	2023	Renoprotective effects of GLP-1 receptor agonists and SGLT-2 inhibitors-is hemodynamics the key point?	American Journal of Physiology - Cell Physiology	325	E1
365	Lerma, E. V. and Wilson, D. J.	2022	Finerenone: a mineralocorticoid receptor antagonist for the treatment of chronic kidney disease associated with type 2 diabetes	Expert Review of Clinical Pharmacology	15(5)	E1
366	Li, C., Guo, S., Huo, J., Gao, Y., Yan, Y. and Zhao, Z.	2022	Real-world national trends and socio-economic factors preference of sodium-glucose cotransporter-2 inhibitors and glucagon-like peptide-1 receptor agonists in China	Frontiers in Endocrinology	13(no pagination)	E5
367	Li, J., Albajrami, O., Zhuo, M., Hawley, C. E. and Paik, J. M.	2020	Decision Algorithm for Prescribing SGLT2 Inhibitors and GLP-1 Receptor Agonists for Diabetic Kidney Disease	Clinical Journal of The American Society of Nephrology: CJASN	15(11)	E1
370	Li, Y., Tang, H., Guo, Y., Shao, H., Kimmel, S.	2024	Sodium-glucose cotransporter-2 inhibitors	Frontiers in Pharmacology	15(no pagination)	E4

Record ID	Authors	Year	Title	Journal	Volume(Issue)	Reason for Exclusion
	E., Bian, J., Schatz, D. A. and Guo, J.		and incidence of atrial fibrillation in older adults with type 2 diabetes: a retrospective cohort analysis			
371	Liabeuf, S., Minutolo, R., Floege, J. and Zoccali, C.	2025	The use of SGLT2 inhibitors and GLP-1 receptor agonists in older patients: a debate on approaches in CKD and non-CKD populations	Clinical Kidney Journal	18(2) (no pagination)	E1
372	Liaw, J., Harhay, M., Setoguchi, S., Gerhard, T. and Dave, C. V.	2022	Trends in Prescribing Preferences for Antidiabetic Medications Among Patients With Type 2 Diabetes in the U.K. With and Without Chronic Kidney Disease, 2006-2020	Diabetes Care	45(10)	E5
373	Lim, J., Hwang, I. C., Choi, H. M., Yoon, Y. E. and Cho, G. Y.	2022	Comparison of cardiovascular and renal outcomes between dapagliflozin and empagliflozin in patients with type 2 diabetes without prior cardiovascular or renal disease	PLoS ONE	NA	E2
374	Lim, L. L., Chow, E. and Chan, J. C. N.	2023	Cardiorenal diseases in type 2 diabetes mellitus: clinical trials and real-world practice	Nature Reviews Endocrinology	19(3)	E1
375	Limonte, C. P., Hall, Y. N., Trikudanathan, S., Tuttle, K. R., Hirsch, I. B., de Boer, I. H. and Zelnick, L. R.	2022	Prevalence of SGLT2i and GLP1RA use among US adults with type 2 diabetes	Journal of Diabetes and its Complications	36(6) (no pagination)	E5
376	Lin, D. S. H., Lee, J. K., Huang, K. C., Lin, T. T. and Lo, H. Y.	2024	Effects of sodium-glucose cotransporter 2 inhibitors on cardiovascular and renal outcomes in people with diabetes and advanced chronic kidney disease	Diabetologia	67(11)	E4

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378	Lin, Y. H., Huang, Y. Y., Hsieh, S. H., Sun, J. H., Chen, S. T. and Lin, C. H.	2019	Renal and Glucose-Lowering Effects of Empagliflozin and Dapagliflozin in Different Chronic Kidney Disease Stages	Frontiers in Endocrinology	10(no pagination)	E2
381	Liuzzo, G. and Volpe, M.	2021	FIGARO-DKD adds new evidence to the cardiovascular benefits of finerenone across the spectrum of patients with type 2 diabetes and chronic kidney disease	European Heart Journal	42(47)	E3
384	Lo, R., Narasaki, Y., Lei, S. and Rhee, C. M.	2023	Management of traditional risk factors for the development and progression of chronic kidney disease	Clinical Kidney Journal	16(11)	E1
385	Lombardi, R., Airaghi, L., Targher, G., Serviddio, G., Maffi, G., Mantovani, A., Maffeis, C., Colecchia, A., Villani, R., Rinaldi, L., Orsi, E., Pisano, G., Adinolfi, L. E., Fargion, S. and Fracanzani, A. L.	2020	Liver fibrosis by FibroScan independently of established cardiovascular risk parameters associates with macrovascular and microvascular complications in patients with type 2 diabetes	Liver International	40(2)	E3
386	Looareesuwan, P., Boonmanunt, S., Siriyotha, S., Lukkunaprasit, T., Thammasudjarit, R., Pattanaprateep, O., Nimitphong, H., Reutrakul, S., Attia, J., McKay, G. and Thakkinstian, A.	2023	Retinopathy prediction in type 2 diabetes: Time-varying Cox proportional hazards and machine learning models	Informatics in Medicine Unlocked	40(no pagination)	E4
388	Lui, D., Tang, E., Wu, T., Au, I., Lee, C. H., Woo, Y. C., Tan, K. C. B. and Wong, C.	2023	Risks Of Stroke, Its Subtypes And Atrial Fibrillation Associated With Glucagon-like Peptide 1	Journal of the Endocrine Society	7(Supplement 1)	E2

Record ID	Authors	Year	Title	Journal	Volume(Issue)	Reason for Exclusion
			Receptor Agonists Versus Sodium-glucose Cotransporter 2 Inhibitors: A Real-world Population-based Study In Hong Kong			
390	Lui, D. T. W., Chung, M. S. H., Lau, E. H. Y., Lau, K. T. K., Au, I. C. H., Lee, C. H., Woo, Y. C., Wong, C. K. H. and Cowling, B. J.	2023	Analysis of All-Cause Hospitalization and Death among Nonhospitalized Patients with Type 2 Diabetes and SARS-CoV-2 Infection Treated with Molnupiravir or Nirmatrelvir-Ritonavir during the Omicron Wave in Hong Kong	JAMA Network Open	6(5) (no pagination)	E2
391	Lytvyn, Y., Bjornstad, P., Van Raalte, D. H., Heerspink, H. L. and Cherney, D. Z. I.	2019	The new biology of diabetic kidney disease - Mechanisms and therapeutic implications	Endocrine Reviews	41(2) (no pagination)	E1
392	Ma, K. S. K., Lo, J. E., Kyttaris, V. C., Tsokos, G. C. and Costenbader, K. H.	2025	Efficacy and Safety of Sodium-Glucose Cotransporter 2 Inhibitors for the Primary Prevention of Cardiovascular, Renal Events, and Safety Outcomes in Patients With Systemic Lupus Erythematosus and Comorbid Type 2 Diabetes: A Population-Based Target Trial Emulation	Arthritis and Rheumatology	77(4)	E4
393	Maan, R. K., Sawhney, A., Hayat, A., Kc, S., Madan, A., Sk, C., Williams, L., Zweben, A. and Rana, A.	2024	Are We Adequately Prescribing Sodium-Glucose Cotransporter 2 Inhibitors (SGLT2i) Or Glucagon-Like Peptide 1 Receptor Agonist (GLP-1 RA) In Patients With Type 2 Diabetes Mellitus (T2DM) And Established Atherosclerotic	Journal of the Endocrine Society	8(Supplement 1)	E5

Record ID	Authors	Year	Title	Journal	Volume(Issue)	Reason for Exclusion
			Cardiovascular Disease (ASCVD) Or Chronic Kidney Disease (CKD) In An Outpatient Setting: A Community Center Experience			
394	MacCallum, L.	2014	Optimal Medication Dosing in Patients with Diabetes Mellitus and Chronic Kidney Disease	Canadian Journal of Diabetes	38(5)	E1
395	Machado-Alba, J. E., Gaviria-Mendoza, A., Machado-Duque, M. E., Valladales-Restrepo, L. F. and Alvarado-Segovia, A.	2024	Noninsulin antidiabetic prescription patterns in Colombia: a cross-sectional study	Therapeutic Advances in Endocrinology and Metabolism	15(no pagination)	E5
396	Machado-Duque, M. E., Gaviria-Mendoza, A., Valladales-Restrepo, L. F., Franco, J. S., de Rosario Forero, M., Vizcaya, D. and Machado-Alba, J. E.	2023	Treatment patterns of antidiabetic and kidney protective therapies among patients with type 2 diabetes mellitus and chronic kidney disease in Colombia. The KDICO descriptive study	Diabetology and Metabolic Syndrome	15(1) (no pagination)	E5
397	MacIsaac, R. J., Jerums, G. and Ekinci, E. I.	2017	Effects of glycaemic management on diabetic kidney disease	World Journal of Diabetes	8(5)	E1
398	Madievsky, R.	2018	Spotlight on Antidiabetic Agents with Cardiovascular or Renoprotective Benefits	The Permanente Journal	22	E1
399	Mahaffey, K. W., Jardine, M. J., Bompoint, S., Cannon, C. P., Neal, B., Heerspink, H. J. L., Charytan, D. M., Edwards, R., Agarwal, R., Bakris, G., Bull, S., Capuano, G., De Zeeuw, D., Greene, T.,	2019	Canagliflozin and Cardiovascular and Renal Outcomes in Type 2 Diabetes Mellitus and Chronic Kidney Disease in Primary and Secondary Cardiovascular Prevention Groups: Results from the Randomized CREDENCE Trial	Circulation	140(9)	E4

Record ID	Authors	Year	Title	Journal	Volume(Issue)	Reason for Exclusion
	Levin, A., Pollock, C., Sun, T., Wheeler, D. C., Yavin, Y., Zhang, H., Zinman, B., Rosenthal, N., Brenner, B. M. and Perkovic, V.					
400	Maigret, L., Basle, L., Chatelet, V., Ecotiere, L., Perrin, P., Golbin, L., Bertrand, D., Anglicheau, D., Poulain, C., Garrouste, C., Danthu, C., Boud'hors, C., Le Meur, Y., Dekeyser, M., Duthe, F., Sautenet, B., Deliege, P. G. and Gatault, P.	2025	Sodium-Glucose Cotransporter-2 Inhibitor in Diabetic and Nondiabetic Renal Transplant Recipients	Kidney International Reports	10(3)	E4
401	Malik, M. E., Butt, J. H., Strange, J. E., Falkentoft, A. C., Jensen, J., Andersson, C., Zahir, D., Fosbol, E., Petrie, M. C., Sattar, N., McMurray, J. J. V., Kober, L. and Schou, M.	2023	Initiation of SGLT2 inhibitors and GLP-1 receptor agonists according to level of frailty in people with type 2 diabetes and cardiovascular disease in Denmark: a cross-sectional, nationwide study	The Lancet Healthy Longevity	4(10)	E2
403	Manito, N., Escobar, C., Palacios, B., Varela, L., Aranda, U., Capel, M., Sicras, A., Hormigo, A., Alcazar, R. and Botana, M.	2022	Risk of outcomes in a Spanish population with heart failure	REC: CardioClinics	57(2)	E4
405	Mansi, I. A., Chansard, M., Lingvay, I., Zhang, S., Halm, E. A. and Alvarez, C. A.	2022	Statins and renal disease progression, ophthalmic manifestations, and neurological manifestations in veterans with diabetes: A retrospective cohort study	PLoS ONE	17(7 July) (no pagination)	E3
406	Manski-Nankervis, J. A. E., Thuraisingam, S.,	2019	Prescribing for people with type 2 diabetes and renal	Primary Care Diabetes	13(2)	E5

Record ID	Authors	Year	Title	Journal	Volume(Issue)	Reason for Exclusion
	Sluggett, J. K., Lau, P., Blackberry, I., Ilomaki, J., Furler, J. and Bell, J. S.		impairment in Australian general practice: A national cross sectional study			
409	Marquez, D. F., Ruiz-Hurtado, G., Segura, J. and Ruilope, L.	2019	Microalbuminuria and cardiorenal risk: Old and new evidence in different populations	F1000Research	8(no pagination)	E1
411	Martinez-Montoro, J. I., Cornejo-Pareja, I., Diaz-Lopez, A., Sureda, A., Toledo, E., Abete, I., Babio, N., Tur, J. A., Martinez-Gonzalez, M. A., Martinez, J. A., Fito, M., Salas-Salvado, J. and Tinahones, F. J.	2025	Effect of an intensive lifestyle intervention on cystatin C-based kidney function in adults with overweight and obesity: From the PREDIMED-Plus trial	Journal of Internal Medicine	297(2)	E3
412	Maruhashi, T., Tanaka, A., Takahashi, K., Higashi, Y. and Node, K.	2024	Erythropoiesis and estimated fluid volume regulation following initiation of ipragliflozin treatment in patients with type 2 diabetes mellitus and chronic kidney disease: A post-hoc analysis of the PROCEED trial	Diabetes, Obesity and Metabolism	26(5)	E4
413	Maruno, S., Tanaka, T. and Nangaku, M.	2022	Exploring molecular targets in diabetic kidney disease	Kidney Research and Clinical Practice	41(Supplement 2)	E1
415	Marx, N., Deanfield, J. E., Mann, J. F. E., Arechavaleta, R., Bain, S. C., Bajaj, H. S., Bayer Tanggaard, K., Birkenfeld, A. L., Buse, J. B., Davicevic-Elez, Z., Desouza, C., Emerson, S. S., Engelmann, M. D. M., Hovingh, G. K., Inzucchi, S. E., Jhund, P. S., Mulvagh, S. L.,	2025	Oral Semaglutide and Cardiovascular Outcomes in Persons With Type 2 Diabetes, According to SGLT2i Use: Prespecified Analyses of the SOUL Randomized Trial	Circulation	29	E1

Record ID	Authors	Year	Title	Journal	Volume(Issue)	Reason for Exclusion
	Pop-Busui, R., Poulter, N. R., Rasmussen, S., Tu, S. T. and McGuire, D. K.					
416	Marx, N., Schutt, K., Muller-Wieland, D., Ajjan, R. A., Antunes, M. J., Christodorescu, R. M., Crawford, C., Di Angelantonio, E., Eliasson, B., Espinola-Klein, C., Fauchier, L., Halle, M., Herrington, W. G., Kautzky-Willer, A., Lambrinou, E., Lesiak, M., Lettino, M., McGuire, D. K., Mullens, W., Rocca, B., Sattar, N., Prescott, E., Cosentino, F., Abdelhamid, M., Aboyans, V., Antoniou, S., Asteggiano, R., Baumgartner, I., Buccheri, S., Bueno, H., Celutkiene, J., Chieffo, A., Christersson, C., Coats, A., Cosyns, B., Czerny, M., Deaton, C., Falk, V., Ference, B. A., Filippatos, G., Fisher, M., Huikuri, H., Ibanez, B., Jaarsma, T., James, S., Khunti, K., Kober, L., Lewis, B. S., Lochen, M. L., McEvoy, J. W., Mihaylova, B., Mindham, R., Neubeck, L., Nielsen, J. C., Parati, G., Pasquet, A. A., Patrono, C., Petersen,	2023	2023 ESC Guidelines for the management of cardiovascular disease in patients with diabetes	European Heart Journal	44(39)	E1

Record ID	Authors	Year	Title	Journal	Volume(Issue)	Reason for Exclusion
	S. E., Piepoli, M. F., Rakisheva, A., Rossing, P., Ryden, L., Standl, E., Tokgozoglu, L., Touyz, R. M., Visseren, F., Volpe, M., Vrints, C., Witkowski, A., Hazarapetyan, L., Zirlik, A., Rustamova, Y., van de Borne, P., Sokolovic, S., Gotcheva, N., Milicic, D., Agathangelou, P., Vrablik, M., Schou, M., Hasan-Ali, H., Viigimaa, M., Lautamaki, R., Klimiashvili, Z., Kelm, M., Siasos, G., Kiss, R. G., Libungan, B., Durkan, M., Zafrir, B., Colivicchi, F., Tundybayeva, M., Bytyci, I., Mirrakhimov, E., Trusinskis, K., Saade, G., Badariene, J., Banu, C. A., Magri, C. J., Boskovic, A., Hattaoui, M. E., Martens, F., Bosevski, M., Knudsen, E. C., Burchardt, P., Fontes-Carvalho, R., Vinereanu, D., Mancini, T., Beleslin, B., Martinka, E., Fras, Z., Conde, A. C., Mellbin, L., Carballo, D., Bsata, W., Mghaieth, F., Gungor, B., Mitchenko, O., Wheatcroft, S., Trigulova, R., Federici,					

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	M., Baigent, C., Borger, M. A., Koskinas, K. C., Rossello, X., Vaartjes, I. and Zeppenfeld, K.					
417	Mata-Cases, M., Franch-Nadal, J., Real, J., Vlacho, B., Gomez-Garcia, A. and Mauricio, D.	2021	Evaluation of clinical and antidiabetic treatment characteristics of different sub-groups of patients with type 2 diabetes: Data from a Mediterranean population database	Primary Care Diabetes	15(3)	E5
418	Mazzieri, A., Porcellati, F., Timio, F. and Reboldi, G.	2024	Molecular Targets of Novel Therapeutics for Diabetic Kidney Disease: A New Era of Nephroprotection	International Journal of Molecular Sciences	25(7) (no pagination)	E1
420	McCoy, R. G., Vandergrift, J. L. and Gray, B.	2025	Patient and physician factors driving the gaps in use of drugs with cardiovascular and kidney benefits by medicare beneficiaries with type 2 diabetes treated by endocrinologists, nephrologists, and cardiologists: Population-based cohort study	Diabetes Research and Clinical Practice	221(no pagination)	E5
421	McDonnell, T., Kalra, P. A., Vuilleumier, N., Cockwell, P., Wheeler, D. C., Fraser, S. D. S., Banks, R. E. and Taal, M. W.	2025	The Impact of Primary Renal Diagnosis on Prognosis and the Varying Predictive Power of Albuminuria in the NURTuRE-CKD Study	American Journal of Nephrology	56(1)	E3
422	McFarlin, B. E., Duffin, K. L. and Konkar, A.	2024	Incretin and glucagon receptor polypharmacology in chronic kidney disease	American Journal of Physiology - Endocrinology and Metabolism	326(6)	E1
423	McGill, J. B.	2014	Anti-diabetes therapy: Safety considerations for patients with impaired kidney function	Postgraduate Medicine	126(3)	E1

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425	Meier, N., Laager, R., Gregoriano, C., Schutz, P., Mueller, B., Struja, T. and Kutz, A.	2024	Trends in antidiabetes medication use among hospitalised patients with type 2 diabetes: A retrospective single-centre cohort study	BMJ Open	14(6) (no pagination)	E5
426	Mejia, S. M., Fischman, C. J. and Sise, M. E.	2025	Kidney disease in patients with HIV	Current Opinion in HIV and AIDS	(no pagination)	E1
428	Merckx, G., SoMja, M., Makalou, G. and Jouret, F.	2024	Non-Pharmacological Prevention of chronic kidney disease. [French]	Revue Medicale de Liege	79(6)	E1
429	Metsarinne, K., Pietila, M., Kantola, I., Stenman, L. K., Hatinen, O. P., Vesikansa, A., Poussa, T. and Niskanen, L.	2022	The majority of type 2 diabetic patients in Finnish primary care are at very high risk of cardiovascular events: A cross-sectional chart review study (STONE HF)	Primary Care Diabetes	16(1)	E5
431	Migdalis, I. N., Papanas, N., Ioannidis, I. M., Sotiropoulos, A. E., Raptis, A. E. and Dimitriadis, G. D.	2021	Antidiabetic and other therapies used in subjects with diabetes and chronic kidney disease in a hospital-based clinic population in greece	Journal of Clinical Medicine	10(10) (no pagination)	E5
432	Mikolasevic, I., Domislovic, V., Ruzic, A., Hauser, G., Rahelic, D., Klobucar-Majanovic, S., Krznaric, Z., Dobrila-Dintinjana, R., Grgurevic, I., Skenderevic, N., Lukic, A. and Targher, G.	2022	Elastographic parameters of liver steatosis and fibrosis predict independently the risk of incident chronic kidney disease and acute myocardial infarction in patients with type 2 diabetes mellitus	Journal of Diabetes and its Complications	36(8) (no pagination)	E3
433	Millan-Rodriguez, C., Castello, C. P., de Regla Caballero-Valderrama, M. and Esquivias, G. B.	2023	Clinical Management of Non-alcoholic Steatohepatitis and the Role of the Cardiologist	European Cardiology Review	18	E1
434	Miller, D. R., Reisman, J. I., McDannold, S. E., Kleinberg, F., Gillespie,	2023	Clinical pharmacist practitioners on primary care teams play an	American Journal of Health-System Pharmacy	80(22)	E3

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	C., Zogas, A., Ndiwane, N., Ourth, H. L., Morreale, A. P., Tran, M. and McCullough, M. B.		important role in caring for complex patients with diabetes			
435	Mima, A.	2022	A Narrative Review of Diabetic Kidney Disease: Previous and Current Evidence-Based Therapeutic Approaches	Advances in Therapy	39(8)	E1
436	Mima, A., Kidooka, S., Nakamoto, T., Kido, S., Gotoda, H., Lee, R., Murakami, A. and Lee, S.	2024	Effects of Oral Semaglutide on Renal Function in Diabetic Kidney Disease: A Short-term Clinical Study	In Vivo	38(1)	E4
437	Mima, A., Saito, Y., Matsumoto, K., Nakamoto, T. and Lee, S.	2024	Effect of finerenone on nephrotic syndrome in patients with diabetic kidney disease	Metabolism Open	22(no pagination)	E3
438	Miyamoto, S., Heerspink, H. J. L., de Zeeuw, D., Sakamoto, K., Yoshida, M., Toyoda, M., Suzuki, D., Hatanaka, T., Nakamura, T., Kamei, S., Murao, S., Hida, K., Ando, S., Akai, H., Takahashi, Y., Kitada, M., Sugano, H., Nunoue, T., Nakamura, A., Sasaki, M., Nakatou, T., Fujimoto, K., Kawanami, D., Wada, T., Miyatake, N., Kuramoto, H. and Shikata, K.	2024	A randomized, open-label, clinical trial examined the effects of canagliflozin on albuminuria and eGFR decline using an individual pre-intervention eGFR slope	Kidney International	106(5)	E4
440	Montero, N., Oliveras, L., Martinez-Castelao, A., Gorriz, J. L., Soler,	2025	Clinical Practice Guideline for detection and management of diabetic	Nefrologia	45(Supplement 1)	E1

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	M. J., Fernandez-Fernandez, B., Quero, M., Garcia-Carro, C., Garcia-Sancho, P., Goicoechea, M., Gorgojo Martinez, J. J., Molina, P., Puchades, M. J., Rodriguez-Espinosa, D., Sablon, N., Santamaria, R. and Navarro-Gonzalez, J. F.		kidney disease: A consensus report by the Spanish Society of Nephrology			
441	Morillas, H., Galcera, E., Alania, E., Seller, J., Larumbe, A., Nunez, J. and Valle, A.	2022	Sodium-glucose Co-transporter 2 Inhibitors in Acute Heart Failure: A Review of the Available Evidence and Practical Guidance on Clinical Use	Reviews in Cardiovascular Medicine	23(4) (no pagination)	E1
442	Morton, J. I., Marquina, C., Shaw, J. E., Liew, D., Polkinghorne, K. R., Ademi, Z. and Magliano, D. J.	2023	Projecting the incidence and costs of major cardiovascular and kidney complications of type 2 diabetes with widespread SGLT2i and GLP-1 RA use: a cost-effectiveness analysis	Diabetologia	66(4)	E1
444	Mottl, A. K. and Nicholas, S. B.	2024	KDOQI Commentary on the KDIGO 2022 Update to the Clinical Practice Guideline for Diabetes Management in CKD	American Journal of Kidney Diseases	83(3)	E1
445	Muskiet, M. H. A., Tonneijck, L., Smits, M. M., Kramer, M. H. H., Heerspink, H. J. L. and van Raalte, D. H.	2015	Pleiotropic effects of type 2 diabetes management strategies on renal risk factors	The Lancet Diabetes and Endocrinology	3(5)	E1
446	Musso, G., Cassader, M., Cohney, S., De Michieli, F., Pinach, S., Saba, F. and Gambino, R.	2016	Fatty liver and chronic kidney disease: Novel mechanistic insights and therapeutic opportunities	Diabetes Care	39(10)	E1

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447	Nadarajah, R., Wahab, A., Reynolds, C., Bhatty, A., Mohammad, H., Raveendra, K., Bennett, S., Younsi, T., Romer, E., Hurdus, B., Smith, A., Larvin, H., Wu, J. and Gale, C. P.	2024	Machine learning to identify community-dwelling individuals at higher risk of incident cardio-renal-metabolic diseases and death	Future Healthcare Journal	NA	E1
448	Nadarajah, R., Wahab, A., Reynolds, C., Bhatty, A., Mohammad, H., Raveendra, K., Younsi, T., Romer, E., Nadeem, U., Hurdus, B., Larvin, H., Smith, A., Wu, J. and Gale, C.	2024	Machine Learning for Incident Cardio-Renalmetabolic Disease and Cardiovascular Death: The Optimise Study	Heart	110(Supplement 3)	E1
450	Nakhleh, A., Zloczower, M., Gabay, L. and Shehadeh, N.	2020	Effects of sodium glucose co-transporter 2 inhibitors on genital infections in female patients with type 2 diabetes mellitus- Real world data analysis	Journal of Diabetes and its Complications	34(7) (no pagination)	E4
452	Napoli, N. and Tramontana, F.	2021	Nephropathy and chronic renal insufficiency	Journal of Gerontology and Geriatrics	69	E1
453	Nargesi, A. A., Jeyashanmugaraja, G. P., Desai, N., Lipska, K., Krumholz, H. and Khera, R.	2021	Contemporary national patterns of eligibility and use of novel cardioprotective antihyperglycemic agents in type 2 diabetes mellitus	Journal of the American Heart Association	10(13) (no pagination)	E5
454	Naruke, T., Hashimura-Kakogawa, M., Suzuki, Y., Ikeda, Y., Kitasato, L., Nabeta, T., Usami-Naruke, Y., Ishii, S., Oikawa, J., Kameda, R., Minami, Y., Fukaya, H., Yuge, M., Kawaguchi, T. and Ako, J.	2025	The Role of Esaxerenone in the Continuum of Heart Failure With Preserved Ejection Fraction: Insights From a Prospective Observational Study	Clinical Cardiology	48(4) (no pagination)	E3

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455	Nasser, S. A., Arora, N. and Ferdinand, K. C.	2022	Addressing Cardiovascular Disparities in Racial/Ethnic Populations: The Blood Pressure-Lowering Effects of SGLT2 Inhibitors	Reviews in Cardiovascular Medicine	23(12) (no pagination)	E1
457	Natale, P., Green, S. C., Tunnicliffe, D. J., Pellegrino, G., Toyama, T. and Strippoli, G. F. M.	2025	Glucagon-like peptide 1 (GLP-1) receptor agonists for people with chronic kidney disease and diabetes	Cochrane Database of Systematic Reviews	2025(2) (no pagination)	E1
458	Natale, P., Palmer, S. C., Tunnicliffe, D. J., Toyama, T. and Strippoli, G. F. M.	2023	Dipeptidyl peptidase 4 (DPP-4) inhibitors for people with chronic kidney disease and diabetes	Cochrane Database of Systematic Reviews	2023(8) (no pagination)	E1
461	Ndumele, C. E., Neeland, I. J., Tuttle, K. R., Chow, S. L., Mathew, R. O., Khan, S. S., Coresh, J., Baker-Smith, C. M., Carnethon, M. R., Despres, J. P., Ho, J. E., Joseph, J. J., Kernan, W. N., Khera, A., Kosiborod, M. N., Lekavich, C. L., Lewis, E. F., Lo, K. B., Ozkan, B., Palaniappan, L. P., Patel, S. S., Pencina, M. J., Powell-Wiley, T. M., Sperling, L. S., Virani, S. S., Wright, J. T., Rajgopal Singh, R., Elkind, M. S. V. and Rangaswami, J.	2023	A Synopsis of the Evidence for the Science and Clinical Management of Cardiovascular-Kidney-Metabolic (CKM) Syndrome: A Scientific Statement from the American Heart Association	Circulation	148(20)	E1
462	Neal, B., Perkovic, V., Matthews, D. R., Mahaffey, K. W., Fulcher, G., Meininger, G., Erondu, N., Desai,	2017	Rationale, design and baseline characteristics of the CANagliflozin cardioVascular Assessment Study-Renal (CANVAS-R): A	Diabetes, Obesity and Metabolism	19(3)	E4

Record ID	Authors	Year	Title	Journal	Volume(Issue)	Reason for Exclusion
	M., Shaw, W., Vercruysse, F., Yee, J., Deng, H. and de Zeeuw, D.		randomized, placebo-controlled trial			
463	Nee, R., Yuan, C. M., Narva, A. S., Yan, G. and Norris, K. C.	2023	Overcoming barriers to implementing new guideline-directed therapies for chronic kidney disease	Nephrology Dialysis Transplantation	38(3)	E1
466	Neuen, B. L., Jardine, M. J. and Perkovic, V.	2021	Sodium-glucose cotransporter 2 inhibition: Which patient with chronic kidney disease should be treated in the future?	Nephrology Dialysis Transplantation	35	E1
467	Neuen, B. L., Tuttle, K. R. and Vaduganathan, M.	2024	Accelerated Risk-Based Implementation of Guideline-Directed Medical Therapy for Type 2 Diabetes and Chronic Kidney Disease	Circulation	149(16)	E1
468	Neuen, B. L., Yeung, E. K., Rangaswami, J. and Vaduganathan, M.	2025	Combination therapy as a new standard of care in diabetic and non-diabetic chronic kidney disease	Nephrology Dialysis Transplantation	40	E1
469	Neumiller, J. J., Alicic, R. Z. and Tuttle, K. R.	2024	Optimization of guideline-directed medical therapies in patients with diabetes and chronic kidney disease	Clinical Kidney Journal	17(1) (no pagination)	E1
470	Neumiller, J. J., Lienhard, F. J., Alicic, R. Z. and Tuttle, K. R.	2022	Clinical Evidence and Proposed Mechanisms for Cardiovascular and Kidney Benefits from Sodium-Glucose Co-transporter-2 Inhibitors	touchREVIEWS in Endocrinology	18(2)	E1
472	Nicholas, S. B.	2021	Novel Anti-inflammatory and Anti-fibrotic Agents for Diabetic Kidney Disease-From Bench to Bedside	Advances in Chronic Kidney Disease	28(4)	E1
473	Nicholas, S. B., Daratha, K. B., Alicic, R. Z., Jones, C. R.,	2023	Prescription of guideline-directed medical therapies in patients with diabetes	Diabetes, Obesity and Metabolism	25(10)	E5

Record ID	Authors	Year	Title	Journal	Volume(Issue)	Reason for Exclusion
	Kornowske, L. M., Neumiller, J. J., Fatoba, S. T., Kong, S. X., Singh, R., Norris, K. C. and Tuttle, K. R.		and chronic kidney disease from the CURE-CKD Registry, 2019-2020			
474	Nomura, K., Takata, T., Muramae, N., Takahashi, H., Abe, K. and Matsuda, T.	2025	Comprehensive treatment with dapagliflozin in elderly chronic kidney disease patients: Clinical efficacy and impact on body composition	Journal of Diabetes and its Complications	39(2) (no pagination)	E4
475	Nordheim, E. and Jenssen, T. G.	2021	Chronic kidney disease in patients with diabetes mellitus	Endocrine Connections	10(5)	E1
476	Norhammar, A., Bodegard, J., Eriksson, J. W., Haller, H., Linssen, G. C. M., Banerjee, A., Karasik, A., Mamouris, P., Tangri, N., Taveira-Gomes, T., Maggioni, A. P., Botana, M., Thuresson, M., Okami, S., Yajima, T., Kadowaki, T. and Birkeland, K. I.	2022	Cost of healthcare utilization associated with incident cardiovascular and renal disease in individuals with type 2 diabetes: A multinational, observational study across 12 countries	Diabetes, Obesity and Metabolism	24(7)	E3
477	Nunez-Marin, G. and Santas, E.	2025	Cardiorenal Disease and Heart Failure with Preserved Ejection Fraction: Two Sides of the Same Coin	CardioRenal Medicine	NA	E1
478	Nystrom, T., Toresson Grip, E., Gunnarsson, J., Casajust, P., Karlsdotter, K., Skogsberg, J. and Ustyugova, A.	2023	Empagliflozin reduces cardiorenal events, healthcare resource use and mortality in Sweden compared to dipeptidyl peptidase-4 inhibitors: Real world evidence from the Nordic EMPRISE study	Diabetes, Obesity and Metabolism	25(1)	E4

Record ID	Authors	Year	Title	Journal	Volume(Issue)	Reason for Exclusion
479	Oberprieler, N. G., Kovesdy, C. P., Layton, J. B., Gay, A., Farjat, A. E., Liu, F., Johannes, C. B., Pladevall-Vila, M. and Vizcaya, D.	2023	Early Use and Effectiveness of Finerenone in US Patients with CKD and Type 2 Diabetes: A FOUNTAIN Platform Analysis	Journal of the American Society of Nephrology	Conference: Kidney Week 2023 Annual Meeting. Philadelphia, PA United States. 34	E3
480	Oberprieler, N. G., Kovesdy, C. P., Layton, J. B., Thapa, B., Curhan, G., Farjat, A. E., Liu, F., Johannes, C. and Vizcaya, D.	2024	Clinical outcomes in US patients initiating finerenone - a report from the FOUNTAIN platform	Nephrology Dialysis Transplantation	39(Supplement 1)	E1
481	Oda, Y., Nishi, H. and Nangaku, M.	2023	Role of Inflammation in Progression of Chronic Kidney Disease in Type 2 Diabetes Mellitus: Clinical Implications	Seminars in Nephrology	43(3) (no pagination)	E1
482	Olufade, T., Jiang, L., Israni, R., Huang, J. and Gosmanov, A. R.	2021	Cardiovascular and renal disease manifestation and healthcare resource utilization in patients on first-line oral therapy for type 2 diabetes: A claims-based observational cohort study	Diabetes, Obesity and Metabolism	23(12)	E3
483	Ong, S. W., Kitchlu, A., Cherney, D. Z. I., Leung, K. and Chan, C. T. M.	2023	Virtual Pharmacy: An Integrated Collaborative Redesign Targeting Medication-Related Problems in Patients with Chronic Kidney Disease	American Journal of Nephrology	55(2)	E4
484	Osonoi, T., Saito, M., Osonoi, Y., Douguchi, S., Ofuchi, K. and Katoh, M.	2020	Liraglutide Improves Estimated Glomerular Filtration Rate Slopes in Patients with Chronic Kidney Disease and Type 2 Diabetes: A 7-Year Retrospective Analysis	Diabetes Technology and Therapeutics	22(11)	E4
485	Ostrominski, J. W., Arnold, S. V., Butler, J.,	2023	Prevalence and Overlap of Cardiac, Renal, and	JAMA Cardiology	8(11)	E5

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	Fonarow, G. C., Hirsch, J. S., Palli, S. R., Donato, B. M. K., Parrinello, C. M., O'Connell, T., Collins, E. B., Woolley, J. J., Kosiborod, M. N. and Vaduganathan, M.		Metabolic Conditions in US Adults, 1999-2020			
486	Pabon, M. A., Filippatos, G., Claggett, B. L., Miao, M. Z., Desai, A. S., Jhund, P. S., Henderson, A., Brinker, M., Schloemer, P., Hofmeister, L., Li, L., Lam, C. S. P., Senni, M., Shah, S. J., Voors, A. A., Zannad, F., Rossing, P., Ruilope, L. M., Anker, S. D., Pitt, B., Agarwal, R., McMurray, J. J. V., Solomon, S. D. and Vaduganathan, M.	2025	Finerenone Reduces New-Onset Atrial Fibrillation Across the Spectrum of Cardio-Kidney-Metabolic Syndrome: The FINE-HEART Pooled Analysis	Journal of the American College of Cardiology	85(17)	E3
487	Packer, M., Zile, M. R., Kramer, C. M., Murakami, M., Ou, Y. and Borlaug, B. A.	2025	Interplay of Chronic Kidney Disease and the Effects of Tirzepatide in Patients With Heart Failure, Preserved Ejection Fraction, and Obesity: The SUMMIT Trial	Journal of the American College of Cardiology	85(18)	E4
490	Palmezano-Diaz, J. M., Saldarriaga-Giraldo, C. I., Torres-Yepes, V. and Tobon-Upegui, P. M.	2022	Type 2 diabetes mellitus in a heart failure clinic of a Latin American reference center. [Spanish]	Medicina Interna de Mexico	38(5)	E5
491	Pan, S. Y., Huang, T. T. M., Jiang, Z. H., Lin, L. C., Tsai, I. J., Wu, T. L., Hsu, C. Y., Wang, T., Chen, H. C., Lin, Y. F. and Wu, V. C.	2024	Unveiling the enigma of acute kidney disease: predicting prognosis, exploring interventions, and embracing a multidisciplinary approach	Kidney Research and Clinical Practice	43(4)	E1

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494	Patel, E., Kim, S. and Gianchandani, R.	2023	Inpatient Management of Patients with Diabetes and Kidney Disease	Contemporary Endocrinology	Part F2156	E1
495	Patel, R. N., Sharma, A., Prasad, A. and Bansal, S.	2023	Heart Failure With Preserved Ejection Fraction With CKD: A Narrative Review of a Multispecialty Disorder	Kidney Medicine	5(12) (no pagination)	E1
496	Patera, F., Gatticchi, L., Cellini, B., Chiasserini, D. and Reboldi, G.	2024	Kidney Fibrosis and Oxidative Stress: From Molecular Pathways to New Pharmacological Opportunities	Biomolecules	14(1) (no pagination)	E1
499	Paul, S. K., Shaw, J. E., Fenici, P. and Montvida, O.	2022	Cardiorenal Complications in Young-Onset Type 2 Diabetes Compared Between White Americans and African Americans	Diabetes Care	45(8)	E3
501	Perkovic, V., Tuttle, K. R., Rossing, P., Mahaffey, K. W., Mann, J. F. E., Bakris, G., Baeres, F. M. M., Idorn, T., Bosch-Traberg, H., Lausvig, N. L. and Pratley, R.	2024	Effects of semaglutide on chronic kidney disease in patients with type 2 diabetes	New England Journal of Medicine	391(2)	E4
502	Petrazzuolo, A., Sabiu, G., Assi, E., Maestroni, A., Pastore, I., Lunati, M. E., Montefusco, L., Loretelli, C., Rossi, G., Ben Nasr, M., Usuelli, V., Xie, Y., Balasubramanian, H. B., Zocchi, M., El Essawy, B., Yang, J., D'Addio, F. and Fiorina, P.	2023	Broadening horizons in mechanisms, management, and treatment of diabetic kidney disease	Pharmacological Research	190(no pagination)	E1
503	Petrie, J. R., Rossing, P. R. and Campbell, I. W.	2020	Metformin and cardiorenal outcomes in diabetes: A reappraisal	Diabetes, Obesity and Metabolism	22(6)	E1

Record ID	Authors	Year	Title	Journal	Volume(Issue)	Reason for Exclusion
504	Phang, C. C., Ng, L. C., Kadir, H. A., Liu, P., Gan, S., Choong, L. H., Tan, C. S., Bee, Y. M. and Lim, C.	2024	Recurrent Hospitalizations for Fluid Overload in Diabetes with Kidney Failure Treated with Dialysis	CardioRenal Medicine	14(1)	E3
505	Philis-Tsimikas, A., Billings, L. K., Busch, R., Portillo, C. M., Sahay, R., Halladin, N., Eggert, S., Begtrup, K. and Harris, S.	2019	Superior efficacy of insulin degludec/liraglutide versus insulin glargine U100 as add-on to sodium-glucose co-transporter-2 inhibitor therapy: a randomized clinical trial in people with uncontrolled type 2 diabetes	Diabetes, obesity & metabolism	21(6)	E2
509	Pollock, C., Zuk, A., Anders, H. J., Ganji, M. R., Johnson, D. W., Kasiske, B., Langham, R. G., Pecoits-Filho, R., Remuzzi, G., Rossert, J., Suzuki, Y., Tanaka, T., Walker, R., Yang, C. W. and Bonventre, J. V.	2017	The establishment and validation of novel therapeutic targets to retard progression of chronic kidney disease	Kidney International Supplements	7(2)	E1
510	Popovic, D. S., Koufakis, T., Patoulias, D. and Papanas, N.	2023	The new evidence on cardiorenal benefits of sodium-glucose cotransporter 2 inhibitors in type 1 diabetes: one step closer to their use in this setting?	Expert Review of Clinical Pharmacology	16(11)	E1
511	Popovic, D. S., Patoulias, D., Koufakis, T., Karakasis, P. and Papanas, N.	2024	Sodium-Glucose Co-transporter-2 Inhibitors in Type 1 Diabetes Mellitus: The Framework for Recommendations for Their Potential Use	Diabetes Therapy	15(12)	E2
512	Powell, J., Piszczatoski, C. and Taylor, J. R.	2020	Oral Semaglutide: The First-available Noninjectable Glucagon-like Peptide 1 Receptor Agonist	Clinical Therapeutics	42(10)	E1

Record ID	Authors	Year	Title	Journal	Volume(Issue)	Reason for Exclusion
513	Pozo Garcia, L., Thomas, S. S., Rajesh, H. and Navaneethan, S. D.	2022	Progress in the management of patients with diabetes and chronic kidney disease	Current Opinion in Nephrology and Hypertension	31(5)	E1
514	Pradhan, N. and Dobre, M.	2023	Emerging Preventive Strategies in Chronic Kidney Disease: Recent Evidence and Gaps in Knowledge	Current Atherosclerosis Reports	25(12)	E1
515	Pradhan, R., Abrahami, D., Yin, H., Yu, O. H. Y., Sahasrabudhe, V., Baumfeld Andre, E. and Azoulay, L.	2021	Defining Clinically Relevant Target Populations Using Real-World Data to Guide the Design of Representative Antidiabetic Drug Trials	Clinical Pharmacology and Therapeutics	109(5)	E4
516	Prattichizzo, F., La Sala, L., Ryden, L., Marx, N., Ferrini, M., Valensi, P. and Ceriello, A.	2019	Glucose-lowering therapies in patients with type 2 diabetes and cardiovascular diseases	European Journal of Preventive Cardiology	26(supplement 2)	E1
518	Psyllaki, A. and Tziomalos, K.	2024	New perspectives in the management of diabetic nephropathy	World Journal of Diabetes	15(6)	E1
519	Pyle, L., Choi, Y. J., Narongkiatikhun, P., Sharma, K., Waikar, S., Layton, A., Tommerdahl, K. L., De Boer, I., Vigers, T., Nelson, R. G., Lynch, J., Brosius, F., Saulnier, P. J., Goodrich, J. A., Tryggestad, J. B., Isganaitis, E., Bacha, F., Nadeau, K. J., Van Raalte, D., Kretzler, M., Heerspink, H. and Bjornstad, P.	2024	Proteomic Analysis Uncovers Multiprotein Signatures Associated with Early Diabetic Kidney Disease in Youth with Type 2 Diabetes Mellitus	Clinical Journal of the American Society of Nephrology	19(12)	E2
522	Raat, W., Mamouris, P., Mathieu, C., Goderis, G. and Vaes, B.	2025	Trends in type 2 diabetes medication use and guideline adherence in	Primary Care Diabetes	19(1)	E5

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			Belgian primary care (2019-2023)			
523	Ramik, Z., Vaclavik, J., Kvapil, T., Jelinek, L., Kocianova, E., Kamasova, M., Benesova, K., Jarkovsky, J., Drapela, M. and Lys, Z.	2024	Long-term trajectory of renal dysfunction and related risk factors in patients with apparently treatment-resistant and non-resistant arterial hypertension	Blood Pressure	33(1) (no pagination)	E3
525	Rasaratnam, N., Salim, A., Blackberry, I., Cooper, M. E., Magliano, D. J., van Wijngaarden, P., Varadarajan, S., Sacre, J. W. and Shaw, J. E.	2024	Urine Albumin-Creatinine Ratio Variability in People With Type 2 Diabetes: Clinical and Research Implications	American Journal of Kidney Diseases	84(1)	E4
526	Rastogi, A. and Weir, M. R.	2023	Multimodal efforts to slow the progression of chronic kidney disease in patients with type 2 diabetes mellitus	Journal of Diabetes and its Complications	37(8) (no pagination)	E1
527	Rayego-Mateos, S., Rodrigues-Diez, R. R., Fernandez-Fernandez, B., Mora-Fernandez, C., Marchant, V., Donate-Correa, J., Navarro-Gonzalez, J. F., Ortiz, A. and Ruiz-Ortega, M.	2023	Targeting inflammation to treat diabetic kidney disease: the road to 2030	Kidney International	103(2)	E1
529	Rendell, M.	2024	Lessons learned from early-stage clinical trials for diabetic nephropathy	Expert Opinion on Investigational Drugs	33(4)	E1
531	Rikin, S., Deccy, S., Zhang, C., Crandall, J., Deng, Y. and Golestaneh, L.	2023	Care Gaps in Sodium-Glucose Cotransporter-2 Inhibitor and Renin Angiotensin System Inhibitor Prescriptions for Patients with Diabetic Kidney Disease	Journal of General Internal Medicine	38(7)	E4

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533	Ritsinger, V., Avander, K., Lagerqvist, B., Lundman, P. and Norhammar, A.	2024	Trends in prognosis and use of SGLT2i and GLP-1 RA in patients with diabetes and coronary artery disease	Cardiovascular Diabetology	23(1) (no pagination)	E5
534	Roche-Recinos, A., Charlap, E. and Markell, M.	2015	Management of Glycemia in Diabetic Patients with Stage IV and V Chronic Kidney Disease	Current Diabetes Reports	15(5)	E1
536	Rolek, B., Haber, M., Gajewska, M., Rogula, S., Pietrasik, A. and Gasecka, A.	2023	SGLT2 Inhibitors vs. GLP-1 Agonists to Treat the Heart, the Kidneys and the Brain	Journal of Cardiovascular Development and Disease	10(8) (no pagination)	E1
537	Rossing, P.	2023	HbA1c and beyond	Nephrology Dialysis Transplantation	38(1)	E1
538	Rossing, P., Anker, S. D., Filippatos, G., Pitt, B., Ruilope, L. M., Billings, L. K., Green, J. B., Koya, D., Mosenzon, O., Pantalone, K. M., Ahlers, C., Lage, A., Lawatscheck, R., Scalise, A. and Bakris, G. L.	2023	The impact of obesity on cardiovascular and kidney outcomes in patients with chronic kidney disease and type 2 diabetes treated with finerenone: Post hoc analysis of the FIDELITY study	Diabetes, Obesity and Metabolism	25(10)	E3
539	Rossing, P., Baeres, F. M. M., Bakris, G., Bosch-Traberg, H., Gislum, M., Gough, S. C. L., Idorn, T., Lawson, J., Mahaffey, K. W., Mann, J. F. E., Mersebach, H., Perkovic, V., Tuttle, K. and Pratley, R.	2023	The rationale, design and baseline data of FLOW, a kidney outcomes trial with once-weekly semaglutide in people with type 2 diabetes and chronic kidney disease	Nephrology Dialysis Transplantation	38(9)	E4
540	Rossing, P. and De Zeeuw, D.	2011	Need for better diabetes treatment for improved renal outcome	Kidney International	79(supplement 120)	E1
541	Rossing, P., Filippatos, G., Agarwal, R., Anker, S. D., Pitt, B., Ruilope,	2022	Finerenone in Predominantly Advanced CKD and Type 2 Diabetes	Kidney International Reports	7(1)	E4

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	L. M., Chan, J. C. N., Kooy, A., McCafferty, K., Schernthaner, G., Wanner, C., Joseph, A., Scheerer, M. F., Scott, C. and Bakris, G. L.		With or Without Sodium-Glucose Cotransporter-2 Inhibitor Therapy			
543	Rossing, P., Persson, F. and Frimodt-Moller, M.	2019	Improvements in albuminuria and chronic kidney disease progression with the appetite suppressant lorcaserin	Kidney International	95(6)	E3
544	Rotbain Curovic, V., Stougaard, E. B. and Hansen, T. W.	2024	Slowing the progression of diabetic and non-diabetic kidney disease: A summary of the current evidence base for sodium-glucose co-transporter-2 inhibitors	Diabetes, Obesity and Metabolism	26(S6)	E1
545	Roussel, R., Lorraine, J., Rodriguez, A. and Salaun-Martin, C.	2015	Overview of Data Concerning the Safe Use of Antihyperglycemic Medications in Type 2 Diabetes Mellitus and Chronic Kidney Disease	Advances in Therapy	32(11)	E1
546	Roy, A., Maiti, A., Sinha, A., Baidya, A., Basu, A. K., Sarkar, D., Sanyal, D., Biswas, D., Maisnam, I., Pandit, K., Raychaudhuri, M., Sengupta, N., Chakraborty, P. P., Mukhopadhyay, P., Raychaudhuri, P., Sahana, P. K., Chatterjee, P., Bhattacharjee, R., Dasgupta, R., Saraogi, R. K., Pal, S. K., Mukhopadhyay, S., Goswami, S.,	2020	Kidney Disease in Type 2 Diabetes Mellitus and Benefits of Sodium-Glucose Cotransporter 2 Inhibitors: A Consensus Statement	Diabetes Therapy	11(12)	E1

Record ID	Authors	Year	Title	Journal	Volume(Issue)	Reason for Exclusion
	Chowdhury, S. and Ghosh, S.					
547	Ruilope, L. M., Agarwal, R., Anker, S. D., Bakris, G. L., Filippatos, G., Nowack, C., Kolkhof, P., Joseph, A., Mentenich, N. and Pitt, B.	2019	Design and baseline characteristics of the finerenone in reducing cardiovascular mortality and morbidity in diabetic kidney disease trial	American Journal of Nephrology	50(5)	E3
548	Ruilope, L. M., Agarwal, R., Anker, S. D., Filippatos, G., Pitt, B., Rossing, P., Sarafidis, P., Schmieder, R. E., Joseph, A., Rethemeier, N., Nowack, C. and Bakris, G. L.	2022	Blood Pressure and Cardiorenal Outcomes With Finerenone in Chronic Kidney Disease in Type 2 Diabetes	Hypertension	79(12)	E3
549	Ruilope, L. M., Ortiz, A., Lucia, A., Miranda, B., Alvarez-Llamas, G., Barderas, M. G., Volpe, M., Ruiz-Hurtado, G. and Pitt, B.	2023	Prevention of cardiorenal damage: importance of albuminuria	European Heart Journal	44(13)	E1
550	Rungkitwattanakul, D., Evans, E., Brown, E., Patterson Jr, K., Chaijamorn, W., Charoensareerat, T., Belrhiti, S., Nwaogwugwu, U. and Mere, C.	2025	Impact of Removing Race Coefficient from Glomerular Filtration Rate Estimation Equations on Antidiabetics Among Black Patients	Pharmacy	13(2) (no pagination)	E3
551	Russo, G. T., Giandalia, A., Lucisano, G., Rossi, M. C., Piscitelli, P., Pontremoli, R., Viazzi, F., Rocca, A., Manicardi, V., Di Cianni, G., Candido, R., Nicolucci, A. and De Cosmo, S.	2024	Prevalence and clinical determinants of rapid eGFR decline among patients with newly diagnosed type 2 diabetes	European Journal of Internal Medicine	130	E3

Record ID	Authors	Year	Title	Journal	Volume(Issue)	Reason for Exclusion
552	Sabina, M., Trube, J., Shah, S., Lurie, A., Grimm, M. and Bizanti, A.	2024	Finerenone: A Third-Generation MRA and Its Impact on Cardiovascular Health-Insights from Randomized Controlled Trials	Journal of Clinical Medicine	13(21) (no pagination)	E1
555	Sacre, J. W., Magliano, D. J. and Shaw, J. E.	2021	Heart failure hospitalisation relative to major atherosclerotic events in type 2 diabetes with versus without chronic kidney disease: A meta-analysis of cardiovascular outcomes trials	Diabetes and Metabolism	47(5) (no pagination)	E3
556	Saher, T., Al-Worafi, Y. M., Iqbal, M. N., Wahid, A., Iqbal, Q., Khan, A., Atif, M. and Ahmad, N.	2022	Doctors' adherence to guidelines recommendations and glycaemic control in diabetic patients in Quetta, Pakistan: Findings from an observational study	Frontiers in Medicine	9(no pagination)	E5
557	Samiaelhayek, M. M., Beydoun, M. F. and Azar, S. T.	2017	Antidiabetic medications in patients with heart failure	Minerva Endocrinologica	42(1)	E1
558	Sanchez-Calavera, M. A., Navarro, R. G., Otal, E. A., Gonzalez, I. B., Pardo, D. E., Celma, L. H., Lamarre, M., Esteban, P. L., Lozano del Hoyo, M. L., Mahulea, L., Gallego, I. M., Romero-Vigara, J. C., Allue, S. S., Hueso, S. T. and Gil, F. A.	2024	Prevalence and characteristics of chronic kidney disease in people with type 2 diabetes mellitus in the Autonomous Community of Aragon	Primary Care Diabetes	18(5)	E3
559	Santos-Araujo, C., Mendonca, L., Carvalho, D. S., Bernardo, F., Pardal, M., Couceiro, J.,	2023	Twenty years of real-world data to estimate chronic kidney disease prevalence and staging in an unselected population	Clinical Kidney Journal	16(1)	E3

Record ID	Authors	Year	Title	Journal	Volume(Issue)	Reason for Exclusion
	Martinho, H., Gavina, C., Taveira-Gomes, T. and Dinis-Oliveira, R. J.					
560	Sarafidis, P., Ferro, C. J., Morales, E., Ortiz, A., Malyszko, J., Hojs, R., Khazim, K., Ekart, R., Valdivielso, J., Fouque, D., London, G. M., Massy, Z., Ruggenenti, P., Porrini, E., Wiecek, A., Zoccali, C., Mallamaci, F. and Hornum, M.	2019	SGLT-2 inhibitors and GLP-1 receptor agonists for nephroprotection and cardioprotection in patients with diabetes mellitus and chronic kidney disease. A consensus statement by the EURECA-m and the DIABESITY working groups of the ERA-EDTA	Nephrology Dialysis Transplantation	34(2)	E1
561	Sarraju, A., Li, J., Cannon, C. P., Chang, T. I., Agarwal, R., Bakris, G., Charytan, D. M., de Zeeuw, D., Greene, T., Heerspink, H. J. L., Levin, A., Neal, B., Pollock, C., Wheeler, D. C., Yavin, Y., Zhang, H., Zinman, B., Perkovic, V., Jardine, M. and Mahaffey, K. W.	2021	Effects of canagliflozin on cardiovascular, renal, and safety outcomes in participants with type 2 diabetes and chronic kidney disease according to history of heart failure: Results from the CREDENCE trial	American Heart Journal	233	E4
563	Satirapoj, B.	2017	Sodium-Glucose Cotransporter 2 Inhibitors with Renoprotective Effects	Kidney Diseases	3(1)	E1
564	Sato, T., Kohzuki, M., Ono, M., Muto, M., Osugi, T., Kawamura, K., Naganuma, W., Sato, M., Tsuchikawa, M., Shishito, N., Komaki, T. and Miyazawa, K.	2021	Association between physical activity and changes in renal function in patients after acute myocardial infarction: A dual-center prospective study	Journal of Cardiology	78(2)	E3
565	Savio-Silva, C., Beyerstedt, S., Soinski-Sousa, P. E., Casaro, E.	2020	Mesenchymal Stem Cell Therapy for Diabetic Kidney Disease: A Review of the	Stem Cells International	2020(no pagination)	E1

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	B., Balby-Rocha, M. T. A., Simplicio-Filho, A., Alves-Silva, J. and Rangel, E. B.		Studies Using Syngeneic, Autologous, Allogeneic, and Xenogeneic Cells			
566	Sawaf, H., Thomas, G., Taliercio, J. J., Nakhoul, G., Vachharajani, T. J. and Mehdi, A.	2022	Therapeutic Advances in Diabetic Nephropathy	Journal of Clinical Medicine	11(2) (no pagination)	E1
568	Schechter, M., Melzer Cohen, C., Zelter, T., Yanuv, I., Rozenberg, A., Chodick, G., Karasik, A. and Mosenzon, O.	2023	Risk of hospitalization with sodium-glucose cotransporter-2 inhibitors versus dipeptidyl peptidase-4 inhibitors in patients with type 2 diabetes lacking evidence of chronic kidney disease: Real-world data	Diabetes, Obesity and Metabolism	25(10)	E4
569	Scheen, A. J.	2015	How i treat about the positioning of DPP-4 inhibitors (gliptins) in the treatment of type 2 diabetes. [French]	Revue Medicale de Liege	70(12)	E1
570	Scheen, A. J.	2015	[How I TREAT ... THE ROLE OF DPP-4 INHIBITORS (GLIPTINS) IN THE TREATMENT OF TYPE 2 DIABETES]	Revue Medicale de Liege	70(12)	E1
572	Scheen, A. J.	2018	The safety of empagliflozin plus metformin for the treatment of type 2 diabetes	Expert Opinion on Drug Safety	17(8)	E1
573	Scheen, A. J.	2019	Effects of glucose-lowering agents on surrogate endpoints and hard clinical renal outcomes in patients with type 2 diabetes	Diabetes and Metabolism	45(2)	E1
574	Scheen, A. J.	2020	Sodium-glucose cotransporter type 2 inhibitors for the treatment of type 2 diabetes mellitus	Nature Reviews Endocrinology	16(10)	E1

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575	Scheen, A. J.	2023	Do SGLT2 inhibitors and GLP-1 receptor agonists modulate differently the risk of stroke ? Discordance between randomised controlled trials and observational studies	Diabetes and Metabolism	49(5) (no pagination)	E1
576	Scheen, A. J.	2023	Clinical pharmacology of antidiabetic drugs: What can be expected of their use?	Presse Medicale	52(1) (no pagination)	E1
577	Scheen, A. J.	2023	The current role of SGLT2 inhibitors in type 2 diabetes and beyond: a narrative review	Expert Review of Endocrinology and Metabolism	18(4)	E1
578	Scheen, A. J.	2023	Cardiovascular and renal outcomes with SGLT2 inhibitors: Real-life observational studies in older patients with type 2 diabetes: SGLT2 inhibitors in elderly and real life	Diabetes Epidemiology and Management	10(no pagination)	E1
579	Scheen, A. J.	2024	GLP-1 Receptor Agonists and SGLT2 Inhibitors in Type 2 Diabetes: Pleiotropic Cardiometabolic Effects and Add-on Value of a Combined Therapy	Drugs	84(11)	E1
580	Scheen, A. J.	2024	Similar incidence of stroke with SGLT2 inhibitors and GLP-1 receptor agonists in real-world cohort studies among patients with type 2 diabetes	Diabetes Epidemiology and Management	13(no pagination)	E1
581	Scheen, A. J. and Paquot, N.	2020	Extended indications for antidiabetic agents with cardio-renal protection in updated international recommendations for the management of at risk	Revue Medicale de Liege	75(4)	E1

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			patients with type 2 diabetes. [French]			
582	Schernthaner, G. and Schernthaner, G. H.	2020	The right place for metformin today	Diabetes Research and Clinical Practice	159(no pagination)	E1
583	Schernthaner, G. and Schernthaner-Reiter, M. H.	2015	Therapy: Risk of metformin use in patients with T2DM and advanced CKD	Nature Reviews Endocrinology	11(12)	E1
584	Schnell, O., Barnard-Kelly, K., Battelino, T., Ceriello, A., Larsson, H. E., Fernandez-Fernandez, B., Forst, T., Frias, J. P., Gavin, J. R., Giorgino, F., Groop, P. H., Heerspink, H. J. L., Herzig, S., Hummel, M., Huntley, G., Ibrahim, M., Itzhak, B., Jacob, S., Ji, L., Kosiborod, M., Lalic, N., Macieira, S., Malik, R. A., Mankovsky, B., Marx, N., Mathieu, C., Muller, T. D., Ray, K., Rodbard, H. W., Rossing, P., Ryden, L., Schumm-Draeger, P. M., Schwarz, P., Skrha, J., Snoek, F., Tacke, F., Taylor, B., Jeppesen, B. T., Tesfaye, S., Topsever, P., Vilsboll, T., Yu, X. and Standl, E.	2024	CVOT Summit Report 2023: new cardiovascular, kidney, and metabolic outcomes	Cardiovascular Diabetology	23(1) (no pagination)	E1
585	Schnell, O., Barnard-Kelly, K., Battelino, T., Ceriello, A., Larsson, H. E., Fernandez-Fernandez, B., Forst, T., Frias, J. P., Gavin, J. R., Giorgino, F., Groop,	2024	CVOT Summit Report 2023: New cardiovascular, kidney, and metabolic outcomes	Diabetes, Stoffwechsel und Herz	33(3)	E1

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	P. H., Heerspink, H. J. L., Herzig, S., Hummel, M., Huntley, G., Ibrahim, M., Itzhak, B., Jacob, S., Ji, L., Kosiborod, M., Lalic, N., Macieira, S., Malik, R. A., Mankovsky, B., Marx, N., Mathieu, C., Muller, T. D., Ray, K., Rodbard, H. W., Rossing, P., Ryden, L., Schumm-Draeger, P. M., Schwarz, P., Skrha, J., Snoek, F., Tacke, F., Taylor, B., Jeppesen, B. T., Tesfaye, S., Topsever, P., Vilsboll, T., Yu, X. and Standl, E.					
586	Schnell, O., Battelino, T., Bergenstal, R., Birkenfeld, A. L., Ceriello, A., Cheng, A., Davies, M., Edelman, S., Forst, T., Giorgino, F., Green, J., Groop, P. H., Hadjadj, S., H, J. L. H., Hompesch, M., Izthak, B., Ji, L., Kanumilli, N., Mankovsky, B., Mathieu, C., Miszon, M., Mustafa, R., Nauck, M., Pecoits-Filho, R., Pettus, J., Ranta, K., Rodbard, H. W., Rossing, P., Ryden, L., Schumm-Draeger, P. M., Solomon, S. D., Skrha, J., Topsever, P.,	2023	CVOT Summit 2022 Report: new cardiovascular, kidney, and glycemic outcomes	Cardiovascular Diabetology	22(1) (no pagination)	E1

Record ID	Authors	Year	Title	Journal	Volume(Issue)	Reason for Exclusion
	Vilsboll, T., Wilding, J. and Standl, E.					
587	Schnell, O., Battelino, T., Bergenstal, R., Bluher, M., Bohm, M., Brosius, F., Carr, R. D., Ceriello, A., Forst, T., Giorgino, F., Guerci, B., Heerspink, H. J. L., Itzhak, B., Ji, L., Kosiborod, M., Lalic, N., Lehrke, M., Marx, N., Nauck, M., Rodbard, H. W., Rosano, G. M. C., Rossing, P., Ryden, L., Santilli, F., Schumm-Draeger, P. M., Vandvik, P. O., Vilsboll, T., Wanner, C., Wysham, C. and Standl, E.	2022	Report from the CVOT Summit 2021: new cardiovascular, renal, and glycemic outcomes	Cardiovascular Diabetology	21(1) (no pagination)	E1
588	Schultes, B., Emmerich, S., Kistler, A. D., Mecheri, B., Schnell, O. and Rudofsky, G.	2023	Impact of Albumin-to-Creatinine Ratio Point-of-Care Testing on the Diagnosis and Management of Diabetic Kidney Disease	Journal of Diabetes Science and Technology	17(2)	E5
589	Seah, J. M., Yao, H., MacIsaac, R. J., Ekinci, E. I. and Jerums, G.	2014	Reducing the complications of type 2 diabetes: Challenges in individualising care	Medicine Today	15(3)	E1
590	Sebastian, S. A., Padda, I. and Johal, G.	2024	Cardiovascular-Kidney-Metabolic (CKM) syndrome: A state-of-the-art review	Current Problems in Cardiology	49(2) (no pagination)	E1
591	Seetharaman, R.	2022	The case for reduced-dose metformin in the management of type 2 diabetes mellitus with stage 4 chronic kidney disease	Diabetic Medicine	39(10) (no pagination)	E1
592	Seidu, S., Cos, X., Brunton, S., Harris, S.	2021	A disease state approach to the pharmacological	Primary Care Diabetes	15(1)	E1

Record ID	Authors	Year	Title	Journal	Volume(Issue)	Reason for Exclusion
	B., Jansson, S. P. O., Mata-Cases, M., Neijens, A. M. J., Topsever, P. and Khunti, K.		management of Type 2 diabetes in primary care: A position statement by Primary Care Diabetes Europe			
593	Seidu, S., Cos, X. and Topsever, P.	2023	Self-rated knowledge and competence regarding the management of chronic kidney disease in primary care: A cross-sectional European survey of primary care professionals	Primary Care Diabetes	17(1)	E5
595	Selvarajan, R. and Subramanian, R.	2023	A Peptide in a Pill - Oral Semaglutide in the Management of Type 2 Diabetes	Diabetes, Metabolic Syndrome and Obesity	16	E1
596	Serowik, T. C. and Pantalone, K. M.	2024	The evolution of type 2 diabetes management: glycemic control and beyond with SGLT-2 inhibitors and GLP-1 receptor agonists	Journal of osteopathic medicine	124(3)	E1
597	Shah, T., Zhang, Z., Shah, H., Fanaroff, A. C., Nathan, A. S., Parise, H., Lutz, J., Sugeng, L., Bellumkonda, L., Redfors, B., Omerovic, E., Petrie, M. C., Vora, A. N., Fiorilli, P. N., Kobayashi, T., Ahmad, Y., Forrest, J. K., Giri, J. S., Herrmann, H. C. and Lansky, A. J.	2025	Effect of Sodium-Glucose Cotransporter-2 Inhibitors on the Progression of Aortic Stenosis	JACC: Cardiovascular Interventions	18(6)	E4
599	Shamkhalova, M. S., Vikulova, O. K., Zheleznyakova, A. V., Isakov, M. A., Shestakova, M. V.,	2023	EPIDEMIOLOGY OF CHRONIC KIDNEY DISEASE IN PATIENTS WITH DIABETES IN RUSSIAN FEDERATION ACCORDING	Diabetes Mellitus	26(5)	E5

Record ID	Authors	Year	Title	Journal	Volume(Issue)	Reason for Exclusion
	Dedov, I. I. and Mokrysheva, N. G.		TO THE FEDERAL DIABETES REGISTER 2010-2022. [Russian]			
600	Sharif, A.	2011	Current and emerging antiglycaemic pharmacological therapies: The renal perspective	Nephrology	16(5)	E1
602	Shestakova, M. V., Vikulova, O. K., Elfimova, A. R., Deviatkin, A. A., Dedov, I. I. and Mokrysheva, N. G.	2022	Risk factors for COVID-19 case fatality rate in people with type 1 and type 2 diabetes mellitus: A nationwide retrospective cohort study of 235,248 patients in the Russian Federation	Frontiers in Endocrinology	13(no pagination)	E5
604	Shin, J. I.	2019	Second-line Glucose-Lowering Therapy in Type 2 Diabetes Mellitus	Current Diabetes Reports	19(8) (no pagination)	E1
605	Sinclair, M. R., Ardehali, M., Diamantidis, C. J. and Corsino, L.	2024	The diabetes cardiovascular outcomes trials and racial and ethnic minority enrollment: impact, barriers, and potential solutions	Frontiers in public health	12	E1
607	Singh, A. K., Farag, Y. M. K., Zheng, Z. and Bakris, G. L.	2024	Clinical trial designs of emerging therapies for diabetic kidney disease (DKD)	Postgraduate Medicine	136(6)	E1
608	Singh, A. K. and Singh, R.	2022	Relook at DPP-4 inhibitors in the era of SGLT-2 inhibitors	World Journal of Diabetes	13(6)	E1
609	Singh, A. N. and Swathi, T.	2023	Insights into the Association of Chronic Kidney Disease (CKD) and Cardiovascular Risk Among Diabetic vs Non-Diabetic Patients	Cardiovascular and Hematological Agents in Medicinal Chemistry	21(1)	E1
610	Sise, M. E., Katz-Agranov, N., Strohbehn, I. A., Harden, D., Moreno, D.,	2023	Brief Report: Use and Side Effects of Sodium-Glucose Transporter 2 Inhibitors	Journal of Acquired Immune Deficiency Syndromes	94(1)	E5

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	Durbin, C., Toribio, M., Neilan, T. G. and Zanni, M. V.		among US People with HIV with Clinical Indications			
611	Skalkos, E., Rajagopal, R. and Simmons, D.	2023	Diabetes Management and Outcomes among Patients with Type 2 Diabetes Attending a Renal Service	Journal of Diabetes Research	2023(no pagination)	E5
612	Skelley, J. W., Carter, B. S. and Roberts, M. Z.	2018	Clinical potential of canagliflozin in cardiovascular risk reduction in patients with type 2 diabetes	Vascular Health and Risk Management	14	E1
613	Skov, J., Christiansen, J. S. and Poulsen, P. L.	2016	Hypertension and diabetic nephropathy	Endocrine Development	31	E1
614	Smyth, B. and Perkovic, V.	2018	New hypoglycemic agents and the kidney: What do the major trials tell us?	F1000Research	7(no pagination)	E1
615	Sohail, A., Bhinder, M., Aslam, A., Chaudhary, A. and Brown, K.	2024	Reduction in Hepatocellular Carcinoma Risk with Sglt2 Inhibitors in Patients with Co-Existing Hepatitis C and Type 2 Diabetes: A Global Multicenter Propensitymatched Study	Hepatology	80(Supplement 1)	E2
618	Sridhar, V. S., Ambinathan, J. P. N., Gillard, P., Mathieu, C., Cherney, D. Z. I., Lytvyn, Y. and Singh, S. K.	2022	Cardiometabolic and Kidney Protection in Kidney Transplant Recipients With Diabetes: Mechanisms, Clinical Applications, and Summary of Clinical Trials	Transplantation	106(4)	E1
619	Sridhar, V. S., Dubrofsky, L., Boulet, J. and Cherney, D. Z.	2020	Making a case for the combined use of SGLT2 inhibitors and GLP1 receptor agonists for cardiorenal protection	Brazilian Journal of Nephrology	42(4)	E1
620	Sridhar, V. S., Yau, K., Benham, J. L., Campbell, D. J. T. and Cherney, D. Z. I.	2022	Sex and Gender Related Differences in Diabetic Kidney Disease	Seminars in Nephrology	42(2)	E1

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621	Stavas, J., Gerber, D., Coca, S. G., Silva, A. L., Johns, A., Jain, D., Bertram, T., De Ferris, M. D. G. and Bakris, G.	2022	Novel renal autologous cell therapy for type 2 diabetes mellitus chronic diabetic kidney disease: Clinical trial design	American Journal of Nephrology	53(1)	E3
622	Stephens, J. W., Brown, K. E. and Min, T.	2020	Chronic kidney disease in type 2 diabetes: Implications for managing glycaemic control, cardiovascular and renal risk	Diabetes, Obesity and Metabolism	22(S1)	E1
623	Su, S., Ma, Z., Wu, H., Xu, Z. and Yi, H.	2023	Oxidative stress as a culprit in diabetic kidney disease	Life Sciences	322(no pagination)	E1
624	Sugahara, M., Pak, W. L. W., Tanaka, T., Tang, S. C. W. and Nangaku, M.	2021	Update on diagnosis, pathophysiology, and management of diabetic kidney disease	Nephrology	26(6)	E1
625	Sukkar, L., Young, T. and Jardine, M. J.	2020	How Do the Recent Major Randomized Controlled Trials Inform Best Use of the Novel Glucose-Lowering Agents?	Kidney and Blood Pressure Research	45(6)	E1
626	Sumida, Y., Yoneda, M., Toyoda, H., Yasuda, S., Tada, T., Hayashi, H., Nishigaki, Y., Suzuki, Y., Naiki, T., Morishita, A., Tobita, H., Sato, S., Kawabe, N., Fukunishi, S., Ikegami, T., Kessoku, T., Ogawa, Y., Honda, Y., Nakahara, T., Munekage, K., Ochi, T., Sawada, K., Takahashi, A., Arai, T., Kogiso, T., Kimoto, S., Tomita, K., Notsumata, K., Nonaka, M., Kawata, K., Takami, T., Kumada, T., Tomita, E.,	2020	Common drug pipelines for the treatment of diabetic nephropathy and hepatopathy: Can we kill two birds with one stone?	International Journal of Molecular Sciences	21(14)	E1

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	Okanoue, T. and Nakajima, A.					
627	Suryantoro, S. D., Thaha, M., Sutanto, H. and Firdausa, S.	2023	Current Insights into Cellular Determinants of Peritoneal Fibrosis in Peritoneal Dialysis: A Narrative Review	Journal of Clinical Medicine	12(13) (no pagination)	E1
629	Suzuki, Y., Kaneko, H., Okada, A., Komuro, J., Ko, T., Fujiu, K., Takeda, N., Morita, H., Nishiyama, A., Ieda, M., Node, K., Yasunaga, H., Nangaku, M. and Komuro, I.	2025	Kidney outcomes with SGLT2 inhibitor versus DPP4 inhibitor use in older adults with diabetes	Nephrology Dialysis Transplantation	40(3)	E2
630	Svensson, P., Hofmann, R., Habel, H., Jernberg, T. and Nordberg, P.	2021	Association between cardiometabolic disease and severe COVID-19: A nationwide case-control study of patients requiring invasive mechanical ventilation	BMJ Open	11(2) (no pagination)	E3
631	Taal, M. W.	2024	Optimizing kidney and cardiovascular protection in an era of multiple effective treatments	Current Opinion in Nephrology and Hypertension	33(6)	E1
632	Taha, M. B., Rao, N., Vaduganathan, M., Cainzos-Achirica, M., Nasir, K. and Patel, K. V.	2022	Implementation of Cardiometabolic Centers and Training Programs	Current Diabetes Reports	22(5)	E1
634	Takenouchi, A., Tsuboi, A., Kurata, M., Fukuo, K. and Kazumi, T.	2016	Carotid Intima-Media Thickness and Visit-to-Visit HbA1c Variability Predict Progression of Chronic Kidney Disease in Type 2 Diabetic Patients with Preserved Kidney Function	Journal of Diabetes Research	2016(no pagination)	E3

Record ID	Authors	Year	Title	Journal	Volume(Issue)	Reason for Exclusion
635	Tanabe, H., Sato, M., Miyake, A., Shimajiri, Y., Ojima, T., Narita, A., Saito, H., Tanaka, K., Masuzaki, H., Kazama, J. J., Katagiri, H., Tamiya, G., Kawakami, E. and Shimabukuro, M.	2024	Machine learning-based reproducible prediction of type 2 diabetes subtypes	Diabetologia	67(11)	E3
636	Tanaka, A. and Node, K.	2021	Hypertension in diabetes care: emerging roles of recent hypoglycemic agents	Hypertension Research	44(8)	E1
637	Tang, H., Chen, W., Bian, J., O'Neal L, J., Lackland, D. T., Schatz, D. A. and Guo, J.	2023	Ethnic Variations in Cardiovascular and Renal Outcomes From Newer Glucose-Lowering Drugs: A Meta-Analysis of Randomized Outcome Trials	Journal of the American Heart Association	12(10) (no pagination)	E2
638	Tang, H., Donahoo, W. T., Svensson, M., Shaaban, C. E., Smith, G., Jaffee, M. S., Huang, Y., Hu, X., Lu, Y., Salloum, R. G., DeKosky, S. T., Bian, J. and Guo, J.	2024	Heterogeneous treatment effects of sodium-glucose cotransporter 2 inhibitors on risk of dementia in people with type 2 diabetes: A population-based cohort study	Alzheimer's and Dementia	20(8)	E4
640	Tang, M. and Kalim, S.	2022	Avenues for post-translational protein modification prevention and therapy	Molecular Aspects of Medicine	86(no pagination)	E1
641	Tangri, N., Peach, E. J., Franzen, S., Barone, S. and Kushner, P. R.	2023	Patient Management and Clinical Outcomes Associated with a Recorded Diagnosis of Stage 3 Chronic Kidney Disease: The REVEAL-CKD Study	Advances in Therapy	40(6)	E3
642	Tanriover, C., Copur, S., Gaipov, A., Ozlusen, B., Akcan, R. E., Kuwabara, M., Hornum,	2023	Metabolically healthy obesity: Misleading phrase or healthy phenotype?	European Journal of Internal Medicine	111	E1

Record ID	Authors	Year	Title	Journal	Volume(Issue)	Reason for Exclusion
	M., Van Raalte, D. H. and Kanbay, M.					
644	Taylor, S. I., Yazdi, Z. S. and Beitelshees, A. L.	2021	Pharmacological treatment of hyperglycemia in type 2 diabetes	Journal of Clinical Investigation	131(2)	E1
645	Terzo, C., Gembillo, G., Cernaro, V., Longhitano, E., Calabrese, V., Casuscelli, C., Peritore, L. and Santoro, D.	2024	Investigational new drugs for the treatment of chronic renal failure: an overview of the literature	Expert Opinion on Investigational Drugs	33(4)	E4
646	Tesfaye, H., Wang, K. M., Zabotka, L. E., Wexler, D. J., Schmedt, N., Koeneman, L., Seman, L., Paik, J. M. and Patorno, E.	2024	Empagliflozin and Risk of Incident Gout: Analysis from the EMPagliflozin Comparative Effectiveness and SafEty (EMPRISE) Cohort Study	Journal of General Internal Medicine	39(10)	E5
647	Theodorakis, N. and Nikolaou, M.	2025	Integrated Management of Cardiovascular-Renal-Hepatic-Metabolic Syndrome: Expanding Roles of SGLT2is, GLP-1RAs, and GIP/GLP-1RAs	Biomedicines	13(1)	E1
648	Theofilis, P., Vordoni, A. and Kalaitzidis, R. G.	2022	Interplay between metabolic dysfunction-associated fatty liver disease and chronic kidney disease: Epidemiology, pathophysiologic mechanisms, and treatment considerations	World Journal of Gastroenterology	28(39)	E1
649	Thomas, A. M., Lamb, K. and Howard, O.	2023	Glucagon-like peptide-1 receptor agonists use for type 2 diabetes mellitus in end-stage renal disease	Journal of the American Pharmacists Association	63(5)	E4
650	Thomas, M. C., Neuen, B. L., Twigg, S. M., Cooper, M. E. and Badve, S. V.	2023	SGLT2 inhibitors for patients with type 2 diabetes and CKD: a narrative review	Endocrine Connections	12(8) (no pagination)	E1

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651	Timar, B., Braha, A., Gaita, L. and Albai, A.	2022	Drivers of vildagliptin prescription for Romanian patients with type 2 diabetes, the TREND study	Romanian Journal of Diabetes, Nutrition and Metabolic Diseases	29(1)	E3
652	Tonelli, M., Wiebe, N., Richard, J. F., Klarenbach, S. W. and Hemmelgarn, B. R.	2019	Characteristics of Adults With Type 2 Diabetes Mellitus by Category of Chronic Kidney Disease and Presence of Cardiovascular Disease in Alberta Canada: A Cross-Sectional Study	Canadian Journal of Kidney Health and Disease	6(no pagination)	E5
653	Tong, L. and Adler, S.	2018	Glycemic control of type 2 diabetes mellitus across stages of renal impairment: information for primary care providers	Postgraduate Medicine	130(4)	E1
654	Torozan, D. A., Domanowsky, S. and Schunk, S. J.	2024	Advances in the management of chronic kidney disease progression. [German]	Nieren- und Hochdruckkrankheiten	53(11)	E1
655	Torozan, D. A., Sellier, A. B. and Schunk, S. J.	2023	Diagnosis and management of progression of chronic kidney disease. [German]	Nieren- und Hochdruckkrankheiten	52(5)	E1
657	Tsai, M. L., Lin, Y., Lin, M. S., Tsai, T. H., Yang, N. I., Wang, C. Y., Hsieh, I. C., Hung, M. J. and Chen, T. H.	2023	Comparing angiotensin receptor-neprilysin inhibitors with sodium-glucose cotransporter 2 inhibitors for heart failure with diabetes mellitus	Diabetology and Metabolic Syndrome	15(1) (no pagination)	E4
658	Tsai, S. F. and Chen, C. H.	2019	Management of diabetes mellitus in normal renal function, renal dysfunction and renal transplant recipients, focusing on glucagon-like peptide-1 agonist: A review based upon current evidence	International Journal of Molecular Sciences	20(13) (no pagination)	E1
660	Tseng, M. F., Chung, C. H., Hsu, Y. J., Chou, C. L. and Chien, W. C.	2019	Alkali therapy lessens risks of ischemic heart disease in ckd patients: A nationwide	International Journal of Clinical and	12(5)	E5

Record ID	Authors	Year	Title	Journal	Volume(Issue)	Reason for Exclusion
			propensity-score-matched cohort study	Experimental Medicine		
663	Tuttle, K. R., Bain, S. C., Bosch-Traberg, H., Khunti, K., Rasmussen, S., Sokareva, E. and Cherney, D. Z.	2024	Effects of Once-Weekly Semaglutide on Kidney Disease Outcomes by KDIGO Risk Category in the SUSTAIN 6 Trial	Kidney International Reports	9(7)	E4
664	Tuttle, K. R., Bakris, G. L., Bilous, R. W., Chiang, J. L., De Boer, I. H., Goldstein-Fuchs, J., Hirsch, I. B., Kalantar-Zadeh, K., Narva, A. S., Navaneethan, S. D., Neumiller, J. J., Patel, U. D., Ratner, R. E., Whaley-Connell, A. T. and Molitch, M. E.	2014	Diabetic kidney disease: A report from an ADA consensus conference	Diabetes Care	37(10)	E1
665	Tuttle, K. R., Lakshmanan, M. C., Rayner, B., Busch, R. S., Zimmermann, A. G., Woodward, D. B. and Botros, F. T.	2018	GLP-1 receptor agonists, CKD, and eGFR trajectory - Authors' reply	The Lancet Diabetes and Endocrinology	6(10)	E1
666	Tuttle, K. R., Levin, A., Nangaku, M., Kadowaki, T., Agarwal, R., Hauske, S. J., Elsasser, A., Ritter, I., Steubl, D., Wanner, C. and Wheeler, D. C.	2022	Safety of Empagliflozin in Patients With Type 2 Diabetes and Chronic Kidney Disease: Pooled Analysis of Placebo-Controlled Clinical Trials	Diabetes Care	45(6)	E4
667	Tuttle, K. R., Rossing, P., Hauske, S. J., Cronin, L., Hussain, J., de Zeeuw, D. and Heerspink, H. J. L.	2023	Methods Article for a Study Protocol: Study Design and Baseline Characteristics for Aldosterone Synthase Inhibition in Chronic Kidney Disease	American Journal of Nephrology	55(2)	E4

Record ID	Authors	Year	Title	Journal	Volume(Issue)	Reason for Exclusion
668	Tuttle, M. L., Fang, J. C., Sarnak, M. J. and McCallum, W.	2024	Epidemiology and Management of Patients With Kidney Disease and Heart Failure With Preserved Ejection Fraction	Seminars in Nephrology	44(2) (no pagination)	E1
669	van Baar, M. J. B., van Raalte, D. H. and Muskiet, M. H. A.	2018	GLP-1 receptor agonists, CKD, and eGFR trajectory	The Lancet Diabetes and Endocrinology	6(10)	E1
671	van Eeghen, S. A., Nokoff, N. J., Vosters, T. G., Oosterom-Eijmael, M. J. P., Cherney, D. Z. I., van Valkengoed, I. G. M., Choi, Y. J., Pyle, L., Bjornstad, P., Heijer, M. D. and van Raalte, D. H.	2025	Unraveling Sex Differences in Kidney Health and CKD A Review of the Effect of Sex Hormones	Clinical Journal of the American Society of Nephrology	20(2)	E1
674	Verdecchia, P., Murdolo, G., Coiro, S., Santucci, A., Notaristefano, F., Angeli, F. and Cavallini, C.	2023	Therapy of Type 2 diabetes: more gliflozines and less metformin?	European Heart Journal, Supplement	25(Supplement_B)	E1
676	von Scholten, B. J., Kreiner, F. F., Rasmussen, S., Rossing, P. and Idorn, T.	2022	The potential of GLP-1 receptor agonists in type 2 diabetes and chronic kidney disease: from randomised trials to clinical practice	Therapeutic Advances in Endocrinology and Metabolism	13(no pagination)	E1
678	Vucak, J. V. and Corak, N. C.	2024	Use of new antidiabetic drugs in patients with cardiovascular diseases - real life data	European Heart Journal. Conference: European Society of Cardiology Congress, ESC	45(supplement 1)	E5
679	Wallace, A. S., Chang, A. R., Shin, J. I., Reider, J., Echouffo-Tcheugui, J. B., Grams, M. E. and Selvin, E.	2022	Obesity and Chronic Kidney Disease in US Adults With Type 1 and Type 2 Diabetes Mellitus	Journal of Clinical Endocrinology and Metabolism	107(5)	E3

Record ID	Authors	Year	Title	Journal	Volume(Issue)	Reason for Exclusion
681	Walther, C. P., Winkelmayer, W. C. and Navaneethan, S. D.	2021	Black race coefficient in GFR estimation and diabetes medications in CKD: National estimates	Journal of the American Society of Nephrology	32(6)	E3
682	Wang, E., Patorno, E., Khosrow-Khavar, F., Crystal, S. and Dave, C. V.	2025	Racial and ethnic disparities in the uptake of SGLT2is and GLP-1RAs among Medicare beneficiaries with type 2 diabetes and heart failure, atherosclerotic cardiovascular disease and chronic kidney disease, 2013-2019	Diabetologia	68(1)	E5
683	Wang, W., Drawz, P., Chow, L., Chen, L. Y., Walker, R. F., Norby, F. L. and Lutsey, P. L.	2024	Association of SGLT2 Inhibitors and Other Second Line Therapies With Incident Chronic Kidney Disease in Patients With Type 2 Diabetes	Circulation. Conference: American Heart Association's Epidemiology and Prevention/Lifestyle and Cardiometabolic Health	149(supplement 1)	E2
684	Weidenbusch, M. and Vielhauer, V.	2017	Diabetic nephropathy: Novel treatments. [German]	Nieren- und Hochdruckkrankheiten	46(6)	E1
685	Weir, M. R.	2016	The kidney and type 2 diabetes mellitus: Therapeutic implications of SGLT2 inhibitors	Postgraduate Medicine	128(3)	E1
686	Weltman, M. R., Han, Z., Alghwiri, A. A., Yabes, J., Lavenburg, L. M. U., Nolin, T. D. and Jhamb, M.	2023	Use of Guideline-Recommended Medication Therapy in a High-Risk CKD Population in the Kidney CHAMP Trial	Journal of the American Society of Nephrology	Conference: Kidney Week 2023 Annual Meeting. Philadelphia, PA United States. 34	E5
687	Weltman, M. R., Han, Z., Lavenburg, L. M. U., Alghwiri, A. A., Yabes, J. G., Nolin, T. D. and Jhamb, M.	2025	Effect of a Population Health Management Intervention on Medication Therapy Problems in People With Chronic Kidney Disease: Post Hoc Analysis of the K-CHAMP Cluster-Randomized Trial	Kidney Medicine	7(5) (no pagination)	E5

Record ID	Authors	Year	Title	Journal	Volume(Issue)	Reason for Exclusion
689	Wheeler, D. C., Stefansson, B. V., Batiushin, M., Bilchenko, O., Cherney, D. Z. I., Chertow, G. M., Douthat, W., Dwyer, J. P., Escudero, E., Pecoits-Filho, R., Furuland, H., Gorriz, J. L., Greene, T., Haller, H., Hou, F. F., Kang, S. W., Isidto, R., Khullar, D., Mark, P. B., McMurray, J. J. V., Kashihara, N., Nowicki, M., Persson, F., Correa-Rotter, R., Rossing, P., Toto, R. D., Umanath, K., van Bui, P., Wittmann, I., Lindberg, M., David Sjostrom, C., Langkilde, A. M. and Heerspink, H. J. L.	2020	The dapagliflozin and prevention of adverse outcomes in chronic kidney disease (DAPA-CKD) trial: Baseline characteristics	Nephrology Dialysis Transplantation	35(10)	E5
690	Wijarnpreecha, K., Aby, E. S., Ahmed, A. and Kim, D.	2021	Evaluation and management of extrahepatic manifestations of nonalcoholic fatty liver disease	Clinical and Molecular Hepatology	27(2)	E1
691	Wilcox, T., De Block, C., Schwartzbard, A. Z. and Newman, J. D.	2020	Diabetic Agents, From Metformin to SGLT2 Inhibitors and GLP1 Receptor Agonists: JACC Focus Seminar	Journal of the American College of Cardiology	75(16)	E1
692	Williams, D. M. and Evans, M.	2020	Semaglutide: Charting New Horizons in GLP-1 Analogue Outcome Studies	Diabetes Therapy	11(10)	E4
693	Williams, D. M., Nawaz, A. and Evans, M.	2020	Renal Outcomes in Type 2 Diabetes: A Review of Cardiovascular and Renal Outcome Trials	Diabetes Therapy	11(2)	E1

Record ID	Authors	Year	Title	Journal	Volume(Issue)	Reason for Exclusion
694	Wisbaum, A., Gaudreau, S., Cloutier, I., Robert, P., Kolment, R., Beauchesne, M. F. and Couture, J.	2025	Real-Time Use of SGLT2i Verified in Pre-dialysis: The RSVP Cross-sectional Study	Annals of Pharmacotherapy	59(1)	E4
695	Wish, J. B. and Pergola, P.	2022	Evolution of Mineralocorticoid Receptor Antagonists in the Treatment of Chronic Kidney Disease Associated with Type 2 Diabetes Mellitus	Mayo Clinic Proceedings: Innovations, Quality and Outcomes	6(6)	E1
699	Xu, C., Ha, X., Yang, S., Tian, X. and Jiang, H.	2023	Advances in understanding and treating diabetic kidney disease: focus on tubulointerstitial inflammation mechanisms	Frontiers in Endocrinology	14(no pagination)	E1
700	Xu, Y., Chang, A. R., Inker, L. A., McAdams-Demarco, M., Grams, M. E. and Shin, J. I.	2023	Associations of Apixaban Dose with Safety and Effectiveness Outcomes in Patients with Atrial Fibrillation and Severe Chronic Kidney Disease	Circulation	148(19)	E3
701	Yamada, H., Yoshida, M., Funazaki, S., Morimoto, J., Tonezawa, S., Takahashi, A., Nagashima, S., Masahiko, K., Kiyoshi, O. and Hara, K.	2023	Retrospective Analysis of the Effectiveness of Oral Semaglutide in Type 2 Diabetes Mellitus and Its Effect on Cardiometabolic Parameters in Japanese Clinical Settings	Journal of Cardiovascular Development and Disease	10(4) (no pagination)	E4
703	Yamazaki, T., Mimura, I., Tanaka, T. and Nangaku, M.	2021	Treatment of diabetic kidney disease: Current and future	Diabetes and Metabolism Journal	45(1)	E1
705	Yanai, H., Hakoshima, M., Adachi, H. and Katsuyama, H.	2022	A Significant Effect of Oral Semaglutide on Cardiovascular Risk Factors in Patients With Type 2 Diabetes	Cardiology Research	13(5)	E4

Record ID	Authors	Year	Title	Journal	Volume(Issue)	Reason for Exclusion
706	Yanai, H., Yamaguchi, N. and Adachi, H.	2022	Chronic Kidney Disease Stage G4 in a Diabetic Patient Improved by Multi-Disciplinary Treatments Based Upon Literature Search for Therapeutic Evidence	Cardiology research	13(5)	E1
707	Yang, C. T., Peng, Z. Y., Chen, Y. C., Ou, H. T. and Kuo, S.	2022	Cardiovascular Benefits With Favorable Renal, Amputation and Hypoglycemic Outcomes of SGLT-2 Inhibitors in Type 2 Diabetes From the Asian Perspective: A Population-Based Cohort Study and Systematic Review	Frontiers in Endocrinology	13(no pagination)	E4
710	Yang, Y. G., Li, H., Zhang, X. L., Tan, X. C., Zhang, Y. J. and Zheng, W. S.	2022	Progress on research and development of drug for chronic kidney disease and related comorbidities. [Chinese]	Yaoxue Xuebao	57(9)	E1
711	Yano, Y., Nagasu, H., Kanegae, H., Nangaku, M., Hirakawa, Y., Sugawara, Y., Nakagawa, N., Wada, J., Sugiyama, H., Nakano, T., Wada, T., Shimizu, M., Suzuki, H., Komatsu, H., Nakashima, N., Kitaoka, K., Narita, I., Okada, H., Suzuki, Y. and Kashihara, N.	2024	Kidney outcomes associated with haematuria and proteinuria trajectories among patients with IgA nephropathy in real-world clinical practice: The Japan Chronic Kidney Disease Database	Nephrology	29(2)	E3
713	Yarlagadda, C., Abutineh, M., Reddy, A. J., Landau, A. B., Travis, L. M., Perrone, C. G., Idriss, A. and Patel, R.	2023	An Investigation on the Efficacy of Glucagon-Like Peptide 1 Receptor Agonists Drugs in Reducing Urine Albumin-to-Creatinine Ratio in Patients With Type 2	Cureus	15(3)	E4

Record ID	Authors	Year	Title	Journal	Volume(Issue)	Reason for Exclusion
			Diabetes: A Potential Treatment for Diabetic Nephropathy			
714	Yau, K., Dharia, A., Alrowiyti, I. and Cherney, D. Z. I.	2022	Prescribing SGLT2 Inhibitors in Patients With CKD: Expanding Indications and Practical Considerations	Kidney International Reports	7(7)	E1
715	Yin, Y. and Jin, S.	2025	Letter to the Editor regarding 'triglyceride glucose index: a significant prognostic marker of heart failure in patients with chronic kidney disease'	Renal Failure	47(1) (no pagination)	E1
716	Yokose, C., McCormick, N., Lu, L., Wei, J., Zhang, Y. and Choi, H.	2023	Risk of Incident Gout Associated with Initiation of Sodium-Glucose Cotransporter-2 Inhibitors Versus Other Second-Line Agents among Metformin Users with Type 2 Diabetes	Annals of the Rheumatic Diseases	82(supplement 1)	E5
718	Yost, K. K., Gomez, P., Rangan, P., Fallon, M., Nathan, R., Rubin, M. N., Wong, M., Wijarnpreecha, K., Ai, M. and Han, T.	2023	Effect of glucagon-like peptide-1 receptor agonists and sodiumglucose cotransporter-2 inhibitors on post-liver transplant mortality and major adverse cardiovascular events	Journal of Hepatology	78(supplement 1)	E2
719	Yost, K. K., Gomez, P., Rangan, P., Fallon, M., Nathan, R., Rubin, M. N., Wong, M., Wijarnpreecha, K., Ai, M. and Han, T.	2023	Effect of glucagon-like peptide-1 receptor agonists and sodiumglucose cotransporter-2 inhibitors on post-liver transplant mortality and major adverse cardiovascular events	Journal of Hepatology	78(supplement 1)	E1
720	Yu, J., Li, J., Leaver, P. J., Arnott, C., Huffman, M. D., Udell, J. A., Perkovic, V., Mahaffey, K. W., De Zeeuw, D., Fulcher, G., Matthews,	2022	Effects of canagliflozin on myocardial infarction: a post hoc analysis of the CANVAS programme and CREDENCE trial	Cardiovascular Research	118(4)	E4

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	D. R., Shaw, W., Rosenthal, N., Neal, B. and Figtree, G. A.					
722	Yun, S., Hurren, K., Holleman, R., Klamerus, M., Tremblay, A. and Sussman, J. B.	2025	Optimizing SGLT2 inhibitor and GLP-1 RA prescribing in high-risk patients with diabetes: a Department of Veterans Affairs quality improvement intervention	BMC primary care	26(1)	E5
723	Zac-Varghese, S. and Winocour, P.	2018	Managing diabetic kidney disease	British Medical Bulletin	125(1)	E1
724	Zanchi, A., Jehle, A. W., Lamine, F., Vogt, B., Czerlau, C., Bilz, S., Seeger, H. and Seigneux, S. D.	2023	Diabetic kidney disease in type 2 diabetes: a consensus statement from the Swiss Societies of Diabetes and Nephrology	Swiss Medical Weekly	153(1) (no pagination)	E1
726	Zareini, B., Rorth, R., Holt, A., Mogensen, U. M., Selmer, C., Gislason, G., Schou, M., Kober, L., Torp-Pedersen, C., Lamberts, M. and Kristensen So, L.	2019	Heart failure and the prognostic impact and incidence of new-onset of diabetes mellitus: A nationwide cohort study	Cardiovascular Diabetology	18(1) (no pagination)	E3
728	Zelniker, T. A., Wiviott, S. D., Raz, I., Im, K., Goodrich, E. L., Furtado, R. H. M., Bonaca, M. P., Mosenzon, O., Kato, E. T., Cahn, A., Bhatt, D. L., Leiter, L. A., McGuire, D. K., Wilding, J. P. H. and Sabatine, M. S.	2019	Comparison of the Effects of Glucagon-Like Peptide Receptor Agonists and Sodium-Glucose Cotransporter 2 Inhibitors for Prevention of Major Adverse Cardiovascular and Renal Outcomes in Type 2 Diabetes Mellitus	Circulation	139(17)	E1
729	Zhang, H., Xie, J., Hao, C., Li, X., Zhu, D., Zheng, H., Xu, X., Mo, Z., Lu, W., Lu, Y., Wu,	2023	Finerenone in Patients with Chronic Kidney Disease and Type 2 Diabetes: The FIDELIO-DKD Subgroup from China	Kidney Diseases	9(6)	E3

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	C., Tong, N., Wang, L. and Liu, Z.					
730	Zhang, J., Kanchi, R., Conderino, S., Levy, N. K., Adhikari, S., Blecker, S., Davis, N., Divers, J., Rabin, C., Weiner, M., Thorpe, L. and Dodson, J. A.	2024	Decline in use of high-risk agents for tight glucose control among older adults with diabetes in New York City: 2017-2022	Journal of the American Geriatrics Society	72(9)	E3
731	Zhang, R. M.	2023	Single institution prescribing pattern of finerenone in patients with type 2 diabetes and/or chronic kidney disease in the USA	Clinical Kidney Journal	16(9)	E3
732	Zhang, S., Sidra, F., Alvarez, C. A., Kinaan, M., Lingvay, I. and Mansi, I. A.	2024	Healthcare utilization, mortality, and cardiovascular events following GLP1-RA initiation in chronic kidney disease	Nature Communications	15(1) (no pagination)	E4
734	Zhao, J. Z., Weinhandl, E. D., Carlson, A. M. and St. Peter, W. L.	2021	Glucose-Lowering Medication Use in CKD: Analysis of US Medicare Beneficiaries Between 2007 and 2016	Kidney Medicine	3(2)	E5
736	Zhao, J. Z., Weinhandl, E. D., Carlson, A. M. and St. Peter, W. L.	2023	Disparities in SGLT2 Inhibitor or Glucagon-Like Peptide 1 Receptor Agonist Initiation Among Medicare-Insured Adults With CKD in the United States	Kidney Medicine	5(1) (no pagination)	E5
737	Zhao, L., Zou, Y., Wu, Y., Cai, L., Zhao, Y., Wang, Y., Xiao, X., Yang, Q., Yang, J., Ren, H., Tong, N. and Liu, F.	2023	Metabolic phenotypes and risk of end-stage kidney disease in patients with type 2 diabetes	Frontiers in Endocrinology	14(no pagination)	E3
738	Zhao, L. M. and Qiu, M.	2021	Letter Regarding "Systematic Review of Cardiovascular Outcome Trials Using New	Kidney International Reports	6(11)	E1

Record ID	Authors	Year	Title	Journal	Volume(Issue)	Reason for Exclusion
			Antidiabetic Agents in CKD Stratified by Estimated GFR"			
739	Zhao, Z., Zhou, T., Xu, Z. and Gao, P.	2025	Characteristics, Comorbidities, Comedication and Treatment Transitions in Chinese Patients with Type-2 Diabetes Mellitus and Chronic Kidney Diseases Who Initiated Antihypertensive and Hypoglycemic Drugs between 2012-2022	Kidney International Reports	10(supplement 2)	E5
740	Zhu, D., Judge, P. K., Staplin, N., Haynes, R. and Herrington, W. G.	2025	Design considerations for future renoprotection trials in the era of multiple therapies for chronic kidney disease	Nephrology Dialysis Transplantation	40	E1
741	Zhu, D., Judge, P. K., Wanner, C., Haynes, R. and Herrington, W. G.	2025	The prevention and management of chronic kidney disease among patients with metabolic syndrome	Kidney International	107(5)	E1
742	Zoccali, C. and Mallamaci, F.	2025	The Interplay of Nonalcoholic Fatty Liver Disease and Chronic Kidney Disease: A Call for Integrated Management	American Journal of Nephrology	56(2)	E1
743	Zoccali, C., Mallamaci, F., Adamczak, M., De Oliveira, R. B., Massy, Z. A., Sarafidis, P., Agarwal, R., Mark, P. B., Kotanko, P., Ferro, C. J., Wanner, C., Burnier, M., Vanholder, R. and Wiecek, A.	2023	Cardiovascular complications in chronic kidney disease: a review from the European Renal and Cardiovascular Medicine Working Group of the European Renal Association	Cardiovascular Research	119(11)	E1
744	Zou, H., Zhou, B. and Xu, G.	2017	SGLT2 inhibitors: A novel choice for the combination therapy in diabetic kidney disease	Cardiovascular Diabetology	16(1) (no pagination)	E1

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745	Zwart, K., Velthuis, S., Polyukhovych, Y. V., Mosterd, A., Smidt, L., Serne, E. H., van Raalte, D. H., Elders, P. J. M., Handoko, M. L. and Oldenburg-Ligtenberg, P. C.	2021	Sodium-glucose cotransporter 2 inhibitors: a practical guide for the Dutch cardiologist based on real-world experience	Netherlands Heart Journal	29(10)	E4
Excluded Full Text (n=140)						
53	Apperloo, E. M., Heerspink, H. J. L., Van Der Aart, A. B., Rouw, D., Van Raalte, D. H., Hoogenberg, K., Jongs, N. and Muskiet, M. H. A.	2025	Exploring Kidney Oxygenation Responses to Dapagliflozin, Exenatide, and Their Combination in Patients With Type 2 Diabetes and Chronic Kidney Disease: Observations From a Prespecified Pilot Study of a Randomized Crossover Trial	Diabetes Care	48(3)	Duplicate
383	Lo, C., Toyama, T., Wang, Y., Lin, J., Hirakawa, Y., Jun, M., Cass, A., Hawley, C. M., Pilmore, H., Badve, S. V., Perkovic, V. and Zoungas, S.	2018	Insulin and glucose-lowering agents for treating people with diabetes and chronic kidney disease	Cochrane Database of Systematic Reviews	2018(9)	Duplicate
460	Natale, P., Tunnicliffe, D. J., Toyama, T., Palmer, S. C., Saglimbene, V. M., Ruospo, M., Gargano, L., Stallone, G., Gesualdo, L. and Strippoli, G. F. M.	2024	Sodium-glucose co-transporter protein 2 (SGLT2) inhibitors for people with chronic kidney disease and diabetes	Cochrane Database of Systematic Reviews	2024(5)	Duplicate
229	Garcia Sanchez, J. J., Thompson, J., Scott, D. A., Evans, R., Rao, N., Sorstadius, E., James, G., Nolan, S., Wittbrodt, E. T., Abdul Sultan, A.,	2022	Treatments for Chronic Kidney Disease: A Systematic Literature Review of Randomized Controlled Trials	Advances in Therapy	39(1)	E1

Record ID	Authors	Year	Title	Journal	Volume(Issue)	Reason for Exclusion
	Stefansson, B. V., Jackson, D. and Abrams, K. R.					
364	Leite, K. M., Long, A. M., Ostroff, M. L., Borges, L. and Braden, G.	2021	A Review of the Renoprotective Effects of Novel Antidiabetic Agents	Journal of Pharmacy Practice	34(1)	E1
382	Lo, C., Toyama, T., Wang, Y., Lin, J., Hirakawa, Y., Jun, M., Cass, A., Hawley, C. M., Pilmore, H., Badve, S. V., Perkovic, V. and Zoungas, S.	2018	Insulin and glucose-lowering agents for treating people with diabetes and chronic kidney disease	Cochrane Database of Systematic Reviews	9	E1
402	Mancini, G. B. J., O'Meara, E., Zieroth, S., Bernier, M., Cheng, A. Y. Y., Cherney, D. Z. I., Connelly, K. A., Ezekowitz, J., Goldenberg, R. M., Leiter, L. A., Nesrallah, G., Paty, B. W., Piche, M. E., Senior, P., Sharma, A., Verma, S., Woo, V., Darras, P., Gregoire, J., Lonn, E., Stone, J. A., Yale, J. F., Yeung, C. and Zimmerman, D.	2022	2022 Canadian Cardiovascular Society Guideline for Use of GLP-1 Receptor Agonists and SGLT2 Inhibitors for Cardiorenal Risk Reduction in Adults	Canadian Journal of Cardiology	38(8)	E1
456	Natale, P., Green, S. C., Tunnicliffe, D. J., Pellegrino, G., Toyama, T. and Strippoli, F. M. G.	2025	Glucagon-like peptide 1 (GLP-1) receptor agonists for people with chronic kidney disease and diabetes	Cochrane Database of Systematic Reviews	NA	E1
520	Qaseem, A., Obley, A. J., Shamliyan, T., Hicks, L. A., Harrod, C. S., Crandall, C. J., Wilt, T. J., Balk, E. M., Cooney,	2024	Newer Pharmacologic Treatments in Adults With Type 2 Diabetes: A Clinical Guideline From the	Annals of Internal Medicine	177(5)	E1

Record ID	Authors	Year	Title	Journal	Volume(Issue)	Reason for Exclusion
	T. G., Cross, J. T., Fitterman, N., Lin, J. S., Maroto, M., Miller, M. C., Owens, D. K., Shekelle, P., Tice, J. A., Tufte, J. E., Carroll, K., Etxeandia-Ikobaltzeta, I. and Yost, J.		American College of Physicians			
598	Shaikh, I. S., Meghji, K. A., Memon, T. F., Kazi, S., Muhammad, A. and Shaikh, U. M.	2024	Renal Protective Comparison between Sodium-Glucose Cotransporter-2 Inhibitors Versus Glucagon-Like Peptide-1 Receptor Agonists: A Systematic Review	Journal of Population Therapeutics and Clinical Pharmacology	31(6)	E1
1	CT.gov	2020	A multicenter, randomized, parallel controlled, open-label study on the effects of SGLT2 inhibitor on the renal prognosis of patients with chronic kidney disease with type 2 diabetes		NA	E2
3	CT.gov	2022	Obesity Treatment to Improve Diabetes		NA	E2
10	Abegaz, T., Ahmed, M. B. and Ali, A. A.	2023	CO146 Renal Outcomes of SGLT2 Inhibitors in Patients with Diabetes in the United States: Retrospective Cohort Study	Value in Health	26(supplement 6)	E2
23	Al-Muhaiteeb, A., Alahmad, B., Abu-Farha, M., Abubaker, J., Thanaraj, T. A., Ali, H., Al-Mulla, F. and Qaddoumi, M.	2024	Long-Term Mortality and SGLT2 Inhibitors in Type 2 Diabetes with and without Renal Impairment: An Observational Cohort Study	Medical Principles and Practice	33(3)	E2
45	Anson, M., Henney, A. E., Zhao, S. S., Ibarburu, G. H., Lip, G. Y. H., Cuthbertson, D. J., Nabrdalik, K. and Alam, U.	2024	Effect of combination pioglitazone with sodium-glucose cotransporter-2 inhibitors or glucagon-like peptide-1 receptor agonists on outcomes in type 2 diabetes: A systematic review, meta-analysis, and	Diabetes, Obesity and Metabolism	26(7)	E2

Record ID	Authors	Year	Title	Journal	Volume(Issue)	Reason for Exclusion
			real-world study from an international federated database			
46	Anson, M., Malik, A., Zhao, S. S., Austin, P., Ibarburu, G. H., Jaffar, S., Garrib, A., Cuthbertson, D. J. and Alam, U.	2024	Treating Type 2 Diabetes With Early, Intensive, Multimodal Pharmacotherapy: Real-World Evidence From an International Collaborative Database	Journal of diabetes research	2024	E2
49	Anuforo, A., Olojakpoke, E., Gautam, K., Sherazi, M., Bhandari, J., Somerville, A., Awoyemi, T., Poudyal, B. and Makri, H.	2024	Impact Of Sodium- Glucose Co-Transporter-2 Inhibitors and Glucagon-Like-Peptide-1 Agonists On Cardiovascular and Renal Outcomes In Patients With Type 2 Diabetes Mellitus (T2DM) and Autoimmune Diseases: A Global Retrospective Study	Circulation. Conference: American Heart Association's	150(supplement 1)	E2
56	Arafah, A., Neeland, I., Bourges-sevenier, B. M., Albar, Z., Sullivan, C., Al-kindi, S. G. and Rajagopalan, S.	2023	Two-Year Results from a Novel, Patient-Centered, TeamBased Intervention for Patients with Type 2 Diabetes at High Cardiovascular Risk	Diabetes. Conference: 83rd Scientific Sessions of the American Diabetes Association, ADA	72(supplement 1)	E2
58	Arnold, S. V., Echouffo-Tcheugui, J. B., Lam, C. S., Inzucchi, S. E., Tang, F., McGuire, D. K., Goyal, A., Maddox, T. M., Sperling, L. S., Fonarow, G. C., Masoudi, F. A. and Kosiborod, M.	2018	Patterns of glucose-lowering medication use in patients with type 2 diabetes and heart failure. Insights from the Diabetes Collaborative Registry (DCR)	American Heart Journal	203	E2
61	Arnold, S. V., Tang, F., Cooper, A., Chen, H., Gomes, M. B., Rathmann, W., Shimomura, I., Vora, J.,	2022	Global use of SGLT2 inhibitors and GLP-1 receptor agonists in type 2 diabetes. Results from DISCOVER	BMC Endocrine Disorders	22(1)	E2

Record ID	Authors	Year	Title	Journal	Volume(Issue)	Reason for Exclusion
	Watada, H., Khunti, K. and Kosiborod, M.					
86	Bodini, S., Pieralice, S., D'Onofrio, L., Mignogna, C., Coraggio, L., Amendolara, R., Risi, R., Salducci, M., Buzzetti, R. and Maddaloni, E.	2024	No Differences in Kidney Function Decline Between People With Type 2 Diabetes Starting a Sodium-Glucose Cotransporter 2 Inhibitor or a Glucagon-like Peptide-1 Receptor Agonist: A Real-world Retrospective Comparative Observational Study	Clinical Therapeutics	46(11)	E2
92	Bramlage, P., Lanzinger, S., Tittel, S. R., Hess, E., Fahrner, S., Heyer, C. H. J., Friebe, M., Buschmann, I., Danne, T., Seufert, J. and Holl, R. W.	2021	Guidelines adherence in the prevention and management of chronic kidney disease in patients with diabetes mellitus on the background of recent European recommendations - a registry-based analysis	BMC Nephrology	22(1)	E2
118	Chen, S. Y., Wu, J. Y., Liao, K. M. and Lin, Y. M.	2025	Prognostic Benefit of GLP-1 RA Addition to SGLT2i in Patients with ASCVD and Heart Failure: A Cohort Study	European heart journal. Cardiovascular pharmacotherapy.	17(1)	E2
145	Clemmensen, K. K. B., Zareini, B., Gerds, T., Sorensen, K. K., Kvist, K., David, J. P. and Torp-Pedersen, C.	2023	Benefit of dual therapy with GLP-1 RA and SGLT2i on renal outcomes in type 2 diabetes	Diabetologia	66(supplement 1)	E2
171	Deng, Y., Ghamsari, F., Lu, A., Yu, J., Zhao, L. and Kho, A. N.	2022	Use of real-world evidence data to evaluate the comparative effectiveness of second-line type 2 diabetes medications on chronic kidney disease	Journal of Clinical and Translational Endocrinology	30(1)	E2
186	Echouffo-Tcheugui, J. B., Turchin, A., Rosenson, R. S., Fonarow, G. C., Goyal,	2022	Quality of Care Among Patients with Diabetes and Cerebrovascular Disease.	American Journal of Medicine	135(11)	E2

Record ID	Authors	Year	Title	Journal	Volume(Issue)	Reason for Exclusion
	A., de Lemos, J. A. and Arnold, S. V.		Insights from The Diabetes Collaborative Registry			
220	Friedman, A. N., Petry, T. B. Z., Aboud, C. M., Mendonca Dos Santos, T., Roux, C. W. L. and Cohen, R. V.	2022	State-of-the-art Medical Therapy Versus Roux-en-Y Gastric Bypass Alone for Treatment of Early Diabetic Kidney Disease	Journal of renal nutrition : the official journal of the Council on Renal Nutrition of the National Kidney Foundation	32(6)	E2
241	Giorgino, F., Guja, C., Aydin, H., Lauand, F., Melas-Melt, L. and Rosenstock, J.	2024	Consistent glycaemic efficacy and safety of concomitant use of iGlarLixi and sodium-glucose co-transporter-2 inhibitor therapy for type 2 diabetes: A patient-level pooled analysis of three randomised clinical trials	Diabetes Research and Clinical Practice	209(1)	E2
273	Heerspink, H. J. L., Karasik, A., Thuresson, M., Melzer-Cohen, C., Chodick, G., Khunti, K., Wilding, J. P. H., Garcia Rodriguez, L. A., Cea-Soriano, L., Kohsaka, S., Nicolucci, A., Lucisano, G., Lin, F. J., Wang, C. Y., Wittbrodt, E., Fenici, P. and Kosiborod, M.	2020	Kidney outcomes associated with use of SGLT2 inhibitors in real-world clinical practice (CVD-REAL 3): a multinational observational cohort study	The Lancet Diabetes and Endocrinology	8(1)	E2
302	Jafarzadeh, S. R., Peloquin, C. E. and Felson, D.	2024	Comparative Effectiveness of Sglt2 Inhibitors Versus Glp1 Agonists on Preventing Post-Traumatic Osteoarthritis	Osteoarthritis and Cartilage	32(supplement 1)	E2
307	Jhu, J. Y., Fang, Y. W., Huang, C. Y., Liou, H. H., Chen, M. T. and Tsai, M. H.	2025	Enhanced renoprotective effects of combined glucagon-like peptide-1 receptor agonists and sodium-glucose cotransporter 2 inhibitors in	Journal of Diabetes Investigation	16(2)	E2

Record ID	Authors	Year	Title	Journal	Volume(Issue)	Reason for Exclusion
			type 2 diabetes mellitus: Real-world evidence			
318	Kaneko, H., Nagasawa, H., Okada, A., Fujiu, K., Jo, T., Takeda, N., Morita, H., Nishiyama, A., Gohda, T., Suzuki, Y., Node, K., Yasunaga, H., Nangaku, M. and Komuro, I.	2024	Comparison of estimated glomerular filtration rate change with sodium-glucose cotransporter-2 inhibitors versus glucagon-like peptide-1 receptor agonists among people with diabetes: A propensity-score matching study	Diabetes, Obesity and Metabolism	26(6)	E2
352	Lam, C. S. P., Karasik, A., Melzer-Cohen, C., Cavender, M. A., Kohsaka, S., Norhammar, A., Thuresson, M., Chen, H., Wittbrodt, E., Fenici, P. and Kosiborod, M.	2021	Association of sodium-glucose cotransporter-2 inhibitors with outcomes in type 2 diabetes with reduced and preserved left ventricular ejection fraction: Analysis from the CVD-REAL 2 study	Diabetes, Obesity and Metabolism	23(6)	E2
359	Lavenburg, L. M., Han, Z., Mosslemi, M., Alghwiri, A. A., Nolin, T. D., Weltman, M. R., Yabes, J. G. and Jhamb, M.	2024	Impact of Population Health Management to Modify Disparate Use of SGLT2 Inhibitors/Glucagon-Like Peptide 1 Receptor Agonists (GLP-1 RAs)	Journal of the American Society of Nephrology: JASN	35	E2
368	Li, S., Vandvik, P. O., Lytvyn, L., Guyatt, G. H., Palmer, S. C., Rodriguez-Gutierrez, R., Foroutan, F., Agoritsas, T., Siemieniuk, R. A. C., Walsh, M., Frere, L., Tunnicliffe, D. J., Nagler, E. V., Manja, V., Asvold, B. O., Jha, V., Vermandere, M., Gariani, K., Zhao, Q., Ren, Y., Cartwright, E. J., Gee, P., Wickes, A.,	2021	SGLT-2 inhibitors or GLP-1 receptor agonists for adults with type 2 diabetes: A clinical practice guideline	The BMJ	373(1)	E2

Record ID	Authors	Year	Title	Journal	Volume(Issue)	Reason for Exclusion
	Ferns, L., Wright, R., Li, L., Hao, Q. and Mustafa, R. A.					
387	Lu, D. F., Zheng, R., Li, A. and Zhang, J. Q.	2025	Efficacy of sodium-glucose cotransporter-2 inhibitors and glucagon-like peptide-1 receptor agonists on proteinuria and weight in a diabetes cohort	World Journal of Diabetes	16(2)	E2
389	Lui, D. T. W., Au, I. C. H., Tang, E. H. M., Cheung, C. L., Lee, C. H., Woo, Y. C., Wu, T., Tan, K. C. B. and Wong, C. K. H.	2022	Kidney outcomes associated with sodium-glucose cotransporter 2 inhibitors versus glucagon-like peptide 1 receptor agonists: A real-world population-based analysis	eClinicalMedicine	50(1)	E2
451	Nanna, M. G., Kolkailah, A. A., Page, C., Peterson, E. D. and Navar, A. M.	2023	Use of Sodium-Glucose Cotransporter 2 Inhibitors and Glucagonlike Peptide-1 Receptor Agonists in Patients with Diabetes and Cardiovascular Disease in Community Practice	JAMA Cardiology	8(1)	E2
464	Neeland, I. J., Al-Kindi, S. G., Tashtish, N., Eaton, E., Friswold, J., Rahmani, S., White-Solaru, K. T., Rashid, I., Berg, D., Rana, M., Sullivan, C., Hatipoglu, B., Pronovost, P. and Rajagopalan, S.	2022	Lessons Learned From a Patient-Centered, Team-Based Intervention for Patients With Type 2 Diabetes at High Cardiovascular Risk: Year 1 Results From the CINEMA Program	Journal of the American Heart Association	111(15)	E2
465	Neuen, B. L., Heerspink, H. J. L., Vart, P., Claggett, B. L., Fletcher, R. A., Arnott, C., de Oliveira Costa, J., Falster, M. O., Pearson, S. A., Mahaffey, K. W., Neal, B., Agarwal, R.,	2024	Estimated Lifetime Cardiovascular, Kidney, and Mortality Benefits of Combination Treatment With SGLT2 Inhibitors, GLP-1 Receptor Agonists, and Nonsteroidal MRA Compared With	Circulation	149(6)	E2

Record ID	Authors	Year	Title	Journal	Volume(Issue)	Reason for Exclusion
	Bakris, G., Perkovic, V., Solomon, S. D. and Vaduganathan, M.		Conventional Care in Patients With Type 2 Diabetes and Albuminuria			
492	Park, B., Krishnaraj, A., Teoh, H., Bakbak, E., Dennis, F., Quan, A., Hess, D. A. and Verma, S.	2024	GLP-1RA therapy increases circulating vascular regenerative cell content in people living with type 2 diabetes	American Journal of Physiology - Heart and Circulatory Physiology	327(2)	E2
493	Parker Gregg, L., Richardson, P. A., Nambi, V., Petersen, L. A., Matheny, M. E., Virani, S. S. and Navaneethan, S. D.	2025	Sodium-Glucose Cotransporter-2 Inhibitor and Glucagon-Like Peptide-1 Receptor Agonist Discontinuation in Patients with CKD	Journal of the American Society of Nephrology	36(1)	E2
497	Patil, T., Cook, M., Hobson, J., Kaur, A. and Lee, A.	2023	Evaluating the Safety of Sodium-Glucose Cotransporter-2 Inhibitors in a Nationwide Veterans Health Administration Observational Cohort Study	American Journal of Cardiology	201(1)	E2
507	Poglajen, G., Frljak, S., Zemljic, G., Cerar, A., Knezevic, I. and Vrtovec, B.	2024	Safety and Efficacy of Semaglutide Therapy in Advanced Heart Failure Patients Awaiting Heart Transplantation	Journal of Heart and Lung Transplantation	43(supplement 4)	E2
524	Rampersad, C., Kraut, E., Whitlock, R. H., Komenda, P., Woo, V., Rigatto, C. and Tangri, N.	2020	Acute Kidney Injury Events in Patients With Type 2 Diabetes Using SGLT2 Inhibitors Versus Other Glucose-Lowering Drugs: A Retrospective Cohort Study	American Journal of Kidney Diseases	76(4)	E2
528	Remala, S., Liang, L., Shah, A. and Buckley, L.	2024	Genetic Mimics of GLP- 1Ra and SGLT2i Therapy, Heart Failure and Chronic Kidney Disease Outcomes	Circulation. Conference: American Heart Association's	150(supplement 1)	E2
535	Rodriguez-Miguel, A., Fernandez-Fernandez, B., Ortiz, A., Gil, M., Rodriguez-Martin, S., Ruiz-Hurtado, G.,	2024	Glucose-Lowering Drugs and Primary Prevention of Chronic Kidney Disease in Type 2 Diabetes Patients: A	Pharmaceuticals	17(10)	E2

Record ID	Authors	Year	Title	Journal	Volume(Issue)	Reason for Exclusion
	Fernandez-Anton, E., Ruilope, L. M. and de Abajo, F. J.		Real-World Primary Care Study			
553	Sabouret, P., Bocchino, P. P., Angelini, F., D'Ascenzo, F., Galati, G., Fysekidis, M., de Ferrari, G. M., Fischman, D. L., Bhatt, D. L. and Biondi-Zoccai, G.	2023	Comparing benefits from sodium-glucose cotransporter-2 inhibitors and glucagon-like peptide-1 receptor agonists in randomized clinical trials: a network meta-analysis	Minerva Cardiology and Angiology	71(2)	E2
562	Sarwal, A., Wei, G., Singh, R., Hartsell, S. E., Bress, A., Derington, C. G., Boucher, R. E., Nevers, M. R., Katkam, N., Takyi, A., Chakravartula, A. R., Shen, J., Greene, T. and Beddhu, S.	2024	Insulin Glargine Compared with Glucagon-Like Peptide 1 Receptor Agonists (GLP-1 RAs) or SGLT2 Inhibitors Is Associated with Higher Risk of Alzheimer Disease and Alzheimer Disease-Related Dementias (AD/ADRD) in CKD	Journal of the American Society of Nephrology	Conference: Kidney Week 2024. San Diego, CA United States. 35	E2
571	Scheen, A. J.	2018	Cardiovascular outcome studies in type 2 diabetes: Comparison between SGLT2 inhibitors and GLP-1 receptor agonists	Diabetes Research and Clinical Practice	143(1)	E2
601	Sharma, A., Mariam, A., Zacherle, E., Milinovich, A., Bauman, J., Sugano, D. S., Noone, J., Rajpura, J. R., Zimmerman, R. S., Burguera, B., Kattan, M. W., Misra-Hebert, A. D., Pantalone, K. M. and Rotroff, D. M.	2024	Elucidating the role of weight loss and glycaemic control in patients with type 2 diabetes	Diabetes, Obesity and Metabolism	26(11)	E2
603	Shi, Q., Nong, K., Vandvik, P. O., Guyatt, G. H., Schnell, O., Ryden, L., Marx, N., Brosius, F. C., Mustafa,	2023	Benefits and harms of drug treatment for type 2 diabetes: systematic review and network meta-analysis	Bmj	NA	E2

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	R. A., Agarwal, A., Zou, X., Mao, Y., Asadollahifar, A., Chowdhury, S. R., Zhai, C., Gupta, S., Gao, Y., Lima, J. P., Numata, K., Qiao, Z., Fan, Q., Jin, Y., Ge, L., Yang, Q., Zhu, H., Yang, F., Chen, Z., Lu, X., He, S., Chen, X., Lyu, X., An, X., Chen, Y., Hao, Q., Standl, E., Siemieniuk, R., Agoritsas, T., Tian, H. and Li, S.		of randomised controlled trials			
616	Sohn, M., Nam, S., Nauck, M. A. and Lim, S.	2024	Long-term comparison of renal and metabolic outcomes after sodium-glucose co-transporter 2 inhibitor or glucagon-like peptide-1 receptor agonist therapy in type 2 diabetes	BMC Medicine	22(1)	E2
639	Tang, H., Zhang, B., Donahoo, W. T., Singh Ospina, N., Kotecha, P., Lu, Y., Tong, J., Smith, S. M., Rosenberg, E. I., Kimmel, S. E., Bian, J., Guo, J. and Chen, Y.	2025	Assessing the benefit-risk profile of newer glucose-lowering drugs: A systematic review and network meta-analysis of randomized outcome trials	Diabetes, Obesity and Metabolism	27(3)	E2
643	Taylor, O. M. and Lam, C.	2020	The Effect of Dipeptidyl Peptidase-4 Inhibitors on Macrovascular and Microvascular Complications of Diabetes Mellitus: A Systematic Review	Current Therapeutic Research - Clinical and Experimental	93(1)	E2
659	Tsapas, A., Avgerinos, I., Karagiannis, T., Malandris, K., Manolopoulos, A., Andreadis, P., Liakos,	2020	Comparative effectiveness of glucose-lowering drugs for type 2 diabetes: A systematic review and network meta-analysis	Annals of Internal Medicine	173(4)	E2

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	A., Matthews, D. R. and Bekiari, E.					
670	van der Aart-van der Beek, A. B., Apperloo, E., Jongs, N., Rouw, D. B., Sjostrom, C. D., Friedli, I., Johansson, L., van Raalte, D. H., Hoogenberg, K. and Heerspink, H. J. L.	2023	Albuminuria-lowering effect of dapagliflozin, exenatide, and their combination in patients with type 2 diabetes: A randomized cross-over clinical study	Diabetes, Obesity and Metabolism	25(6)	E2
672	Vashisht, R., Patel, A., Dahm, L., Han, C., Medders, K. E., Mowers, R., Byington, C. L., Koliwad, S. K. and Butte, A. J.	2023	Second-Line Pharmaceutical Treatments for Patients with Type 2 Diabetes	JAMA Network Open	6(10)	E2
677	Vozza, A., Volpe, S., Custodero, C., Colaianni, V., Lavarra, V., Triggiani, D., Crudele, L., Bergamasco, A., Antonica, G., Tortorella, C. and Piazzolla, G.	2025	Glucagon-Like Peptide 1 Receptor Agonists and Sodium-Glucose Cotransporter 2 Inhibitors Improve Renal Resistive Index in Patients With Type 2 Diabetes: A 26-Week Prospective Observational Real-Life Study	Journal of Diabetes Research	2025(1)	E2
697	Xie, Y., Bowe, B., Gibson, A. K., McGill, J. B., Maddukuri, G., Yan, Y. and Al-Aly, Z.	2020	Comparative effectiveness of sglt2 inhibitors, glp-1 receptor agonists, dpp-4 inhibitors, and sulfonylureas on risk of kidney outcomes: Emulation of a target trial using health care databases	Diabetes Care	43(11)	E2
698	Xie, Y., Bowe, B., Gibson, A. K., McGill, J. B., Yan, Y., Maddukuri, G. and Al-Aly, Z.	2020	Comparative effectiveness of the sodium-glucose cotransporter 2 inhibitor empagliflozin versus other antihyperglycemics on risk of major adverse kidney events	Diabetes Care	43(11)	E2

Record ID	Authors	Year	Title	Journal	Volume(Issue)	Reason for Exclusion
704	Yan, C., Thijs, L., Cao, Y., Trenson, S., Zhang, Z. Y., Janssens, S., Staessen, J. A. and Feng, Y. M.	2020	Opportunities of Antidiabetic Drugs in Cardiovascular Medicine: A Meta-Analysis and Perspectives for Trial Design	Hypertension	76(2)	E2
717	Yost, K. K., Ali, Q., Ghai, M. B., Aboona, M., Gomez, P., Rangan, P., Nathan, R., Wong, M., Wijarnpreecha, K., Rubin, M. I. N., Fallon, M. and Han, M. A. T.	2023	Glucagon-Like Peptide-1 Receptor Agonists and Sodium-Glucose Cotransporter-2 Inhibitors Effect on New Onset Postliver Transplant Major Adverse Cardiovascular Events	Hepatology	78(supplement 1)	E2
721	Yugueros Gonzalez, A., Kanter, J., Sancho, A., Gavela, E., Sola, E., Avila, A. and Pallardo, L. M.	2021	Institutional Experience With New Antidiabetic Drugs in Kidney Transplant	Transplantation Proceedings	53(9)	E2
725	Zareini, B., Gerds, T. A., Sorensen, K. K., Clemmensen, K. K. B., Kvist, K., David, J. P. and Torp-Pedersen, C.	2023	Benefit of Dual Therapy with GLP-1 RA and SGLT2i on Renal Outcomes in Type 2 Diabetes	Diabetes. Conference: 83rd Scientific Sessions of the American Diabetes Association, ADA	72(supplement 1)	E2
727	Zelniker, T. A., Wiviott, S. D., Raz, I., Im, K., Goodrich, E. L., Furtado, R. H. M., Bonaca, M. P., Mosenzon, O., Kato, E. T., Cahn, A., Bhatt, D. L., Leiter, L. A., McGuire, D. K., Wilding, J. P. H. and Sabatine, M. S.	2019	Comparison of the effects of glucagon-like peptide receptor agonists and sodium-glucose cotransporter 2 inhibitors for prevention of major adverse cardiovascular and renal outcomes in type 2 diabetes mellitus: Systematic review and meta-analysis of cardiovascular outcomes trials	Circulation	139(17)	E2
17	Agarwal, R., Green, J. B., Heerspink, H. J. L., Mann, J. F. E., McGill, J. B., Mottl, A. K.,	2025	COmbinatioN effect of FInerenone anD EmpagliflOziN in participants with chronic kidney disease	Nephrology, dialysis, transplantation : official publication of the European Dialysis	7	E4

Record ID	Authors	Year	Title	Journal	Volume(Issue)	Reason for Exclusion
	Rosenstock, J., Rossing, P., Vaduganathan, M., Brinker, M., Edfors, R., Li, N., Scheerer, M. F., Scott, C. and Nangaku, M.		and type 2 diabetes using a UACR Endpoint (CONFIDENCE) trial: Baseline clinical characteristics	and Transplant Association European Renal Association.		
93	Brockmeyer, M., Parco, C., Vargas, K. G., Westenfeld, R., Jung, C., Kelm, M., Roden, M., Akbulut, C., Schlesinger, S., Wolff, G. and Kuss, O.	2024	Absolute treatment effects of novel antidiabetic drugs on a composite renal outcome: meta-analysis of digitalized individual patient data	Journal of Nephrology	37(2)	E4
122	Chen, X., Zhang, X., Xiang, X., Fang, X. and Feng, S.	2024	Effects of glucagon-like peptide-1 receptor agonists on cardiovascular outcomes in high-risk type 2 diabetes: a systematic review and meta-analysis of randomized controlled trials	Diabetology and Metabolic Syndrome	16(1)	E4
247	Gonzalez Perez, A., Vizcaya, D., Saez, M. E., Lind, M. and Garcia Rodriguez, L. A.	2023	Cardiovascular and renal outcomes among patients with type 2 diabetes using SGLT2 inhibitors added to metformin: a population-based cohort study from the UK	BMJ Open Diabetes Research and Care	11(1)	E4
258	Guja, C., Frias, J. P., Suchower, L., Hardy, E., Marr, G., Sjostrom, C. D. and Jabbour, S. A.	2020	Safety and Efficacy of Exenatide Once Weekly in Participants with Type 2 Diabetes and Stage 2/3 Chronic Kidney Disease	Diabetes Therapy	11(7)	E4
331	Khiali, S., Taban-Sadeghi, M., Sarbakhsh, P., Khezerlouy-Aghdam, N., Rezagholizadeh, A., Asham, H. and Entezari-Maleki, T.	2023	SGLT2 Inhibitors' Cardiovascular Benefits in Individuals Without Diabetes, Heart Failure, and/or Chronic Kidney Disease: A Systematic Review	Journal of Clinical Pharmacology	63(12)	E4

Record ID	Authors	Year	Title	Journal	Volume(Issue)	Reason for Exclusion
335	Kitaoka, K., Yano, Y., Nagasu, H., Kanegae, H., Chishima, N., Akiyama, H., Tamura, K. and Kashihara, N.	2024	Kidney outcomes of SGLT2 inhibitors among older patients with diabetic kidney disease in real-world clinical practice: The Japan Chronic Kidney Disease Database Ex	BMJ Open Diabetes Research and Care	12(3)	E4
410	Martin, W. P., Bauer, J., Coleman, J., Dellatorre-Teixeira, L., Reeve, J. L. V., Twomey, P. J., Docherty, N. G., O'Riordan, A., Watson, A. J., le Roux, C. W. and Holian, J.	2020	Obesity is common in chronic kidney disease and associates with greater antihypertensive usage and proteinuria: evidence from a cross-sectional study in a tertiary nephrology centre	Clinical Obesity	10(6)	E4
424	McGuire, D. K., Busui, R. P., Deanfield, J., Inzucchi, S. E., Mann, J. F. E., Marx, N., Mulvagh, S. L., Poulter, N., Engelmann, M. D. M., Hovingh, G. K., Ripa, M. S., Gislum, M., Brown-Frandsen, K. and Buse, J. B.	2023	Effects of oral semaglutide on cardiovascular outcomes in individuals with type 2 diabetes and established atherosclerotic cardiovascular disease and/or chronic kidney disease: Design and baseline characteristics of SOUL, a randomized trial	Diabetes, Obesity and Metabolism	25(7)	E4
427	Mendonca, L., Moura, H., Chaves, P. C., Neves, J. S. and Ferreira, J. P.	2025	The Impact of Glucagon-Like Peptide-1 Receptor Agonists on Kidney Outcomes A Meta-Analysis of Randomized Placebo-Controlled Trials	Clinical Journal of the American Society of Nephrology	20(2)	E4
508	Pollock, C., Sanchez, J. J. G., Carrero, J. J., Kumar, S., Pecoits-Filho, R., Lam, C. S. P., Chen, H., Kanda, E., Lainscak, M. and Wheeler, D. C.	2024	Glucose-lowering treatment pathways of individuals with chronic kidney disease and type 2 diabetes according to the Kidney Disease: Improving Global Outcomes 2012 risk classification	Diabetic Medicine	41(2)	E4
567	Schechter, M., Melzer Cohen, C., Fishkin, A.,	2023	Kidney function loss and albuminuria progression	Cardiovascular Diabetology	22(1)	E4

Record ID	Authors	Year	Title	Journal	Volume(Issue)	Reason for Exclusion
	Rozenberg, A., Yanuv, I., Sehtman-Shachar, D. R., Chodick, G., Clark, A., Abrahamsen, T. J., Lawson, J., Karasik, A. and Mosenzon, O.		with GLP-1 receptor agonists versus basal insulin in patients with type 2 diabetes: real-world evidence			
617	Spasovski, G., Rroji, M., Hristov, G., Bushljetikj, O., Spahia, N. and Rambabova Bushletikj, I.	2024	A New Hope on the Horizon for Kidney and Cardiovascular Protection with SGLT2 Inhibitors, GLP-1 Receptor Agonists, and Mineralocorticoid Receptor Antagonists in Type 2 Diabetic and Chronic Kidney Disease Patients	Metabolic Syndrome and Related Disorders	22(3)	E4
633	Takahashi, K., Nakamura, A., Furusawa, S., Yokozeki, K., Sugawara, H., Yanagisawa, H., Akikawa, K. and Kikuchi, H.	2020	Initial dip predicts renal protective effects after the administration of sodium-glucose cotransporter 2 inhibitors in patients with type 2 diabetes and chronic kidney disease with normoalbuminuria	Journal of Clinical and Translational Endocrinology	22(1)	E4
673	Venda, J., Dos Santos Henriques, A., Monsanto, A., Pompermayer, M., Leal, R. and Alves, R.	2024	The impact of GLP-1 receptor agonists on metabolic control and diabetic kidney disease progression	Nephrology Dialysis Transplantation	39(supplement 1)	E4
2	CT.gov	2022	PREvention of CardIovascular and DiabEtic kidNey Disease in Type 2 Diabetes		NA	E5
5	CT.gov	2023	Feasibility of Aggressive Albuminuria Reduction in Biopsy-Proven Diabetic Nephropathy - A Pilot Study		NA	E5
11	Aboukaoud, M., Morhi, Y. and Osher, E.	2025	Sodium-Glucose Co-Transporter 2 Inhibitors and Severe Urinary Tract Infections: Real-World Meta-Analysis of Cohort Studies	Annals of Pharmacotherapy	NA	E5

Record ID	Authors	Year	Title	Journal	Volume(Issue)	Reason for Exclusion
20	Aguilar Bolona, C. E. and Winkelmayer, W. C.	2024	In advanced CKD, ACEis or ARBs reduce kidney failure vs. placebo or non-RAAS inhibitors at 34 mo	Annals of Internal Medicine	177(10)	E5
31	Ali, S., Ramsey, D., Crowley, S., Navaneethan, S. and Gregg, L. P.	2024	Factors Associated with Sodium-Glucose Co-Transporter 2 Inhibitors (Sglt2i) and Glucagon-Like Peptide-1 Receptor Agonists (Glp-1 Ra) Prescriptions among Women Veterans	American Journal of Kidney Diseases	83(4 supplement 2)	E5
36	Ammar, A., Edwin, S. B., Whitney, R., Lipari, M. and Giuliano, C.	2025	Updates in chronic kidney disease management: A systematic review	Pharmacotherapy.	NA	E5
37	Amornritvanich, P., Anothaisintawee, T., Attia, J., McKay, G. J. and Thakkinstian, A.	2025	Efficacy of Mineralocorticoid Receptor Antagonists on Kidney and Cardiovascular Outcomes in Patients With Chronic Kidney Disease: An Umbrella Review	Kidney Medicine	7(2)	E5
40	Anonymous	2021	Comparative Effectiveness and Safety of Four Second Line Pharmacological Strategies in Type 2 Diabetes Study	clinicaltrials.gov.	22	E5
99	Busch, M., Lehmann, T., Wolf, G., Gunster, C., Muller, U. A. and Muller, N.	2021	Antidiabetic Therapy and Rate of Severe Hypoglycaemia in Patients with Type 2 Diabetes and Chronic Kidney Disease of Different Stages - A Follow-up Analysis of Health Insurance Data from Germany	Experimental and Clinical Endocrinology and Diabetes	129(11)	E5
138	Chu, L., Fuller, M., Jervis, K., Ciaccia, A. and Abitbol, A.	2021	Prevalence of Chronic Kidney Disease in Type 2 Diabetes: The Canadian REgistry of Chronic Kidney Disease in Diabetes Outcomes (CREDO) Study	Clinical Therapeutics	43(9)	E5

Record ID	Authors	Year	Title	Journal	Volume(Issue)	Reason for Exclusion
147	Colling, C., Atlas, S. J. and Wexler, D. J.	2021	Application of 2021 American Diabetes Association Glycemic Treatment Clinical Practice Recommendations in Primary Care	Diabetes Care	44(6)	E5
174	Dharani, B., Sebastian, S., Nazrin, S. and Suba, A.	2025	Preventing Diabetic Kidney Disease: A Systematic Review of Current Pharmacological Approaches	International Journal of Applied Pharmaceutics	17(1)	E5
181	Drake, T., Landsteiner, A., Langsetmo, L., MacDonald, R., Anthony, M., Kalinowski, C., Ullman, K., Billington, C. J., Kaka, A., Sultan, S. and Wilt, T. J.	2024	Newer Pharmacologic Treatments in Adults With Type 2 Diabetes: A Systematic Review and Network Meta-analysis for the American College of Physicians	Annals of Internal Medicine	177(5)	E5
189	Eissing, T., Goulooze, S. C., van den Berg, P., van Noort, M., Ruppert, M., Snelder, N., Garmann, D., Lippert, J., Heinig, R., Brinker, M. and Heerspink, H. J. L.	2024	Pharmacokinetics and pharmacodynamics of finerenone in patients with chronic kidney disease and type 2 diabetes: Insights based on FIGARO-DKD and FIDELIO-DKD	Diabetes, Obesity and Metabolism	26(3)	E5
199	Fadini, G. P., Longato, E., Morieri, M. L., Del Prato, S., Avogaro, A., Solini, A., Baldassarre, M., Consoli, A., Morganet, S., Zugaro, A., Baroni, M. G., Andreozzi, F., Gatti, A., De Riu, S., Del Buono, A., Aldigeri, R., Bonadonna, R., Cas, A. D., Vazzana, A., Antonini, M., Moretti,	2024	Long-term benefits of dapagliflozin on renal outcomes of type 2 diabetes under routine care: a comparative effectiveness study on propensity score matched cohorts at low renal risk	The Lancet Regional Health - Europe	38(1)	E5

Record ID	Authors	Year	Title	Journal	Volume(Issue)	Reason for Exclusion
	V., Volsi, P. L., Cesare, M., Zanette, G., Carletti, S., D'Angelo, P., Leto, G., Leonetti, F., D'Onofrio, L., Maddaloni, E., Buzzetti, R., Frontoni, S., Cavallo, G., Morano, S., Filardi, T., Capece, U., Giaccari, A., Bossi, A. C., Meregalli, G., Querci, F., Gaglio, A., Resi, V., Orsi, E., Fazion, S., Franzetti, I. G., Berra, C., Manfrini, S., Garrapa, G., Lucarelli, G., Riccialdelli, L., Tortato, E., Zavattaro, M., Aimaretti, G., Cavalot, F., Beccuti, G., Broglio, F., Fattor, B., Cazzetta, G., Lamacchia, O., Rauseo, A., De Cosmo, S., Cau, R., Ghiani, M., Di Benedetto, A., Di Pino, A., Piro, S., Purrello, F., Frittitta, L., Milluzzo, A. and Russo, G.					
214	Flory, J. H., Guelce, D., Goytia, C., Li, J., Min, J. Y., Mushlin, A., Orloff, J. and Mayer, V.	2023	Prescriber Uncertainty as Opportunity to Improve Care of Type 2 Diabetes with Chronic Kidney Disease: Mixed Methods Study	Journal of General Internal Medicine	38(6)	E5
232	Gembillo, G., Cernaro, V., Giuffrida, A. E., Russo, G., Giandalia, A., Siligato, R.,	2022	Gender differences in new hypoglycemic drug effects on renal outcomes: a systematic review	Expert Review of Clinical Pharmacology	15(3)	E5

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	Longhitano, E. and Santoro, D.					
236	Gerstein, H. C., Branch, K., Heenan, L., Del Prato, S., Khurmi, N. S., Lam, C. S. P., Pratley, R., Rosenstock, J. and Sattar, N.	2021	Design and baseline characteristics of the AMPLITUDE-O cardiovascular outcomes trial of efpeglenatide, a weekly glucagon-like peptide-1 receptor agonist	Diabetes, Obesity and Metabolism	23(2)	E5
237	Ghosal, S.	2023	A Network Meta-Analysis Comparing Intensive Glycemic Control and Sglt-2 Inhibitors in Preventing Renal Outcomes	Nephrology Dialysis Transplantation	38(supplement 1)	E5
238	Ghosal, S. and Sinha, B.	2023	Assessing the Effects of Modern Renoprotective Agents in Preventing Progression of Renal Composite Outcomes in Patients with Type 2 Diabetes: A Network Meta-analysis	Diabetes Therapy	14(2)	E5
253	Gracen, L., Muthukumara, W., Aikebuse, M., Russell, A., O'Beirne, J., Irvine, K. M., Williams, S., Puri, G., Valery, P. C., Hayward, K. L. and Powell, E. E.	2023	Lower prevalence of elevated liver stiffness measurements in people with type 2 diabetes taking sodium-glucose co-transporter 2 inhibitors or glucagon-like peptide-1 receptor agonists	Annals of Hepatology	28(6)	E5
263	Habte-Asres, H. H., Rosenthal, M., Nitsch, D. and Wheeler, D. C.	2025	Closing the policy gap in diabetes care for individuals with advanced CKD	Diabetic Medicine	42(2)	E5
267	Hao, R., Myroniuk, T., McGuckin, T., Manca, D., Campbell-Scherer, D., Lau, D. and Yeung, R. O.	2022	Underuse of cardiorenal protective agents in high-risk diabetes patients in primary care: a cross-sectional study	BMC Primary Care	23(1)	E5
275	Heerspink, H. J. L., Sattar, N., Pavo, I.,	2022	Effects of tirzepatide versus insulin glargine on kidney	The Lancet Diabetes and Endocrinology	10(11)	E5

Record ID	Authors	Year	Title	Journal	Volume(Issue)	Reason for Exclusion
	Haupt, A., Duffin, K. L., Yang, Z., Wiese, R. J., Tuttle, K. R. and Cherney, D. Z. I.		outcomes in type 2 diabetes in the SURPASS-4 trial: post-hoc analysis of an open-label, randomised, phase 3 trial			
282	Hosli, P. S., Renstrom, F., Laimer, M., Cavelti-Weder, C., Gastaldi, G., Lehmann, R. and Brandle, M.	2024	Assessing the use of sodium-glucose cotransporter 2 inhibitor in patients with type 2 diabetes mellitus and chronic kidney disease in tertiary care: A SwissDiab Study	BMJ Open Diabetes Research and Care	12(3)	E5
306	Jhamb, M., Weltman, M. R., Yabes, J. G., Kamat, S., Devaraj, S. M., Fischer, G. S., Rollman, B. L., Nolin, T. D. and Abdel-Kader, K.	2023	Electronic health record based population health management to optimize care in CKD: Design of the Kidney Coordinated HeAlth Management Partnership (K-CHAMP) trial	Contemporary Clinical Trials	131(1)	E5
309	Jong, G. P., Lin, T. K., Liao, P. L., Huang, J. Y., Yang, T. Y. and Pan, L. F.	2024	Risk of New-onset Stroke in Patients with Type 2 Diabetes with Chronic Kidney Disease on Sodium-glucose Co-transporter-2 Inhibitor Users	Translational Stroke Research	15(6)	E5
327	Khan, H. K., Ashfaq, Z., Jamil, H., Yaqoob, H., Anthony, N., Dilawar, R., Ahmad, B., Nabi, S., Rania, S. A., Saleem, F., Gerges, M. and Mikhael, D. M.	2025	Comparative Cardiovascular and Renal Outcomes of Sodium-Glucose Cotransporter-2 Inhibitors and Glucagon-Like Peptide-1 Receptor Agonists in Type 2 Diabetes: A Systematic Review	Cureus	17(3)	E5
340	Kobayashi, K., Toyoda, M., Hatori, N., Sato, K., Miyakawa, M., Tamura, K. and Kanamori, A.	2021	The Comparison of the Kidney Effects of Dipeptidyl Peptidase 4 Inhibitors and Glucagon-Like Peptide 1 Agonist-Administered Concomitant with Sodium-	Journal of Diabetes Research	2021(1)	E5

Record ID	Authors	Year	Title	Journal	Volume(Issue)	Reason for Exclusion
			Glucose Cotransporter 2 Inhibitors in Japanese Patients with Type 2 Diabetes Mellitus and Chronic Kidney Disease			
341	Kobayashi, K., Toyoda, M., Kimura, M., Hatori, N., Furuki, T., Sakai, H., Takihata, M., Umezono, T., Ito, S., Suzuki, D., Takeda, H., Kanamori, A., Degawa, H., Yamamoto, H., Machimura, H., Mokubo, A., Chin, K., Obana, M., Hishiki, T., Aoyama, K., Nakajima, S., Umezawa, S., Shimura, H., Aoyama, T., Sato, K. and Miyakawa, M.	2019	Retrospective analysis of effects of sodium-glucose co-transporter 2 inhibitor in Japanese type 2 diabetes mellitus patients with chronic kidney disease	Diabetes and Vascular Disease Research	16(1)	E5
348	Krishnan, A., Schneider, C. V., Mukherjee, D., Woreta, T. A. and Alqahtani, S. A.	2025	Adverse Liver and Renal Outcomes After Initiating SGLT-2i and GLP-1RA Therapy Among Patients With Diabetes and MASLD	Journal of Diabetes	17(4)	E5
362	Lee, Y. C., Dong, Y. H., Yang, W. S., Wu, L. C., Lin, J. W. and Chang, C. H.	2022	Risk of major adverse limb events in patients with type 2 diabetes mellitus receiving sodium glucose cotransporter 2 inhibitors and glucagon-like peptide-1 receptor agonists: A population-based retrospective cohort study	Frontiers in Pharmacology	13(1)	E5
377	Lin, D. S. H., Lee, J. K., Hung, C. S. and Chen, W. J.	2021	The efficacy and safety of novel classes of glucose-lowering drugs for cardiovascular outcomes: a	Diabetologia	64(12)	E5

Record ID	Authors	Year	Title	Journal	Volume(Issue)	Reason for Exclusion
			network meta-analysis of randomised clinical trials			
379	Lin, Y. M., Wu, J. Y., Lee, M. C., Su, C. L., Toh, H. S., Chang, W. T., Chen, S. Y., Kuo, F. H., Tang, H. J. and Liao, C. T.	2025	Comparative cardiovascular effectiveness of glucagon-like peptide-1 receptor agonists and sodium-glucose cotransporter-2 inhibitors in atherosclerotic cardiovascular disease phenotypes: a systematic review and meta-analysis	European Heart Journal - Cardiovascular Pharmacotherapy	11(2)	E5
380	Liu, G., Zhong, X., Zheng, J., Zhang, J., Kong, W., Hu, X., Min, J., Xia, W., Zeng, T. and Chen, L.	2023	Comparative Efficacy of Novel Antidiabetic Drugs on Albuminuria Outcomes in Type 2 Diabetes: A Systematic Review	Diabetes Therapy	14(5)	E5
407	Mao, X., Zhang, X., Kam, L., Chien, N., Lai, R., Cheung, K. S., Yuen, M. F., Cheung, R., Seto, W. K. and Nguyen, M. H.	2024	Synergistic association of sodium-glucose cotransporter-2 inhibitor and metformin on liver and non-liver complications in patients with type 2 diabetes mellitus and metabolic dysfunction-associated steatotic liver disease	Gut	73(12)	E5
408	Marques, P., Mavrakanas, T. A., Guida, J., Gedeon, T., Emami, A., Alaamiri, A., Ho, D., Possik, E., Zhang, G., Tsoukas, M. A. and Sharma, A.	2024	Utilizing synchronous care to improve cardiovascular and renal health among patients with type 2 diabetes: Proof-of-concept results from the DECIDE-CV clinical programme	Diabetes, Obesity & Metabolism	26(8)	E5
430	Meyhofer, S., Eckert, A. J., Hummel, M., Laimer, M., Roden, M., Kress, S., Seufert, J., Meyhofer, S. M. and Holl, R. W.	2022	Elevated liver enzymes and comorbidities in type 2 diabetes: A multicentre analysis of 51 645 patients from the Diabetes Prospective Follow-up (DPV) database	Diabetes, Obesity and Metabolism	24(4)	E5

Record ID	Authors	Year	Title	Journal	Volume(Issue)	Reason for Exclusion
439	Mohamed, A. J., AlSaffar, A. H., Mohamed, A. A., Khamis, M. H., Khalaf, A. A., AlAradi, H. J., Abuhamaid, A. I., Sanad, A. H., Abbas, H. L., Abdulla, A. M. and Alkhamis, O. A.	2024	Effect of GLP-1 Receptor Agonists on Renal Functions and Diabetic Nephropathy in Type 2 Diabetes Mellitus (T2DM) Patients: A Systematic Review and Meta-Analysis	Cureus	16(10)	E5
443	Mosenzon, O., Capehorn, M. S., De Remigis, A., Rasmussen, S., Weimers, P. and Rosenstock, J.	2022	Impact of semaglutide on high-sensitivity C-reactive protein: exploratory patient-level analyses of SUSTAIN and PIONEER randomized clinical trials	Cardiovascular Diabetology	21(1)	E5
449	Nagasu, H., Yano, Y., Kanegae, H., Heerspink, H. J. L., Nangaku, M., Hirakawa, Y., Sugawara, Y., Nakagawa, N., Tani, Y., Wada, J., Sugiyama, H., Tsuruya, K., Nakano, T., Maruyama, S., Wada, T., Yamagata, K., Narita, I., Tamura, K., Yanagita, M., Terada, Y., Shigematsu, T., Sofue, T., Ito, T., Okada, H., Nakashima, N., Kataoka, H., Ohe, K., Okada, M., Itano, S., Nishiyama, A., Kanda, E., Ueki, K. and Kashihara, N.	2021	Kidney outcomes associated with SGLT2 inhibitors versus other glucose-lowering drugs in real-world clinical practice: the japan chronic kidney disease database	Diabetes Care	44(11)	E5
459	Natale, P., Tunnicliffe, D. J., Toyama, T., Palmer, S. C., Saglimbene, V. M., Ruospo, M., Gargano,	2024	Sodium-glucose co-transporter protein 2 (SGLT2) inhibitors for people with chronic kidney disease and diabetes	Cochrane Database of Systematic Reviews	NA	E5

Record ID	Authors	Year	Title	Journal	Volume(Issue)	Reason for Exclusion
	L., Stallone, G., Gesualdo, L. and Strippoli, F. M. G.					
489	Palmer, S. C., Tendal, B., Mustafa, R. A., Vandvik, P. O., Li, S., Hao, Q., Tunnicliffe, D., Ruospo, M., Natale, P., Saglimbene, V., Nicolucci, A., Johnson, D. W., Tonelli, M., Rossi, M. C., Badve, S. V., Cho, Y., Nadeau-Fredette, A. C., Burke, M., Faruque, L. I., Lloyd, A., Ahmad, N., Liu, Y., Tiv, S., Millard, T., Gagliardi, L., Kolanu, N., Barmanray, R. D., McMorrow, R., Raygoza Cortez, A. K., White, H., Chen, X., Zhou, X., Liu, J., Rodriguez, A. F., Gonzalez-Colmenero, A. D., Wang, Y., Li, L., Sutanto, S., Solis, R. C., Diaz Gonzalez-Colmenero, F., Rodriguez-Gutierrez, R., Walsh, M., Guyatt, G. and Strippoli, G. F. M.	2021	Sodium-glucose cotransporter protein-2 (SGLT-2) inhibitors and glucagon-like peptide-1 (GLP-1) receptor agonists for type 2 diabetes: Systematic review and network meta-analysis of randomised controlled trials	The BMJ	372(1)	E5
498	Patorno, E., Gopalakrishnan, C., Bartels, D. B., Brodovicz, K. G., Liu, J. and Schneeweiss, S.	2018	Preferential prescribing and utilization trends of diabetes medications among patients with renal impairment: Emerging role of linagliptin and other dipeptidyl peptidase 4 inhibitors	Endocrinology, Diabetes and Metabolism	1(1)	E5

Record ID	Authors	Year	Title	Journal	Volume(Issue)	Reason for Exclusion
500	Perera, P., O'Donnabhain, R., Fazio, T., Johnson, D. and Lange, P.	2022	'A Missed Therapeutic Opportunity? SGLT-2 Inhibitor Use in General Medicine Patients With Heart Failure: A Retrospective Audit of Admissions to a Tertiary Health Service'	Clinical Medicine Insights: Cardiology	16(no pagination)	E5
506	Pinto, L. C., Rados, D. V., Remonti, L. R., Viana, L. V., Pulz, G. T., Carpena, M. P., Borges, R. P., Marobin, R., Beretta, M. V., Pedrollo, E. F., Londero, T. M., Machry, R., Janeczko, L., Moehlecke, M., Falcetta, M. R., Bauer, A. C., Silveiro, S. P., Gerchman, F., Rodrigues, T. C., Kramer, C. K., Bertoluci, M. C. and Leitao, C. B.	2020	Patient-centered Management of Type 2 Diabetes Mellitus Based on Specific Clinical Scenarios: Systematic Review, Meta-analysis and Trial Sequential Analysis	Journal of Clinical Endocrinology and Metabolism	105(11)	E5
517	Prazny, M., Suplotova, L., Gumprecht, J., Kamenov, Z., Fulop, T., Medvedchikov, A., Rosenzweig, D. and Aleksandric, M.	2022	Real-world characteristics, modern antidiabetic treatment patterns, and comorbidities of patients with type 2 diabetes in central and Eastern Europe: retrospective cross-sectional and longitudinal evaluations in the CORDIALLY study	Cardiovascular Diabetology	21(1)	E5
521	Qiu, M., Ding, L. L., Wei, X. B., Liu, S. Y. and Zhou, H. R.	2021	Comparative Efficacy of Glucagon-like Peptide 1 Receptor Agonists and Sodium Glucose Cotransporter 2 Inhibitors for Prevention of Major Adverse Cardiovascular	Journal of Cardiovascular Pharmacology	77(1)	E5

Record ID	Authors	Year	Title	Journal	Volume(Issue)	Reason for Exclusion
			Events in Type 2 Diabetes: A Network Meta-analysis			
532	Riley, D. R., Essa, H., Austin, P., Preston, F., Kargbo, I., Ibarburu, G. H., Ghuman, R., Cuthbertson, D. J., Lip, G. Y. H. and Alam, U.	2023	All-cause mortality and cardiovascular outcomes with sodium-glucose Co-transporter 2 inhibitors, glucagon-like peptide-1 receptor agonists and with combination therapy in people with type 2 diabetes	Diabetes, Obesity and Metabolism	25(10)	E5
554	Sacre, J. W., Magliano, D. J. and Shaw, J. E.	2020	Incidence of hospitalization for heart failure relative to major atherosclerotic events in type 2 diabetes: A meta-analysis of cardiovascular outcomes trials	Diabetes Care	43(10)	E5
606	Singh, A. K., Anker, S. D., Pitt, B., Rossing, P., Ruilope, L. M., Ahlers, C., Farag, Y. M., Lambelet, M., Brinker, M. D., Rohwedder, K., Filippatos, G. and Bakris, G. L.	2024	Finerenone in Patients with Type 2 Diabetes and CKD by SGLT2 Inhibitor and Glucagon-Like Peptide 1 Receptor Agonists Receptor Agonist Use: AFIDELITY Analysis	Journal of the American Society of Nephrology	Conference: Kidney Week 2024. San Diego, CA United States. 35	E5
628	Sussman, W., Weeda, E. R. and Johnson, C. E.	2024	Medication Adherence to SGLT2 Inhibitors vs. Glucagon-Like Peptide-1 (GLP-1) Receptor Agonists: A Meta-Analysis	Journal of the American Society of Nephrology	Conference: Kidney Week 2024. San Diego, CA United States. 35	E5
656	Tsai, D. H., Chuang, A. T., Liu, K., Shao, S. and Lai, E. C.	2025	Sodium-glucose cotransporter 2 (SGLT2) inhibitors and risk of chronic kidney disease-mineral and bone disorders in patients with type 2 diabetes mellitus and stage 1-3 chronic kidney disease	Canadian Medical Association Journal. 197(7)	197(7)	E5
675	Vijayan, A., Lanzinger, S., Forestier, N., Hess, G., Rottmann, M.,	2025	Analysis of patient characteristics and safety of insulin glargine U300 use in	Diabetes, Obesity and Metabolism	27(5)	E5

Record ID	Authors	Year	Title	Journal	Volume(Issue)	Reason for Exclusion
	Wosch, F. J., Seufert, J., Holl, R. W. and Bramlage, P.		21 359 patients with type-2 diabetes and chronic kidney disease: DPV registry study			
680	Wallace, H., Wick, J., Ketema, D. B., Neuen, B. L., Jardine, M., Lin, J., Nelson, C. L., Pearson, S., Peiris, D., Woodward, M., Ronksley, P. E., Gallagher, M. P., Kotwal, S. S. and Jun, M.	2024	Use of SGLT2 Inhibitors and Glucagon-Like Peptide 1 (GLP-1) Receptor Agonists in Australian Primary Care Patients with Type 2 Diabetes Mellitus (T2DM) Stratified by CKD Status	Journal of the American Society of Nephrology	Conference: Kidney Week 2024. San Diego, CA United States. 35	E5
688	Wendt, R., Oberander, N., Weimann, A. and Beige, J.	2021	Weight-reduction and changes in renal function in CKD patients participating in a conservative multimodal obesity program	Clinical Nephrology	96(3)	E5
696	Wu, Y., Gao, Y., Guo, X., Zhang, J. and Li, A.	2025	Effectiveness of finerenone in Chinese patients with type 2 diabetes mellitus and chronic kidney disease with microalbuminuria: A retrospective real-world study	Journal of Diabetes Investigation.	NA	E5
712	Yano, Y., Okami, S., Kanegae, H., Oberprieler, N. G., Johannes, C., Yamashita, S., Yoshikawa-Ryan, K., Kovesdy, C. P., Vizcaya, D. and Kashihara, N.	2025	Transitional changes in medication-initiator cohort profiles in persons with chronic kidney disease and type 2 diabetes-A hospital-based cohort study in Japan	Diabetes, obesity & metabolism.	21(1)	E5
735	Zhao, J. Z., Weinhandl, E. D., Carlson, A. M. and St. Peter, W. L.	2022	Hypoglycemia Risk With SGLT2 Inhibitors or Glucagon-Like Peptide 1 Receptor Agonists Versus Sulfonylureas Among Medicare Insured Adults	Kidney Medicine	4(8)	E5

Record ID	Authors	Year	Title	Journal	Volume(Issue)	Reason for Exclusion
			With CKD in the United States			

Footnotes: Exclusion categories are as follows: E1: Irrelevant study design, or text not in English; E2: incorrect study population, not including adults with CKD and T2D and/or obesity; E3: Incorrect treatment, patients are not treated with at least one of SGLT2is or GLP-1 RAs; E4: Incorrect treatment, patients not treated with both an SGLT2i and a GLP-1 RA; E5: Irrelevant outcomes.

Abbreviations: CKD: chronic kidney disease; GLP-1 RA: glucagon-like peptide-1 receptor agonist; SGLT2i: sodium-glucose cotransporter protein 2 inhibitor; T2D: type 2 diabetes.

3. Characteristics of Included Studies and Patient Populations

Meta-Analyses

Characteristics of the 11 included MAs are summarised in **Supplementary Table 6.** Each MA included solely data from RCTs. Most MAs had eligibility criteria that aligned well with the scope of this SLR. However, three included trials covering a broader population (i.e., beyond people with chronic kidney disease (CKD) and type 2 diabetes (T2D) meaning not all of the included RCTs were relevant to this systematic literature review (SLR) but only relevant data were extracted.[6-8] The number of relevant RCTs ranged from 6–38 across the MAs. Location of included RCTs was rarely reported, though two MAs reported a global scope covering multiple continents,[8, 9] and two focused solely on China.[10, 11] Notably, the majority (9/11) of MAs only investigated a broad class effect, i.e., SGLT2is versus GLP-1 RAs. Therefore, for GLP-1 RAs, most meta-analyses did not differentiate between older, daily or twice-daily injectables and newer once-weekly formulations. In particular, they did not distinguish semaglutide – the only GLP-1 RA with a dedicated CKD trial – from other agents.

Patient characteristics for included MAs are summarised in **Supplementary Table 6**. In summary, all 11 MAs reported data for adults with CKD and T2D (either as the whole population or a subset). Patient characteristics within RCTs included in the MAs were generally well-balanced across relevant treatment arms.

Baseline weight and/or BMI (by treatment arm) was reported in 12 primary research studies, with the majority of these studies including patients with average BMI >30 kg/m^2.

90 **Supplementary Table 6. Characteristics of Included Meta-Analyses**

Study Name	Inclusion Criteria for the Meta-analysis (PICOS)	Included Trials of Relevance to the SLR		Meta-Analysis Outcomes
		N	List	
Apperloo 2024[9]	**Population:** Patients with T2D (stratified data reported for patients with CKD + T2D) **Intervention:** SGLT2i with or without GLP-1 RA use at baseline **Comparator:** Placebo **Outcomes:** NR **Study design:** RCTs (identified from SGLT2i Meta-Analyses Cardio-Renal Trialists' Consortium)	10	DAPA-CKD; DAPA-HF; DELIVER; EMPA-KIDNEY; EMPEROR-Preserved; EMPEROR-Reduced; VERTIS-CV; EMPA-REG OUTCOME; SCORED; DECLARE-TIMI 58	♦ **Renal**: CKD progression and rate of change in eGFR over time ♦ **CV**: Major adverse cardiovascular event (MACE: nonfatal MI, nonfatal stroke or CV death) and hospitalisation from heart failure (HHF) or CV death. ♦ **Safety** serious adverse events Did not stratify results by specific treatment
Arshad 2021[6]	**Population:** Patients with T2D (stratified data reported for patients with CKD + T2D) **Intervention:** GLP-1 RA, dipeptidyl peptidase-4 inhibitors (DDP4i), SGLT2i **Comparator:** Placebo **Outcomes:** major adverse CV end points as the primary outcome and available data to allow CKD stratification **Study design:** RCTs	12	ELIXA; EXSCEL; Harmony Outcomes; LEADER; PIONEER 6; SUSTAIN 6; CANVAS; DECLARE-TIMI 58; EMPA-REG OUTCOME; EMPEROR-Reduced; SCORED; VERTIS TRIAL	♦ **CV**: MACE Did not stratify results by specific treatment
Bellos 2025[8]	**Population:** Patients with CKD (stratified data reported for patients with CKD + T2D) **Intervention:** SGLT2i, GLP-1 RA, nsMRA **Comparator:** Placebo **Outcomes:** • Efficacy: occurrence of kidney disease progression (kidney-specific composite endpoint) and MACE (composite endpoint) • Safety: risk of AKI, serious adverse events and drug discontinuation **Study design:** RCTs (identified from network [N]MAs)	38	AMPLITUDE-O; AWARD-7; ELIXA; EXSCEL; FLOW; Harmony Outcomes; LEADER; LIRA-RENAL; PIONEER 5; PIONEER 6; REWIND; SUSTAIN 6; CANVAS; CREDENCE; DAPA-CKD; DAPA-HF; DECLARE-TIMI 58; DELIGHT; DELIVER; DERIVE; EMPA-KIDNEY; EMPA-REG OUTCOME; EMPA-REG RENAL; EMPEROR-Preserved; EMPEROR-Reduced; EMPULSE; JapicCTI-111543; LANTERN; MB102029; NCT01064414; NCT02836873; NCT03436693; SCORED; SOLOIST-WHF; VERTIS CV; VERTIS RENAL	♦ **Renal**: Kidney-specific composite endpoints ♦ **CV**: MACE ♦ **Safety**: Risk of AKI; any serious AE (SAE); any AE leading to discontinuation Did not stratify results by specific treatment

Study Name	Inclusion Criteria for the Meta-analysis (PICOS)	Included Trials of Relevance to the SLR		Meta-Analysis Outcomes
		N	List	
			Pooled analyses: Tuttle 2023 (PIONEER 6 & SUSTAIN 6); Cherney 2016 (NCT01177813/NCT01159600 NCT01210001/EMPA-REG RENAL)	
D'Andrea 2020[7]	**Population:** Patients with T2D (stratified data reported for patients with CKD + T2D) **Intervention:** SGLT2i, GLP-1 RA **Comparator:** Placebo **Outcomes:** Efficacy: MACE as a primary outcome **Study design:** RCTs	10	ELIXA; EXSCEL; HARMONY; LEADER; PIONEER 6; REWIND; SUSTAIN 6; CANVAS; DECLARE 58; EMPA-REG OUTCOME	♦ **CV**: MACE Did not stratify results by specific treatment
Guo 2025[11]	**Population:** Patients with CKD and T2D **Intervention:** SGLT2i, GLP-1 RA, finerenone **Comparator:** Placebo **Outcomes:** NR **Study design:** RCTs	20	CREDENCE; DELIGHT; DERIVE; EMPA-REG OUTCOME; EMPA-REG RENAL; JapicCTI-111543; MB102029; NCT1064414; NCT03446693; SCORED; SOTA-CKD3; VERTIS CV; VERTIS RENAL; EmpaSema; DapKid; UMIN000031454 Pooled analyses: Yamout 2014; Cristian 2020; Tuttle 2022; Cherney 2016	♦ **Renal**: Changes in eGFR from baseline ♦ **Safety**: AEs ♦ **Other**: Changes in HbA1c, low-density lipoprotein (LDL), systolic blood pressure (SBP), diastolic blood pressure (DBP), body weight, from baseline Stratified results by specific treatment
Kamdar 2021[12]	**Population:** Patients with CKD (stratified data reported for patients with CKD + T2D) **Intervention:** SGLT2i, GLP-1 RA, DPP-4 **Comparator:** Placebo **Outcomes:** CV outcomes **Study design:** RCTs	6	HARMONY; LEADER; CREDENCE; DAPA-CKD; EMPEROR-Reduced; SCORED	♦ **Renal:** Changes in eGFR from baseline ♦ **CV**: Composite outcomes including CV death, fatal/non-fatal myocardial infarction (MI); HHF Did not stratify results by specific treatment
Li 2022[10]	**Population:** Patients with T2D with severe CKD **Intervention:** SGLT2i, DDP4is, GLP-1 RAs **Comparator:** Placebo **Outcomes:** Changes in HbA1c levels from baseline, hypoglycaemic events, renal-related AEs (consisting of KRT, AKI, and acute kidney failure), or death **Study design:** RCTs with parallel group design	8	LEADER; LIRA-RENAL; NCT01394341; CANVAS; CREDENCE; DAPA-CKD; EMPA-REG OUTCOME; NCT01164501	♦ **Renal**: serious renal-related AEs or renal death ♦ **Safety**: AEs, all-cause mortality (ACM)

Study Name	Inclusion Criteria for the Meta-analysis (PICOS)	Included Trials of Relevance to the SLR		Meta-Analysis Outcomes
		N	List	
				Did not stratify results by specific treatment
Nguyen 2023[13]	**Population:** Patients with CKD and T2D **Intervention:** SGLT2i, GLP-1 RA, non-steroidal mineralocorticoid receptor agonists (nsMRA) **Comparator:** Placebo **Outcomes:** follow-up of at least 24 weeks to detect potential benefits for CV and renal outcomes. **Study design:** RCTs	26	ELIXA; EXSCEL; FREEDOM CVO; Harmony Outcomes; LEADER; LIRA-RENAL; PIONEER 6; SUSTAIN 6; CANVAS; CREDENCE; DAPA-CKD; DECLARE-TIMI 58; DELIGHT; EMPA-KIDNEY; EMPA-REG OUTCOME; EMPA-REG RENAL; EMPA-REG METSU; JapicCTI-111543; MB102029; NCT01064414; NCT02836873; SCORED; SOTA-CKD4; TA-7284; VERTIS CV Pooled analysis: 2018 (NCT01159600/ NCT01210001/ NCT01177813/ NCT01164501)	♦ **Renal**: Composite renal outcomes ♦ **CV**: MACE, CV death, stroke, myocardial infarction (MI) and HHF ♦ **Safety**: All-cause death, stroke, MI and HHF Did not stratify results by specific treatment
Yamada 2021[14]	**Population:** Patients with T2D and CKD **Intervention:** SGLT2i, GLP-1 RA **Comparator:** Placebo **Outcomes:** • Compared risk of composite renal outcomes (CRO) and MACE and showed incidence of these **Study design:** RCTs	13	ELIXA; EXSCEL; Harmony Outcomes; LEADER; PIONEER 6; REWIND; SUSTAIN 6; CANVAS program; CREDENCE; DECLARE-TIMI 58; EMPA-REG OUTCOME; SCORED; VERTIS CV	♦ **Renal**: Composite of renal outcomes, including ESKD, a decline in kidney function (such as worsening of eGFR or increasing creatinine), albuminuria, and renal or CV death ♦ **CV**: 3-point MACE (MACE-3), including CV death, MI and stroke Did not stratify results by specific treatment
Yang 2023[15]	**Population:** Patients with T2D and CKD **Intervention:** SGLT2i, GLP-1 RA, DPP4i, MRAs, endothelin receptor agonist (ERA), pirfenidone (PFD), pentoxifylline (PTF) **Comparator:** Placebo **Outcomes:** Included studies reported at least one of the following:	12	LEADER; SUSTAIN 6; CREDENCE; DAPA-CKD; EMPA-REG OUTCOME; MB102029; NCT01064414; NCT03436693; SCORED; SOTA-CKD; VERTIS RENAL; UMIN000031454	♦ **Renal**: Composite renal outcomes, annual change in eGFR from baseline (least-squares mean of eGFR decline was best), discontinuation due to adverse events, AKI, percentage change in the UACR from baseline, absolute change in eGFR from baseline, and

Study Name	Inclusion Criteria for the Meta-analysis (PICOS)	Included Trials of Relevance to the SLR		Meta-Analysis Outcomes
		N	List	
	• Renal: CROs, annual change in eGFR from baseline (least-squares mean of eGFR decline was best), discontinuation due to AEs, AKI • CV: MACE including HHF. Additional: percentage change in the UACR from baseline, absolute change in eGFR from baseline, and AEs (including hyperkalaemia, volume depletion, fluid retention, urinary tract infection (UTI) and acute pancreatitis) **Study design:** RCTs			AEs (including hyperkalaemia, volume depletion, fluid retention, UTI, and acute pancreatitis) ♦ **CV**: MACE including, HHF Did not stratify results by specific treatment
Zhang 2022[16]	**Population:** Patients with CKD and T2D **Intervention:** Finerenone, SGLT2i and GLP-1 RA **Comparator:** Placebo **Outcomes:** studies that compared the risk of CV and renal outcomes between treatment and placebo groups **Study design:** RCTs	14	AMPLITUDE-O; EXSCEL; Harmony Outcomes; LEADER; PIONEER 6; REWIND; SUSTAIN 6; CANVAS; CREDENCE; DAPA-CKD; DECLARE-TIMI 58; EMPA-REG; SCORED; VERTIS CV	♦ **Renal**: renal outcomes (no further definition) ♦ **CV**: MACE, HHF, ACM, cardiovascular disease (CVD) Stratified results by specific treatment

Abbreviations: ACM: all-cause mortality; AE: adverse event; AKI: acute kidney injury; CKD: chronic kidney disease; CRO: composite renal outcomes; CV: cardiovascular; CVD: cardiovascular disease; DBP: diastolic blood pressure; DDP4i: dipeptidyl peptidase-4 inhibitors; eGFR: estimated glomerular filtration rate; ERA: endothelin receptor antagonist; ESRD: end stage renal disease; GLP-1 RA: glucagon-like peptide-1 receptor agonists; HbA1c: Hemoglobin A1c; HDL: high-density lipoprotein; HHF: hospitalisation for heart failure; KRT: kidney replacement therapy; LDL: low-density lipoprotein; MA: meta-analysis; MACE: major adverse cardiovascular event; MI: myocardial infarction; MRA: mineralocorticoid receptor antagonist; NMA: network meta-analysis; NR: not reported; nsMRA: mineralocorticoid receptor antagonist; PFD: Pirfenidone; PICOs: population, intervention, comparator and outcome; PTF: Pentoxifylline; RCT: randomised controlled trial; SAEs: serious adverse events; SBP: systolic blood pressure; SGLT2i: sodium-glucose co-transporter 2 inhibitor; SLR: systematic literature review; T2D: type 2 diabetes; UACR: urine albumin-to-creatinine ratio; UTI: urinary tract infection.

Footnote: Interventions assessed in each trial:

Trial	Intervention	Trial	Intervention	Trial	Intervention
AMPLITUDE-O	Efpeglenatide (4/6 mg)	CANVAS	Canagliflozin (100/300 mg)	JapicCTI-111543	Luseogliflozin (2.5/5 mg)
AWARD-7	Dulaglutide (0.75/1.5 mg)	CREDENCE	Canagliflozin (100 mg)	LANTERN	Ipragliflozin (50 mg)
ELIXA	Lixisenatide (20 Î¼g)	DAPA-CKD	Dapagliflozin (10 mg)	MB102029	Dapagliflozin (5/10 mg)
EXSCEL	Exenatide (2 mg)	DAPA-HF	Dapagliflozin (10 mg)	NCT01064414	Canagliflozin (100/300 mg)
FLOW	Semaglutide (1 mg)	DECLARE-TIMI 58	Dapagliflozin (10 mg)	NCT01177813/NCT01159600	Empagliflozin (10/25 mg)
FREEDOM CVO	Exenatide (2 mg)	DELIGHT	Dapagliflozin (10 mg)	NCT02836873	Bexagliflozin (20 mg)
Harmony Outcomes	Albiglutide (30/50 mg)	DELIVER	Dapagliflozin (10 mg)	NCT03436693	Canagliflozin (100 mg)
LEADER	Liraglutide (1.8 mg)	DERIVE	Dapagliflozin (10 mg)	NCT01164501	Empagliflozin
LIRA-RENAL	Liraglutide (1.8 mg)	EMPA-KIDNEY	Empagliflozin (10 mg)	SCORED	Sotagliflozin (200/400 mg)
NCT01394341	Liraglutide	EMPA-REG OUTCOME	Empagliflozin (10/25 mg)	SOLOIST-WHF	Sotagliflozin (200/400 mg)
PIONEER 5	Semaglutide (oral 14 mg)	EMPA-REG RENAL	Empagliflozin (10/25 mg)	SOTA-CKD4	Sotagliflozin (200/400 mg)
PIONEER 6	Semaglutide (oral 14 mg)	EMPA-REG METSU	Empagliflozin (10/25 mg)	TA-7284	Canagliflozin (100 mg)
PIONEER 6; SUSTAIN 6	Semaglutide (oral 14 mg/ sc 1 mg)	EMPEROR-Preserved	Empagliflozin (10 mg)	VERTIS CV	Ertugliflozin (5/15 mg)
REWIND	Dulaglutide (1.5 mg)	EMPEROR-Reduced	Empagliflozin (10 mg)	VERTIS RENAL	Ertugliflozin (5/15 mg)
SUSTAIN 6	Semaglutide (sc 1 mg)	EMPULSE	Empagliflozin (10 mg)		

Primary Research

Characteristics of the 27 included primary research studies are summarised in **Supplementary Table 7**. There were no head-to-head RCTs comparing SGLT2is with GLP-1 RAs for kidney outcomes; available RCT data included subgroup analyses in which one agent was compared to placebo, and a subgroup received the other agent at baseline. The majority of studies were conducted in North America, specifically in the US (10/27) and Canada (1/27),[17] followed by Asia (8/27).[18-25] Other continents were underrepresented, with three studies conducted in Europe,[26-28] and none in Africa, South America, or Australasia. Additionally, four studies were conducted across multiple continents,[29-32] and one study did not specify location.[33]

Supplementary Table 7. Characteristics of Included Primary Research Studies

Name	Study Design	N of Relevance to the SLR	Interventions	Comparator	Primary Outcomes	Secondary Outcomes
North America (N=11)						
North America: US (N=10)						
Chaiyakunapruk 2025[34]	Retrospective cohort	NR	Combination study: ♦ SGLT2i + GLP-1 RA (newer-generation) or GLP-1/GIP agonist (tirzepatide); overlap of ≥120 days ♦ SGLT2i	NR	**CV**: Time to first ischemic stroke; time to first MI event; time to 3- and 5-point MACE **Other**: Change in HbA1c; change in BMI	**Renal**: Change in eGFR
Edmonston 2024[35]	National registry/database	16,111	Direct comparison study: ♦ SGLT2i ♦ GLP-1 RA	NR	**Renal**: Composite kidney outcome of sustained 40% eGFR decline; incident ESRD; or ACM	**Renal:** ESRD **CV**: HHF, either alone or in a composite with ACM; a MACE composite outcome of MI, stroke, or ACM; a MACE composite with the addition of coronary revascularisation **Safety**: AEs including diabetic ketoacidosis (DKA), severe hypoglycaemia, genital mycotic infection, AKI requiring haemodialysis, severe UTI, and urinary tract cancer

Name	Study Design	N of Relevance to the SLR	Interventions	Comparator	Primary Outcomes	Secondary Outcomes
EMPRISE 2024[36]	National registry/database	283,082	Direct comparison study: ♦ Empagliflozin ♦ GLP-1 RA	NR	**CV**: Composite CV outcome of MI or stroke, HHF, MACE; composite CV outcome of CV mortality or HHF	**Safety**: ACM
Fu 2023[37]	National registry/database	57,694	Direct comparison study: ♦ SGLT2i ♦ GLP-1 RA	NR	**Safety**: AEs including DKA, nonvertebral fractures, lower limb amputations, genital infections, hypovolemia, severe hypoglycaemia, AKI, and severe UTI	NR
Hartsell 2024[38]	Retrospective cohort	NR	Direct comparison study: ♦ Insulin glargine ♦ SGLT2i ♦ GLP-1 RA	NR	**Renal**: CKD progression (50% eGFR drop or eGFR <15 sustained over 2 consecutive labs); ACM and renal/ACM composite; ESRD data via USRDS linkage	NR
Htoo 2022[39]	National registry/database	NR	Direct comparison study: ♦ Empagliflozin ♦ Liraglutide ♦ Sitagliptin	NR	**CV**: Modified MACE, defined as a composite of MI, ischemic or haemorrhagic stroke, and ACM; HHF based on HF diagnosis recorded in the first diagnosis field on hospital discharge (HHF specific)	**CV**: Individual components of the modified MACE and HHF diagnosis in any discharge position (HHF broad)
McCormick 2024[40]	Retrospective cohort	14,577	Direct comparison study: ♦ GLP-1 RA ♦ SGLT2i ♦ DPP4 ♦ Thiazolidinedione (TZD)	NR	**CV**: MACE; HHF **Safety**: ACM	NR

Name	Study Design	N of Relevance to the SLR	Interventions	Comparator	Primary Outcomes	Secondary Outcomes
Nawaz 2024[26]	Retrospective cohort	295,798	♦ Direct comparison study: ♦ SGLT2i ♦ GLP-1 RA	SGLT2i non-users for the SGLT2i interventional regimen and GLP-1 RA non-users for the GLP-1 RA interventional regimen	**Safety**: AEs	NR
Paik 2024[41]	National registry/database	716,406	Direct comparison study: ♦ SGLT2i ♦ GLP-1 RA ♦ DDP4i	NR	**Renal**: Nephrolithiasis diagnosed by International Classification of Diseases codes in the inpatient or outpatient setting	**Renal**: Nephrolithiasis
Rhee 2024[42]	National registry/database	36,476	Direct comparison study: ♦ SGLT2i ♦ GLP-1 RA	NR	**CV**: Time to first non-fatal MI or stroke in the two and a half years since medication initiation	NR
North America: Canada (N=1)						
Chu 2024[17]	National registry/database	306	Combination study: ♦ GLP-1 RA with prior SGLT2i use for at least 90 days prior to initiation ♦ Insulin with prior SGLT2i use for at least 90 days prior to initiation	NR	**Renal**: Change from baseline in eGFR; change from baseline in UACR **Other**: Change from baseline in body weight; change from baseline in HbA1c	**Other**: Change from baseline in HbA1c, BP, alanine aminotransferase (ALT), LDL, high-density lipoprotein (HDL), cholesterol, and triglyceride
Asia (N=8)						
Asia: Japan (N=4)						
Kashima 2023[24]	Retrospective cohort	75	Direct comparison study: ♦ SGLT2i ♦ SGLT2i + GLP-1 RA ♦ SGLT2i + alternative SGLT2i	NR	**Renal**: eGFR decline; macroalbuminuria	NR

Name	Study Design	N of Relevance to the SLR	Interventions	Comparator	Primary Outcomes	Secondary Outcomes
RECAP 2024[19]	Retrospective cohort	438	Sequencing study: ♦ GLP-1 RA, with later SGLT2i as add-on ♦ SGLT2i, with later GLP-1 RA as add-on	NR	**Renal**: CRO of progression to macroalbuminuria and/or a ≥50% reduction in eGFR	**Renal**: Individual events of progression to macroalbuminuria or a ≥50% decrease in eGFR; changes in the logarithmic value of albumin-to-creatinine ratio (ACR) (ΔLnACR), annual change in eGFR (annual ΔeGFR) **CV**: Time to first MACE **Other**: Changes in body weight, blood pressure and HbA1c from baseline
Tsuchida 2022[20]	Retrospective cohort	125	Combination study: ♦ Dulaglutide ♦ Non-dulaglutide	NR	**Renal**: eGFR decline for 3 years	**Renal**: Change from baseline in UACR, and eGFR for 3 years **Other**: Change from baseline in HbA1c, body weight
Yang 2024[21]	Prospective cohort	NR	Combination study: ♦ Semaglutide + SGLT2i ♦ SGLT2i	NR	**Other**: Changes in body composition and metabolic profile after 6 months	NR
Asia: Taiwan (N=4)						
Dong 2022[22]	National registry/database	5,770	Direct comparison study: ♦ SGLT2i ♦ GLP-1 RA	NR	**CV**: MI; total stroke	NR
Hsiao 2022[23]	National registry/database	19,312	Direct comparison study: ♦ SGLT2i ♦ GLP-1 RA	NR	**CV**: New-onset atrial fibrillation (AF)	NR
Hu 2024[18]	National registry/database	13,799	Direct comparison study: ♦ SGLT2i ♦ GLP-1 RA	NR	**Safety**: Composite anaemia outcomes of incident anaemia events and initiation of anaemia treatments	**Safety**: Individual components of the primary outcome
Lee 2025[25]	National registry/database	79,047	Direct comparison study: ♦ SGLT2i ♦ GLP-1 RA	NR	**Renal**: Progression to KRT; composite renal outcome of KRT or a 40% decline in eGFR to capture a broader range of clinically significant events	**Safety**: Overall mortality rates
International (N=4)						

Name	Study Design	N of Relevance to the SLR	Interventions	Comparator	Primary Outcomes	Secondary Outcomes
DAPA-CKD 2023[32]	RCT	122	Combination study (when assessing subgroup with GLP-1 RA use at baseline): ♦ Dapagliflozin (10 mg once daily [QD])	Placebo (10 mg QD)	**Renal**: CRO of sustained ≥50% decline in the eGFR, onset of ESRD, or death from a kidney or CV cause	**Renal**: A kidney specific end point defined in the same way as the primary outcome (excluding death from a CV cause, a CV composite end point of CV death or HHF, and ACM)
FLOW 2024[30]	RCT	3,533	Combination study (when assessing subgroup with SGLT2i use at baseline): ♦ Semaglutide (1 mg once weekly [QW] subcutaneously [SQ])	Placebo	**Renal**: CRO of ≥50% reduction in eGFR from baseline sustained for at least 28 days of kidney failure or death due to kidney or CV causes	**Renal**: Rate of loss of kidney function, defined as total eGFR decline (annual rate of change in eGFR) **CV**: Time to first MACE (composite of nonfatal MI, nonfatal stroke or CV death), **Safety**: Death due to any cause
Selvarajah 2024[31]	RCT	247	Combination study (when assessing subgroup with SGLT2i use at baseline): ♦ Cotadutide (100 mcg) ♦ Cotadutide (300 mcg) ♦ Cotadutide (600 mcg) ♦ Semaglutide	Placebo	**Renal**: Absolute/percentage change versus placebo in UACR from baseline to end of Week 14	**Renal**: Change from baseline versus placebo in UACR at week 26 **Other**: Change from baseline to the end of week 14 and week 26 in HbA1c; fasting glucose; time spent in hyperglycaemia (>10 mmol/l), target range (3.9–10 mmol/l), hypoglycaemia (<3.9 mmol/l), and clinically significant hypoglycaemia (<3.0 mmol/l) over 10 days as measured by continuous glucose monitoring; body weight; and proportion of patients achieving at least 5% and at least 10% body weight loss versus placebo from baseline to the end of Week 14 and Week 26

Name	Study Design	N of Relevance to the SLR	Interventions	Comparator	Primary Outcomes	Secondary Outcomes
SOUL 2025[29]	RCT	1,296	Combination study (when assessing subgroup with SGLT2i use at baseline): ♦ Semaglutide (3 mg QD PO 4 weeks, followed by 7 mg QD for 4 weeks and then 14mg QD until the end of trial)	Placebo	**CV**: Time from randomisation to first occurrence of MACE	**Safety**: Time to ACM; single components of the combined primary outcome, as well as changes in HbA1c, BP, body weight, LDL-cholesterol, eGFR, and high-sensitivity C-reactive protein (hsCRP); CV events, as well as selected AEs, were adjudicated by a central adjudication committee who were blinded to treatment assignment
Europe (N=3)						
Europe: Denmark (N=1)						
Juliusdottir 2023[28]	National registry/database	21,708	♦ SGLT2i ♦ GLP-1 RA	NR	**CV outcome**: Out-of-hospital cardiac arrest (OHCA)	NR
Europe: Italy (N=1)						
DARWIN-Renal 2024[43]	Retrospective cohort	5,701	Direct comparison study: ♦ SGLT2i ♦ GLP-1 RA	NR	**Renal outcome**: Change from baseline in eGFR, according to the CKD-EPI equation	**Renal**: Total and chronic eGFR decline; Changes in UACR; new-onset CKD; worsening in CKD class; sustained loss of kidney function; sustained doubling of serum creatinine; ESRD; initiation of dialysis **Other**: change from baseline in HbA1c; body weight and BP
Europe: Netherlands (N=1)						

Name	Study Design	N of Relevance to the SLR	Interventions	Comparator	Primary Outcomes	Secondary Outcomes
DECADE 2023[27]	Prospective cohort	16	Direct comparison study: ♦ Dapagliflozin (10mg QD) ♦ Exenatide (2mg QW) ♦ Dapagliflozin (10 mg QD) + exenatide (2 mg QW)	NR	**Renal outcome**: Percentage change from baseline in UACR	**Renal**: Change from baseline in BP; extracellular volume, fractional lithium excretion; kidney haemodynamic variables as determined by magnetic resonance imaging (MRI) (renal blood flow [RBF], effective renal plasma flow [ERPF], fat fraction [FF]) and correlation in albuminuria response during treatment with dapagliflozin, exenatide and dapagliflozin-exenatide combination **Safety:** AEs and SAEs were reported
Location NR (N=1)						
Rossing 2023[33]	National registry/database	4,130	Direct comparison study: ♦ SGLT2i ♦ GLP-1 RA	NR	**Other outcomes**: Estimates of the 6-month absolute differences and changes in HbA1c and body weight	**Other**: Proportions of patients achieving HbA1c <7.0% (among patients with baseline HbA1c =7%) and a body weight reduction >5%

Abbreviations: ACM: all-cause mortality; ACR: albumin-to-creatinine ratio; AE: adverse event; AF: atrial fibrillation; AKI: acute kidney injury; ALT: alanine aminotransferase; BMI: body mass index; BP: blood pressure; CKD: chronic kidney disease; CRO: composite renal outcomes; CV: cardiovascular; DDP4i: dipeptidyl peptidase-4 inhibitors; DKA: diabetic ketoacidosis; eGFR: estimated glomerular filtration rate; ERPF: effective renal plasma flow; ESRD: end stage renal disease; FF: fat fraction; GIP: glucose-dependent insulinotropic polypeptide; GLP-1 RA: glucagon-like peptide-1 receptor agonists; HbA1c: glycated haemoglobin A1c; HDL: high density lipoprotein; HF: heart failure; HHF: Heart failure hospitalisation; hsCRP: high-sensitivity C-reactive protein; KRT: kidney replacement therapy; LDL: low density lipoprotein; MACE: major adverse cardiovascular event; MAKE: major adverse kidney event; MI: myocardial infarction; MRI: magnetic resonance imaging; NR: not reported; OHCA: out of hospital cardiac arrest; PO: orally; QD: once daily; QW: once weekly; RBF: renal blood flow; RCT: randomised controlled trial; SAEs: serious adverse events; SGLT2i: sodium–glucose cotransporter 2 inhibitor; SLR: systematic literature review; SQ: subcutaneously; T2D: type 2 diabetes; TZD: thiazolidinesdione; UACR: urine albumin-to-creatinine ratio; USRDS: United States Renal Data System; UTI: urinary tract infection.

Detailed patient characteristics from the primary research studies are presented in **Supplementary Table 8**. Generally, studies had balanced baseline characteristics across multiple treatment arms, ensuring differences in study outcomes were attributable to the intervention rather than disparities between groups. The age of participants was reported in 24 studies (mean age: 57.8 [standard deviation (SD): 13.3][19]–72.32 [SD: 7.4][37] years).[17, 19, 20, 22-25, 27-29, 31, 32, 34-37, 40, 42-45] The breakdown of the patient population by sex was reported in 23 studies (proportion of male participants: 40.2–93.9%).[17-20, 22, 23, 25, 27-36, 39-43, 46]

Baseline estimated glomerular filtration rate (eGFR) values were reported in 18 articles and with averages ranging between 42 (SD: 12)[32] and 87.6 mL/min/1.73 m^2 (SD: 32),[23] highlighting the heterogeneity in CKD severity across studies (**Supplementary Table 8**). Lee 2025 reported baseline eGFR in discrete categories including 45–59; 30–44; 15–29 and <15 mL/min/1.73 m^2, the only study to do so.[25] Median UACR ranged from 101.0 mg/g (interquartile range [IQR]: 38.5 to 316.5)[18] to 1069.2 mg/g (IQR: 491.6 to 2304.4),[32] similarly highlighting the wide spectrum of CKD severity, baseline albuminuria and kidney function across included studies.

Weight and/or BMI (by treatment arm) was reported in 13 studies (**Supplementary Table 9**). Mean weight ranged from 79.2 kg (SD: 17.7)[19] to 99.5 kg (SD: 22.97).[34] Mean/median BMI ranged from 27.3–39.9,[20, 35] with the majority of studies including participants with average BMI >30 kg/m^2.

Supplementary Table 8. Characteristics of Patients in Primary Research Studies

Publication Name	Cohort Description	CKD Stage (n [%])	eGFR (mL/min/1.73 m^2)	T2D	Weight (kg)/ BMI	Baseline CV Events*	Comorbidities *	Relevant Background Therapies*
Chaiyakunapruk 2025[34]	Weighted baseline characteristics (SGLT2i + GLP-1 RA) (n=3,822)	♦ II: 2,406 (62.9%) ♦ III: 1,278 (33.4%) ♦ IV: 128 (3.3%) ♦ V: 10 (0.3%)	65.32 (SD: 17.50)	100%	♦ Weight: 93.26 (23.79) ♦ BMI: 32.06 (6.5)	♦ AF: 542 (14.2%) ♦ MI: 376 (9.8%) ♦ Ischaemic stroke: 370 (9.7%) ♦ Peripheral artery disease (PAD): 1,252 (32.8%) ♦ Acute coronary syndrome (ACS): 821 (21.5%) ♦ Arrythmia: 1,226 (32.1%) ♦ Other chronic heart disease (CHD): 1,633 (42.7%)	NR	NR

Publication Name	Cohort Description	CKD Stage (n [%])	eGFR (mL/min/1.73 m²)	T2D	Weight (kg)/ BMI	Baseline CV Events*	Comorbidities *	Relevant Background Therapies*
	Weighted baseline characteristics (SGLT2i) (n=12,578)	♦ II: 8,068 (64.1%) ♦ III: 4,131 (32.8%) ♦ IV: 356 (2.8%) ♦ V: 23 (0.2%)	65.32 (SD: 17.52)	100%	♦ Weight: 92.34 (22.55) ♦ BMI: 31.84 (6.34)	♦ AF: 1838 (14.6%) ♦ MI: 1623 (12.9%) ♦ Ischaemic stroke: 1345 (10.7%) ♦ PAD: 4,193 (33.3%) ♦ ACS: 2,769 (22.0%) ♦ Arrythmia: 4228 (33.6%) ♦ Other CHD: 5419 (43.1%)	NR	NR
Chu 2024[17]	After propensity score matching (PSM) (GLP-1 RA) (n=153)	NR	72.9 (SD: 24.5)	100% Duration 14.6 years	♦ BMI: 28.9 (4.6)	♦ Hypertension: 118 (77.1%)	NR	NR
DAPA-CKD[32]	Dapagliflozin (with 0 glucose-lowering therapies [GLTs]) (n=165)	NR	39.4 (SD: 11.7)	100%	♦ Weight: 81.1 (20.9) ♦ BMI: 29.1 (5.8)	♦ CVD: 65 (39.4%)	NR	NR
	Dapagliflozin (with 1 GLT) (n=702)	NR	42.0 (SD: 12.0)	100%	♦ Weight: 82.2 (20.6) ♦ BMI: 29.9 (6.2)	♦ CVD: 319 (45.4%)	NR	NR
	Dapagliflozin (with 2 GLTs) (n=486)	NR	47.3 (SD: 12.9)	100%	♦ Weight: 84.5 (21.1) ♦ BMI: 30.8 (6.3)	♦ CVD: 213 (43.8%)	NR	NR
	Dapagliflozin (with ≥3 GLTs) (n=92)	NR	49.5 (SD: 10.8)	100%	♦ Weight: 87.2 (21.5) ♦ BMI: 31.3 (5.9)	♦ CVD: 43 (42.2%)	NR	NR
DARWIN-Renal[43]	SGLT2i (Intention-to-treat [ITT] population) (n=5,705)	NR	85.9	100%	♦ Weight: 92.2 ♦ BMI: 32.8	♦ Stroke/transient ischaemic attack (TIA): 67 (1.2%) ♦ HF: 148 (2.6%) ♦ Carotid atherosclerosis: 989 (17.3%) ♦ Ischemic heart disease: 620 (10.9%) ♦ Established CVD: 757 (13.3%)	♦ Pathological albuminuria: 877 (15.4% ♦ Diabetic retinopathy: 718 (12.6%) ♦ Diabetic macular oedema: 95 (1.7%)	NR

Publication Name	Cohort Description	CKD Stage (n [%])	eGFR (mL/min/1.73 m^2)	T2D	Weight (kg)/ BMI	Baseline CV Events*	Comorbidities *	Relevant Background Therapies*
	GLP-1 RA (ITT population) (n=5,705)	NR	85.8	100%	♦ Weight: 92.8 ♦ BMI: 33	♦ Stroke/ TIA: 73 (1.3%) ♦ HF: 137 (2.4%) ♦ Carotid atherosclerosis: 1,095 (19.2%) ♦ Ischemic heart disease: 598 (10.5%) ♦ Established CVD: 743 (13%)	♦ Pathological albuminuria: 889 (15.6% ♦ Diabetic retinopathy: 696 (12.2%) ♦ Diabetic macular oedema: 101 (1.8%)	NR
DECADE[27]	Total population (n=20)	NR	60.4 (SD: 18.8)	100%	♦ BMI: 33.2 (4.3)	♦ CV events: 2 (10%)	NR	NR
Dong 2022[22]	SGLT2i (after PSM) (n=2,885)	NR	NR	100%	NR	♦ MI: 90 (3.12%) ♦ Cerebrovascular disease: 431 (14.94%) ♦ HF: 315 (10.92%) ♦ Ischemic heart disease: 840 (29.12%) ♦ Ischemic stroke: 243 (8.42%) ♦ Haemorrhagic stroke: 47 (1.63%) ♦ Peripheral vascular disease: 133 (4.61%)	NR	NR
	GLP-1 RA (after PSM) (n=2,885)	NR	NR	100%	NR	♦ MI: 88 (3.05%) ♦ Cerebrovascular disease: 426 (14.77%) ♦ HF: 334 (11.58%) ♦ Ischemic heart disease: 829 (28.73%) ♦ Ischemic stroke: 245 (8.49%) ♦ Haemorrhagic stroke: 42 (1.46%) ♦ Peripheral vascular disease: 144 (4.99%)	NR	NR

Publication Name	Cohort Description	CKD Stage (n [%])	eGFR (mL/min/1.73 m²)	T2D	Weight (kg)/ BMI	Baseline CV Events*	Comorbidities *	Relevant Background Therapies*
Edmonston 2024[35]	GLP-1 RA initiators[a] (CKD subgroup; after PSM) (n=47,268)	♦ NR	Mean: 80.6; Median: 81.8; IQR: 65.3–96.5	100%	♦ BMI (mean): 36.1 ♦ BMI (median): 34.9 ♦ BMI (IQR): 30.6 to 40	♦ Coronary artery disease (CAD): 19.2% ♦ HF: 8.5%	NR	NR
	SGLT2i initiators[a] (CKD subgroup; after PSM) (n=35,004)	♦ NR	Mean: 80.6; Median: 81.8; IQR: 65.4–96.3	100%	♦ BMI (mean): 39.9 ♦ BMI (median) 34.7; ♦ BMI (IQR): 30.2 to 40.2	♦ CAD: 19.2% ♦ HF: 8.5%	NR	NR
EMPRISE[36]	GLP-1 RA (after PSM) (n=141,541)	♦ NR	83 (SD: 23.33)	100%	NR	♦ CVD: 46,906 (33.1%) ♦ HF: 11,771: (8.3%)	NR	NR
	Empagliflozin (after PSM) (n= 141,541)	♦ NR	84.5 (SD: 22.31)	100%	NR	♦ CVD: 46,906 (33.1%) ♦ HF: 11,649 (8.2%)	NR	NR
FLOW[30]	Semaglutide (SGLT2i use at baseline) (n=277)	NR	51.7 (SD: 15.5)	100% ♦ T2D duration <15: 128 (46.2%) ♦ >15: 149 (53.8%)	♦ Weight: 91.3 (20.1) ♦ BMI: 32.0 (6.0)	♦ Prior MI or stroke: 59 (21.3%) ♦ HF: 42 (15.2%)	NR	NR
	Semaglutide (no SGLT2i use at baseline) (n=1,490)	NR	46.0 (SD: 15.5)	100% ♦ T2D duration <15: 646 (43.4%) >15: 843 (56.6%)	♦ Weight 89.1 (19.7) ♦ BMI: 31.9 (6.1)	♦ Prior MI or stroke: 346 (23.2%) ♦ HF: 300 (20.1%)	NR	NR

Publication Name	Cohort Description	CKD Stage (n [%])	eGFR (mL/min/1.73 m²)	T2D	Weight (kg)/ BMI	Baseline CV Events*	Comorbidities *	Relevant Background Therapies*
Fu 2024[37]	SGLT2i (after PSM) (n=27,997)	♦ III: 25,011 (89.3%) ♦ IV: 2,986 (10.7%)	45 (SD: 16)	100%	NR	♦ CVD composite[c]: 16,346 (58.4%) ♦ HF: 6,971 (24.9%) ♦ Ischaemic stroke: 4,005 (14.3%) ♦ Peripheral arterial disease: 5,159 (18.4%) ♦ Acute myocardial infarction: 1,187 (4.2%)	♦ Diabetic retinopathy: 5,044 (18.0%) ♦ Hypoglycaemia: 4,941 (17.6%) ♦ Hypertension: 26,949 (96.3%) ♦ Hyperkalaemia: 1,571 (5.6%)	NR
	GLP-1 RA (after PSM) (n=27,997)	♦ III: 24,946 (89.1%) ♦ IV: 3,051 (10.9%)	42 (SD:15)	100%	NR	♦ CVD composite[c]: 16,216 (57.9%) ♦ HF: 6,931 (24.8%) ♦ Ischaemic stroke: 4,004 (14.3%) ♦ Peripheral arterial disease: 5,188 (18.5%) ♦ Acute myocardial infarction: 1,187 (4.2%)	♦ Diabetic retinopathy: 5,033 (18.0%) ♦ Hypoglycaemia: 4,988 (17.8%) ♦ Hypertension: 26,959 (96.3%) ♦ Hyperkalaemia: 1,614 (5.8%)	NR
Hartsell 2024[47]	GLP-1 RA (unweighted) (n=3,799)	NR	48.8 (SD: 8)	100%	NR	NR	NR	NR
	SGLT2i (unweighted) (n=12,996)	NR	51.1 (SD: 6.7)	100%	NR	NR	NR	NR
Hsiao 2022[23]	SGLT2i (After imputation and inverse probability of treatment weighted [IPTW]) (n=NR)	NR	83.9 (SD: 32.8)	100% T2D duration: 6.1	♦ BMI: 28.3 (5.5)	♦ CAD: 22.9% ♦ MI: 6% ♦ HF: 3.4% ♦ Ischemic stroke: 5.8%	NR	NR

Publication Name	Cohort Description	CKD Stage (n [%])	eGFR (mL/min/1.73 m²)	T2D	Weight (kg)/ BMI	Baseline CV Events*	Comorbidities *	Relevant Background Therapies*
	GLP-1 RA (After imputation and IPTW) (n=NR)	NR	87.6 (SD: 32)	100% T2D duration: 6.4	♦ BMI: 28.5 (5.2)	♦ CAD: 20.4% ♦ MI: 4.9% ♦ HF: 3.9% ♦ Ischemic stroke: 4.9%	NR	NR
Htoo 2022[39]	Empagliflozin (after PSM) (n=22,894)	♦ Reported categorically	NR	100%	NR	♦ HF: 3,107 (13.6%) ♦ Acute MI: 584 (2.6%) ♦ Coronary atherosclerosis: 8,031 (35.1%) ♦ Cardiomyopathy: 1,060 (4.6%) ♦ AF: 2,997 (13.1%) ♦ Ischemic stroke: 2,858 (12.5%) ♦ Peripheral arterial disease: 3,219 (14.1%)	♦ Nephropathy: 3,945 (17.2%) ♦ Retinopathy: 3,374 (14.7%) ♦ Hypoglycaemia: 2,411 (10.5%) ♦ Hyperglycaemia: 11,331 (49.5%) ♦ Hypertension: 21,044 (91.9%) ♦ Proteinuria: 1,461 (6.4%)	Concurrent GLP-1 RA: 5,432 (23.7%)
	Liraglutide (after PSM) (n=22,894)	♦ Reported categorically	NR	100%	NR	♦ HF: 3,052 (13.3%) ♦ Acute MI: 612 (2.7%) ♦ Coronary atherosclerosis: 8,038 (35.1%) ♦ Cardiomyopathy: 1,047 (4.6%) ♦ AF: 3001 (13.1%) ♦ Ischemic stroke: 2,847 (12.4%) ♦ Peripheral arterial disease: 3,210 (14%)	♦ Nephropathy: 3,993 (17.4%) ♦ Retinopathy: 3,326 (14.5%) ♦ Hypoglycaemia: 2,363 (10.3%) ♦ Hyperglycaemia: 11,263 (49.2%) ♦ Hypertension: 21,075 (92.1%) ♦ Proteinuria: 1,460 (6.4%)	Concurrent GLP-1 RA: 5,445 (23.8%)

Publication Name	Cohort Description	CKD Stage (n [%])	eGFR (mL/min/1.73 m^2)	T2D	Weight (kg)/ BMI	Baseline CV Events*	Comorbidities *	Relevant Background Therapies*
Hu 2024[18]	SGLT2i (after PSM) (n=12,331)	NR	69[b] (53–90.7)	100%	• BMI: 27.6 (IQR: 24.9 to 30.8)	• Ischaemic heart disease: 1,330 (10.8%) • HF: 747 (6.1%) • Peripheral arterial disease: 240 (1.9%) • Ischaemic stroke: 756 (6.1%) • AF: 460 (3.7%)	NR	NR
	GLP-1 RA (after PSM) (n=1,468)	NR	69.3 (52.1–90)	100%	• BMI 28 (IQR: 25.2 to 31.6)	• Ischaemic heart disease: 129 (8.8%) • HF: 82 (5.6%) • Peripheral arterial disease: 28 (1.9%) • Ischaemic stroke: 126 (8.6%) • AF: 45 (3.1%)	NR	NR
Juliusdottir 2023[28]	SGLT2i (n=91)	NR	NR	100% T2D duration: 11 years	NR	• Ischaemic heart disease: 37 (40.66%) • HF:27 (29.67%) • AF: 20 (21.98%) • Peripheral artery disease: 13 (14.29%)	NR	NR
	GLP-1 RA (n=246)	NR	NR	100% T2D duration: 12.38 years	NR	• Ischaemic heart disease: 105 (42.68%) • HF: 86 (34.96%) • AF: 76 (30.89%) • Peripheral artery disease: 34 (13.82%)	NR	NR
Kashima 2023[24]	SGLT2i + GLP-1 RA (n=75)	• IIIa: 29 • IIIb: 28 • IV: 18	NR	100% T2D duration 15.4 (±10.1) years	NR	NR	NR	NR

Publication Name	Cohort Description	CKD Stage (n [%])	eGFR (mL/min/1.73 m²)	T2D	Weight (kg)/ BMI	Baseline CV Events*	Comorbidities *	Relevant Background Therapies*
Lee 2025[25]	SGLT2i (after PSM) (n=7,091)	NR	♦ 45–59: 2,633 (37.13%) ♦ 30–44: 2,621 (36.96%) ♦ 15–29: 1,526 (21.52%) ♦ <15: 311 (4.39%)	100%	NR	♦ Ischaemic heart disease: 2,298 (32.41%) ♦ HF: 1,204 (16.98%) ♦ Cerebrovascular disease: 1,390 (19.6%) ♦ Peripheral vascular disease: 424 (5.98%)	NR	NR
	GLP-1 RA (after PSM) (n=7,091)	NR	♦ 45–59: 2,589 (36.51%) ♦ 30 –44: 2,622 (36.98%) ♦ 15–29: 1,554 (21.92%) ♦ <15: 326 (4.6%)	100%	NR	♦ Ischaemic heart disease: 2,259 (31.86%) ♦ HF: 1,216 (17.15%) ♦ Cerebrovascular disease: 1,357 (19.14%) ♦ Peripheral vascular disease: 412 (5.81%)	NR	NR
McCormick 2024[40]	All patients with CKD (n=14,577)	NR	NR	100%	NR	NR	NR	NR
	SGLT2i (n=1608)	NR	NR	NR	NR	NR	NR	NR
	GLP-1 RA (n=674)	NR	NR	NR	NR	NR	NR	NR
Paik 2024[41]	SGLT2i (after PSM) (n=358,203)	♦ Categorical	NR	100%	NR	♦ Hypertension: 281,314 (78.5%) ♦ HF: 28,501 (8.0%) ♦ Hyperlipidemia: 281,913 (78.7%) ♦ CAD: 79,665 (22.2%) ♦ Cerebrovascular disease: 35,642 (10%)	NR	NR

Publication Name	Cohort Description	CKD Stage (n [%])	eGFR (mL/min/1.73 m²)	T2D	Weight (kg)/ BMI	Baseline CV Events*	Comorbidities *	Relevant Background Therapies*
	GLP-1 RA (after PSM) (n=358,203)	♦ Categorical	NR	100%	NR	♦ Hypertension: 281,286 (78.5%) ♦ HF: 26,994 (7.5%) ♦ Hyperlipidemia: 282,451 (78.9%) ♦ CAD: 75,479 (21.1%) ♦ Cerebrovascular disease: 34,349 (9.6%)	NR	NR
RECAP[19]	SGLT2i (after PSM) (n=132)	NR	74.3 (SD: 30.3)	100% History of diabetes >10 years: 114 patients	♦ Weight: 79.2 (17.7) ♦ BMI: 29.6 (5.2)	NR	NR	NR
	GLP-1 RA (after PSM) (n=132)	NR	73.2 (SD: 27.3)	100% History of diabetes >10 years: 110 patients	♦ Weight: 80.5 (18.4) ♦ BMI: 30 (5.8)	NR	NR	NR
Rhee 2024[42]	SGLT2i (n=15,341)	♦ IIIa: 7,175 ♦ IIIb: 1,510	NR	100%	NR	♦ CVD: 711 (4.6%) ♦ HF: 1,550 (10.1%) ♦ Arrhythmia: 14,842 (96.8%) ♦ Cerebral vascular disease: 889 (5.8%) ♦ CAD: 3,307 (21.6) ♦ Hyperlipidemia: 10,174 (66.3%) ♦ Hypertension: 11,792 (76.9%) ♦ Peripheral vascular disease: 1,489 (9.7%)	♦ Cancer: 817 (5.3%) ♦ Liver disease: 49 (1.4%)	NR

Publication Name	Cohort Description	CKD Stage (n [%])	eGFR (mL/min/1.73 m^2)	T2D	Weight (kg)/ BMI	Baseline CV Events*	Comorbidities *	Relevant Background Therapies*
	GLP-1 RA (n=21,135)	♦ IIIa: 10,231 ♦ IIIb: 4,225	NR	100%	NR	♦ CVD: 1060 (5.0%) ♦ HF: 2823 (13.4%) ♦ Arrhythmia: 20,622 (97.6%) ♦ Cerebral vascular disease: 1501 (7.1%) ♦ CAD: 5089 (24.1%) ♦ Hyperlipidemia: 14,309 (67.7%) ♦ Hypertension: 16,832 (79.6%) ♦ Peripheral vascular disease: 2,474 (11.7%)	♦ Cancer: 1,244 (5.9%) ♦ Liver disease: 71 (1.6%)	NR
Rossing 2023[33]	SGLT2i (n=NR)	NR	50.2	100%	♦ Weight: 98.7	NR	NR	NR
	GLP-1 RA (n=NR)	NR	49.2	100%	♦ Weight: 89.0	NR	NR	NR
Selvarajah 2024[31]	Semaglutide (n=45)	NR	53.2 (SD: 17.7)	100% T2D duration: 16.7 years	♦ Weight: 97.52 (19.45) ♦ BMI: 34.41 (6.54)	NR	♦ Diabetic kidney disease (DKD): 44 (97.8%) ♦ Retinopathy: 13 (28.9%) ♦ Neuropathy: 14 (31.1%)	SGLT2i: 20 (44.4%)
	Cotadutide (100 mcg) (n=52)	NR	53.1 (SD: 20.8)	100% T2D duration: 17.4 years	♦ Weight: 93.79 (17.94) ♦ BMI: 32.15 (5.22)	NR	♦ DKD: 47 (90.4%) ♦ Retinopathy: 18 (39.1%) ♦ Neuropathy: 14 (30.4%)	NR
	Cotadutide (300 mcg) (n=49)	NR	57.0 (SD: 19.7)	100% T2D duration: 18.8 years	♦ Weight: 94.01 (18.79) ♦ BMI: 32.26 (5.76)	NR	♦ DKD: 43 (87.8%) ♦ Retinopathy: 24 (53.3%) ♦ Neuropathy: 25 (55.6%)	NR

Publication Name	Cohort Description	CKD Stage (n [%])	eGFR (mL/min/1.73 m²)	T2D	Weight (kg)/ BMI	Baseline CV Events*	Comorbidities *	Relevant Background Therapies*
	Cotadutide (600 mcg) (n=51)	NR	57.9 (SD: 16.7)	100% T2D duration: 19.5 years	♦ Weight: 93.69 (22.66) ♦ BMI: 32.14 (5.65)	NR	♦ DKD: 47 (92.2%) ♦ Retinopathy: 26 (55.3%) ♦ Neuropathy: 17 (36.2%)	NR
SOUL[29]	Semaglutide (SGLT2i use at baseline) (n=1,296)	NR	82[b] (63–94)	100% T2D duration: 15.4 years	♦ Weight: 85.6 (IQR: 74.2–99.5) ♦ BMI: 29.7 (IQR: 26.5 to 33.5)	♦ MI: 597 (46.6%) ♦ Coronary revascularisation: 836 (64.5%) ♦ Stroke: 164 (12.7%) ♦ HF: 290 (22.4%) ♦ Peripheral arterial disease: 180 (13.9%)	NR	NR
Tsuchida 2022[20]	Dulaglutide (whole cohort) (N=125)	NR	47.9 (SD: 9.1)	NR	♦ Weight: 70.2 (13.7) ♦ BMI: 27.3 (4.9)	NR	NR	NR
	Dulaglutide (SGLT2i use at baseline) (n=54)	NR	48.8 (range 46.3–51.3)	100%	NR	NR	NR	NR

Footnotes: *Only key data have been reported. [a]In Edmonston 2024, patients are referred to as initiators because follow-up began the day after patients started treatment with either SGLT2i or GLP-1 RA (the index date) and continued until the earliest occurrence of one of the following: death, 12 months after their last observed prescription, 2 years after the index date, or the study end date (31/12/2021). [b]Values reported as median (IQR). [c]Cardiovascular disease composite of MI stable angina, acute coronary syndrome, coronary atherosclerosis, history of coronary procedure, heart failure, ischemic stroke, and peripheral vascular disease. **Abbreviations:** ACS: acute coronary syndrome; AF: atrial fibrillation; BMI: body mass index; CAD: coronary artery disease; CKD: chronic kidney disease; CHD: chronic heart disease; CV: cardiovascular; CVD: cardiovascular disease; DKD: diabetic kidney disease; eGFR: estimated glomerular filtration rate; GLP-1 RA: glucagon-like peptide-1 receptor agonists; GLT: glucose lowering therapy; HF: heart failure; IQR; interquartile range; IPTW; inverse probability of treatment weighted; ITT: intention to treat; MI: myocardial infarction; NR: not reported; PAD: peripheral arterial disease; PSM; propensity score matching; SD: standard deviation; SGLT2i: sodium–glucose cotransporter 2 inhibitor; T2D: type 2 diabetes; TIA: transient ischemic attack.

136 **Supplementary Table 9. Baseline BMI in Included Primary Research Studies**

Study Name	Subgroup Name	Treatment Arm	Group n	Mean	SD
Chaiyakunapruk 2025[34]	Unweighted	SGLT2i + GLP-1 RA	3822	33.76**	6.3
		SGLT2i	12578	31.28**	6.29
	Weighted	SGLT2i + GLP-1 RA	3822	32.06**	6.5
		SGLT2i	12578	31.84**	6.34
Chu 2024[17]	After PSM	GLP-1 RA	153	28.9*	4.6
		Basal insulin	153	28.8*	5.5
DAPA-CKD[32]	0 GLTs	Dapagliflozin	165	29.1*	5.8
		Placebo	162	28.4*	5.2
	1 GLT	Dapagliflozin	702	29.9*	6.2
		Placebo	740	30.6*	6.5
	2 GLTs	Dapagliflozin	486	30.8*	6.3
		Placebo	457	30.7*	6.4
	≥3 GLTs	Dapagliflozin	102	31.3**	5.9
		Placebo	92	30.3*	5.7
DARWIN-Renal[43]	ITT population	SGLT2i	5705	32.8**	NR
		GLP-1 RA	5705	33.0**	NR
Edmonston 2024[35]	After PSM	GLP-1 RA initiators[a]	47268	36.1[b***]	30.6, 40.0
		SGLT2i initiators[a]	35004	39.9[b***]	30.2, 40.2
FLOW[30]	SGLT2i use at baseline	Semaglutide 1mg	277	32.0**	6.0
		Placebo	273	31.4**	6.4
	No SGLT2i use at baseline	Semaglutide 1mg	1490	31.9**	6.1
		Placebo	1493	32.1**	6.6
Hsiao 2022[23]	After imputation and IPTW	SGLT2i	NR	28.3*	5.5
		GLP-1 RA	NR	28.5*	5.2
Hu 2024[18]	After PSM	SGLT2i	12331	27.6[b*]	24.9, 30.8
		GLP-1 RA	1468	28.0[b*]	25.2, 31.6
RECAP[19]	After PSM	GLP-1 RA first	132	29.6*	5.2
		SGLT2i first	132	30.0*	5.8
Selvarajah 2024[31]	NR	Semaglutide	45	34.41**	6.54
	NR	Placebo	51	32.33**	6.05
	100 mcg	Cotadutide	52	32.15**	5.22
	300 mcg	Cotadutide	49	32.26**	5.76
	600 mcg	Octadiene	51	32.14**	5.65
SOUL[29]	SGLT2i use at baseline	Semaglutide	1296	29.70[b*]	26.5, 33.5

Study Name	Subgroup Name	Treatment Arm	Group n	Mean	SD
	No SGLT2i use at baseline	Semaglutide	3529	30.5[b*]	27.0, 34.5
	SGLT2i use at baseline	Placebo	1300	30.0*	26.7, 34.3
	No SGLT2i use at baseline	Placebo	3525	30.4*	27.1, 34.6

Footnotes: *Represents values ⩽30, ** represents values >30 to ⩽35 and *** represents values >35. [a]In Edmonston 2024, patients are referred to as initiators because follow-up began the day after patients started treatment with either SGLT2i or GLP-1 RA (the index date) and continued until the earliest occurrence of one of the following: death, 12 months after their last observed prescription, 2 years after the index date, or the study end date (31/12/2021). [b]Only median (IQR) reported.

Abbreviations: GLP-1 RA: glucagon-like peptide-1 receptor agonist; GLT: glucose lowering therapy; IQR: interquartile range; ITT: intention-to-treat; IPTW: inverse probability of treatment weighting; mcg: micrograms; NR: not reported; PSM: propensity score matching; SGLT2i: sodium-glucose cotransporter 2 inhibitor; SD: standard deviation

4. Additional Renal Efficacy Outcomes

Supplementary Table 10: Summary of Definitions of Composite Renal Outcomes

Study Name	Comparison	Population/Subgroup Summary	Outcome Definition
Meta-Analyses			
Apperloo 2024[9]	SGLT2i, GLP-1 RA vs Placebo, GLP-1 RA	CKD and T2D	Composite kidney outcome of 40% or more decline in eGFR, kidney failure: eGFR <15 mL/min/1.73m^2, chronic dialysis or kidney transplantation
	SGLT2i vs Placebo		
Bellos 2025[1][8]	SGLT2i vs Placebo	CKD with/without diabetes	Composite kidney outcomes (no further definition)
	GLP-1 RA vs Placebo		
	SGLT2i vs GLP-1 RA		
	SGLT2i vs Placebo	CKD with diabetes mellitus	
	GLP-1 RA vs Placebo		
	SGLT2i vs GLP-1 RA		
	SGLT2i vs Placebo	CKD with CVD history	
	GLP-1 RA vs Placebo		
	SGLT2i vs GLP-1 RA		
	SGLT2i vs Placebo	CKD stage ≥3b	
	GLP-1 RA vs Placebo		
	SGLT2i vs GLP-1 RA		

Study Name	Comparison	Population/Subgroup Summary	Outcome Definition
Meta-Analyses			
	SGLT2i vs Placebo	CKD stage ≥4	
	GLP-1 RA vs Placebo		
	SGLT2i vs GLP-1 RA		
	SGLT2i vs Placebo	CKD with macroalbuminuria	
	GLP-1 RA vs Placebo		
	SGLT2i vs GLP-1 RA		
	SGLT2i vs Placebo	Low Rob studies	
	GLP-1 RA vs Placebo		
	SGLT2i vs GLP-1 RA		
Li 2022[2][10]	GLP-1 RA vs Placebo	CKD and T2D	Serious renal-related AEs or renal death
	SGLT2i vs Placebo		
	DPP4i vs GLP-1 RA		
	SGLT2i vs GLP-1 RA		
	SGLT2i vs DPP4i		
Nguyen 2023[3][13]	SGLT2i vs GLP-1 RA		≥ 40% decline in eGFR, doubling of serum creatinine, ESKD (eGFR less than 15 ml/min per 1.73m^2, haemodialysis or kidney transplantation) or renal death
	Placebo vs GLP-1 RA		
	GLP-1 RA vs SGLT2i		
	Placebo vs SGLT2i		
	SGLT2i vs Placebo		
	GLP-1 RA vs Placebo		
	Dapagliflozin vs Placebo		
	Empagliflozin vs Placebo		
	Canagliflozin vs Placebo		
	Liraglutide vs Placebo		

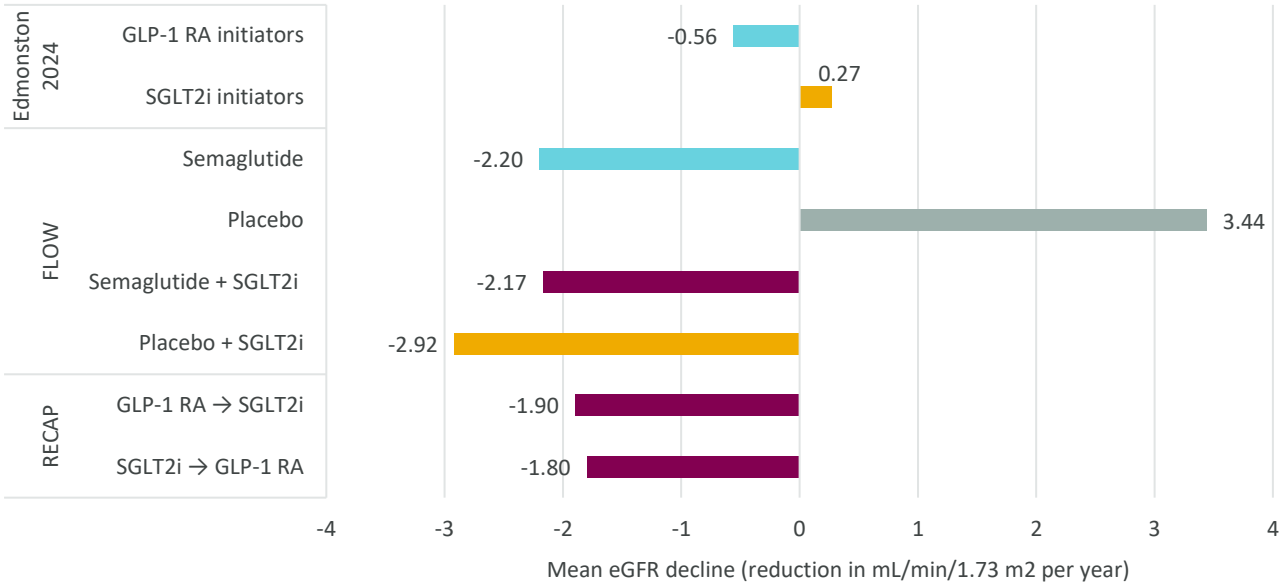
Study Name	Comparison	Population/Subgroup Summary	Outcome Definition
Meta-Analyses			
	Sotagliflozin vs Placebo		
	Ertugliflozin vs Placebo		
	Dulaglutide vs Placebo		
	Exenatide vs Placebo		
Yamada 2021[14]	SGLT2i vs Placebo	CKD and T2D	Renal events including ESKD, decline in kidney function (such as worsening of eGFR or increasing creatinine), albuminuria, and renal or CV death
	SGLT2i vs GLP-1 RA		
	GLP-1 RA vs Placebo		
	SGLT2i vs Placebo	CKD and T2D; eGFR 30–44	Renal events including ESRD, decline in kidney function (such as worsening of eGFR or increasing creatinine), albuminuria, and renal or CV death
	GLP-1 RA vs Placebo		
	SGLT2i vs GLP-1 RA		
	SGLT2i vs Placebo	CKD and T2D; eGFR 45–59	
	GLP-1 RA vs Placebo		
	SGLT2i vs GLP-1 RA		
Yang 2023[4][15]	SGLT2i vs GLP-1 RA	CKD and T2D	Composite kidney outcomes related to kidney failure (sustained eGFR <15 ml/min/1.73 m^2 or receiving KRT), a decline in kidney function (mainly for a decrease of > 50% in eGFR or doubling of the creatinine [equivalent to a decrease of > 57% in eGFR]), and death from renal causes
	SGLT2i vs Placebo		
	GLP-1 RA vs Placebo		
Zhang 2022[16]	SGLT2i vs Placebo		Composite of a sustained decrease of at least 40% in the eGFR from the baseline or a doubling of the serum creatinine level, kidney failure (a composite of ESKD or sustained decrease in eGFR to <15 ml/min/1.73 m2), or renal death
	GLP-1 RA vs Placebo		
	GLP-1 RA vs SGLT2i		
	Empagliflozin vs Dulaglutide		
	Canagliflozin vs Dulaglutide		
	Dapagliflozin vs Dulaglutide		
	Sotagliflozin vs Dulaglutide		

Study Name	Comparison	Population/Subgroup Summary	Outcome Definition
Meta-Analyses			
	Empagliflozin vs Exenatide		
	Canagliflozin vs Exenatide		
	Dapagliflozin vs Exenatide		
	Sotagliflozin vs Exenatide		
	Empagliflozin vs Liraglutide		
	Canagliflozin vs Liraglutide		
	Dapagliflozin vs Liraglutide		
	Sotagliflozin vs Liraglutide		
	Empagliflozin vs Placebo		
	Canagliflozin vs Placebo		
	Dapagliflozin vs Placebo		
	Sotagliflozin vs Placebo		
Primary Research Studies			
DAPA-CKD[32]	Dapagliflozin vs GLP-1 RA	CKD and T2D	A composite of sustained >/=50% decline in the eGFR (confirmed by a second measurement after at least 28 days), onset of end-stage kidney disease (defined as maintenance dialysis for >28 days, kidney transplantation, or eGFR <15 mL/min/1.73 m^2 confirmed by a second measurement after at least 28 days), or death from a kidney, or cardiovascular cause
FLOW[30]	Semaglutide, SGLT2i vs placebo	CKD and T2D	5-component composite kidney outcome (onset of >50% reduction in eGFR from baseline value, commencement of chronic dialysis, kidney transplantation or reduction in eGFR to <15 mL/min/1.73m^2, or death due to kidney or CV causes)
	Semaglutide, SGLT2i vs placebo		4-component composite kidney outcome (onset of >50% reduction in eGFR from baseline value, commencement of chronic dialysis, kidney transplantation or reduction in eGFR to <15 mL/min/1.73m^2)
	Semaglutide vs placebo		5-component composite kidney outcome (onset of >50% reduction in eGFR from baseline value, commencement of chronic dialysis, kidney

Study Name	Comparison	Population/Subgroup Summary	Outcome Definition
Meta-Analyses			
			transplantation or reduction in eGFR to <15 mL/min/1.73m^2, or death due to kidney or CV causes)
	Semaglutide vs placebo		4-component composite kidney outcome (onset of >50% reduction in eGFR from baseline value, commencement of chronic dialysis, kidney transplantation or reduction in eGFR to <15 mL/min/1.73m^2)
RECAP[19]	GLP-1 RA initiation first vs SGLT2i initiation first	CKD and T2D	Renal composite outcome of progression to macroalbuminuria and/or a ⩾50% reduction in eGFR

Footnotes: [1]In all but one (CKD stage ≥4) subgroups, SGLT2is were ranked 1 out of 4. [2]GLP-1 RA mean rank 2.3; SGLT2i mean rank 1.3. [3]SGLT2is ranked 1 out of 3; GLP1-RAs ranked 2 out of 3. [4]SGLT2i vs GLP-1 RA: moderate certainty; SGLT2i vs Placebo: high certainty; GLP-1 RA vs Placebo: moderate certainty. [5]CARMELINA trial: Time to first occurrence of CV death, non-fatal MI or non-fatal stroke, CREDENCE trial: ESRD, dialysis, transplantation, or sustained eGFR of <15 or a doubling of the serum creatinine level, or renal/CV death, DAPA-CKD: Composite of sustained decline in the EGFR of at least 50%, ESRD, or death from renal or CV causes, EMPORER-REDUCED: Adjudicated CV death or HHF, analysed as the time to the first event, HARMONY: First occurrence of CV death, MI or stroke, LEADER: First occurrence of death from CV causes, non-fatal MI or non-fatal stroke, SCORED: Total number of deaths from CV causes, HHF and urgent visits for HF.
Abbreviations: AE: adverse event; CKD: chronic kidney disease; CV: cardiovascular; CVD: cardiovascular disease; eGFR: estimated glomerular filtration rate; ESKD: end-stage kidney disease; GLP-1 RA: glucagon-like peptide-1 receptor agonist; KRT: kidney replacement therapy; SGLT2i: sodium-glucose co-transporter-2 inhibitor; T2D: type 2 diabetes.

Supplementary Figure 1. Summary of the Mean eGFR Decline from Baseline



Footnote: ORANGE denotes SGLT2is, **BLUE** denotes GLP-1 RAs, **PURPLE** denotes a combination and **GREY** denotes other. Kashima 2023 is not presented as the results are not clearly stratified between the cohort receiving GLP-1 RA in combination with SGLT2i and the cohort receiving SGLT2i only. In Edmonston 2024, patients are referred to as initiators because follow-up began the day after patients started treatment with either SGLT2i or GLP-1 RA (the index date) and continued until the earliest occurrence of one of the following: death, 12 months after their last observed prescription, 2 years after the index date, or the study end date (31/12/2021).
Abbreviations: eGFR: estimated glomerular filtration rate; GLP-1 RA: glucagon-like peptide-1 receptor agonist; SGLT2i: sodium-glucose cotransporter 2 inhibitor.
Sources: [19, 30, 35]

Outcomes in Obese Individuals

While no studies explicitly investigated subgroups by BMI strata, seven publications reported an average BMI >30,[19, 27, 30, 31, 34, 35, 43] with one study reporting this for some subgroups.[32] The results from these studies reflect the main body of evidence with no significant deviations.

Two studies examined composite renal outcomes. The FLOW trial evaluated semaglutide versus placebo stratified by SGLT2i use, finding no additional benefit of GLP-1 RAs over SGLT2is, with similar event rates in SGLT2i users. The subgroup without SGLT2i use showed a significant benefit for GLP-1 RAs.[30] RECAP found no significant effect of therapy order on renal events.[19] Edmonston 2024 showed SGLT2is reduce

eGFR more favourably than GLP-1 RAs.[35] Other studies comparing combined versus singular therapy yielded mixed results: Chaiyakunapruk 2025 reported slower eGFR decline with combination therapy,[34] while FLOW and DECADE found the opposite.[27, 30] Edmonston 2024 noted greater eGFR decline with GLP-1 RAs, whereas FLOW observed a reduced decline with semaglutide and SGLT2is. Both Selvarajah 2024 and DECADE reported reductions in UACR with combination therapy, with Selvarajah noting greater effects with higher GLP-1 RA doses.[27, 31]

5. Other Efficacy Outcomes, Safety and Treatment Sequencing

Composite Cardiovascular Outcomes

Meta-Analyses

Composite cardiovascular outcomes were reported in five MAs, all indirectly comparing SGLT2is and GLP-1 RAs.[8, 13-16] However, there was no consistent direction of benefit across these analyses. Definitions of composite cardiovascular outcomes across studies are summarised in **Supplementary Table 11.**

Primary Research

Only two studies assessed composite cardiovascular outcomes.[32, 36] EMPRISE found that empagliflozin significantly reduced the hazard ratio (HR) compared with GLP-1 RAs (HR 0.89 [95% CI 0.84 to 0.95]).[36] DAPA-CKD found that dapagliflozin significantly reduced the HR in participants not receiving GLP-1 RAs (HR 0.71 [95% CI 0.53 to 0.94]).[32]

183 **Supplementary Table 11: Summary of Definitions of Composite Cardiovascular Outcomes**

Study Name	Comparison	Population/Subgroup Summary	Outcome Definition
Meta-Analyses			
Apperloo 2024[9]	SGLT2i, GLP-1 RA vs Placebo, GLP-1 RA	CKD and T2D	MACE (no further definition)
	SGLT2i vs Placebo		
Arshad 2021[6]	GLP-1 RA vs Placebo	T2D and eGFR <60 mL/min/1.73m^2 (CKD stage ≥3)	MACE (composite outcome composed of CV death, MI, and stroke)
	SGLT2i vs Placebo		
Bellos 2025[1][8]	SGLT2i vs Placebo	CKD with/without diabetes	Composite CV outcomes (no further definition)
	GLP-1 RA vs Placebo		
	SGLT2i vs GLP-1 RA		
	SGLT2i vs Placebo	CKD with diabetes mellitus	
	GLP-1 RA vs Placebo		
	SGLT2i vs GLP-1 RA		
	SGLT2i vs Placebo	CKD with CVD history	
	GLP-1 RA vs Placebo		
	SGLT2i vs GLP-1 RA		
	SGLT2i vs Placebo	CKD stage ≥3b	
	GLP-1 RA vs Placebo		
	SGLT2i vs GLP-1 RA		
	SGLT2i vs Placebo	CKD stage ≥4	
	GLP-1 RA vs Placebo		
	SGLT2i vs GLP-1 RA		
	SGLT2i vs Placebo	CKD with macroalbuminuria	
	GLP-1 RA vs Placebo		
	SGLT2i vs GLP-1 RA		
	SGLT2i vs Placebo	Low Rob studies	

Study Name	Comparison	Population/Subgroup Summary	Outcome Definition
Meta-Analyses			
	GLP-1 RA vs Placebo		
	SGLT2i vs GLP-1 RA		
Nguyen 2023[3][13]	SGLT2i vs GLP-1 RA	CKD and T2D	Composite outcome of CV death, non-fatal MI or non-fatal stroke
	Placebo vs GLP-1 RA		
	GLP-1 RA vs SGLT2i		
	Placebo vs SGLT2i		
	SGLT2i vs Placebo		
	GLP-1 RA vs Placebo		
	Liraglutide vs Placebo		
	Canagliflozin vs Placebo		
	Oral semaglutide vs Placebo		
	Sotagliflozin vs Placebo		
	Semaglutide vs Placebo		
	Empagliflozin vs Placebo		
	Dapagliflozin vs Placebo		
	Albiglutide vs Placebo		
	Lixsenatide vs Placebo		
	Exenatide vs Placebo		
	Ertugliflozin vs Placebo		
	Bexagliflozin vs Placebo		
Yamada 2021[14]	SGLT2i vs Placebo	CKD and T2D	MACE (no further definition)
	SGLT2i vs GLP-1 RA		
	GLP-1 RA vs Placebo		

Study Name	Comparison	Population/Subgroup Summary	Outcome Definition
Meta-Analyses			
	SGLT2i vs Placebo	CKD and T2D; eGFR 30–44	MACE-3 (no further definition)
	GLP-1 RA vs Placebo		
	SGLT2i vs GLP-1 RA		
	SGLT2i vs Placebo	CKD and T2D; eGFR 45–59	
	GLP-1 RA vs Placebo		
	SGLT2i vs GLP-1 RA		
Yang 2023[4][15]	SGLT2i vs GLP-1 RA	CKD and T2D	MACE (death from CV causes, nonfatal MI, or nonfatal stroke)
	SGLT2i vs Placebo		
	GLP-1 RA vs Placebo		
Zhang 2022[16]	SGLT2i vs Placebo	T2D and (or) CKD	MACE (composite of CVD, nonfatal MI, or nonfatal stroke)
	GLP-1 RA vs Placebo		
	GLP-1 RA vs SGLT2i		
	Empagliflozin vs Albiglutide		MACE (composite of CVD, nonfatal MI, or nonfatal stroke)
	Canagliflozin vs Albiglutide		
	Dapagliflozin vs Albiglutide		
	Ertugliflozin vs Albiglutide		
	Sotagliflozin vs Albiglutide		
	Empagliflozin vs Exenatide		
	Canagliflozin vs Exenatide		
	Dapagliflozin vs Exenatide		

Study Name	Comparison	Population/Subgroup Summary	Outcome Definition
Meta-Analyses			
	Ertugliflozin vs Exenatide		
	Sotagliflozin vs Exenatide		
	Empagliflozin vs Semaglutide		
	Canagliflozin vs Semaglutide		
	Dapagliflozin vs Semaglutide		
	Ertugliflozin vs Semaglutide		
	Sotagliflozin vs Semaglutide		
	Empagliflozin vs Liraglutide		
	Canagliflozin vs Liraglutide		
	Dapagliflozin vs Liraglutide		
	Ertugliflozin vs Liraglutide		
	Sotagliflozin vs Liraglutide		
	Empagliflozin vs Efpeglenatide		
	Canagliflozin vs Efpeglenatide		
	Dapagliflozin vs Efpeglenatide		
	Ertugliflozin vs Efpeglenatide		
	Sotagliflozin vs Efpeglenatide		
	Empagliflozin vs Placebo		
	Canagliflozin vs Placebo		
	Dapagliflozin vs Placebo		
	Ertugliflozin vs Placebo		
	Sotagliflozin vs Placebo		
Kamdar 2021[12]	SGLT2i vs Placebo	CKD	Primary composite outcome[5]
	GLP-1 RA vs Placebo		

Study Name	Comparison	Population/Subgroup Summary	Outcome Definition
Meta-Analyses			
DAPA-CKD[32]	Dapagliflozin vs GLP-1 RA	CKD and T2D	A composite of hospitalisations for heart failure and cardiovascular mortality, and all-cause mortality
EMRPRISE[36]	Empagliflozin vs GLP-1 RA	CKD and T2D	Composite of primary outcomes of hospitalisation for MI, stroke or HF
			Composite outcome of MI or stroke, and ESKD

Footnotes: [1]In all but one (CKD stage ≥4) subgroups, SGLT2is were ranked 1 out of 4. [2]GLP-1 RA mean rank 2.3; SGLT2i mean rank 1.3. [3]SGLT2is ranked 1 out of 3; GLP1-RAs ranked 2 out of 3. [4]SGLT2i vs GLP-1 RA: moderate certainty; SGLT2i vs Placebo: high certainty; GLP-1 RA vs Placebo: moderate certainty. [5]CARMELINA trial: Time to first occurrence of CV death, non-fatal MI or non-fatal stroke, CREDENCE trial: ESRD, dialysis, transplantation, or sustained eGFR of <15 or a doubling of the serum creatinine level, or renal/CV death, DAPA-CKD: Composite of sustained decline in the EGFR of at least 50%, ESRD, or death from renal or CV causes, EMPORER-REDUCED: Adjudicated CV death or HHF, analysed as the time to the first event, HARMONY: First occurrence of CV death, MI or stroke, LEADER: First occurrence of death from CV causes, non-fatal MI or non-fatal stroke, SCORED: Total number of deaths from CV causes, HHF and urgent visits for HF.
Abbreviations: CKD: chronic kidney disease; CV: cardiovascular; CVD: cardiovascular disease; eGFR: estimated glomerular filtration rate; GLP-1 RA: glucagon-like peptide-1 receptor agonist; HF: heart failure; MACE: major adverse cardiovascular event; MI: myocardial infarction; SGLT2i: sodium-glucose co-transporter-2 inhibitor; T2D: type 2 diabetes.

Cardiovascular Efficacy Outcomes

Meta-Analyses

Six MAs assessed cardiovascular outcomes and blood pressure.[9, 11-13, 15, 16] Hospitalisation for heart failure (HHF) was the most frequently reported cardiovascular-related endpoint. Of four MAs reporting HHF, three favoured SGLT2is confirming their consistent benefit in HF prevention, whereas GLP-1 RAs demonstrated a limited effect for this outcome.[9, 12, 13, 15]

One MA assessed stroke and myocardial infarction (MI); the risk ratio (RR) indicated no significant difference between SGLT2is and GLP-1 RAs.[13]

Primary Research

Seven primary research studies assessed cardiovascular outcomes.[22, 28, 30, 35, 36, 39, 40] Five studies assessed a HF-related outcome, predominantly HHF, all comparing an SGLT2i cohort with a GLP-1 RA cohort. [22, 35, 36, 39, 40] In four out of five studies the HR or RR for HHF favoured SGLT2is relative to GLP-1 RAs.[22, 36, 39, 40]

Two primary studies assessed the HRs for MI, with both reporting HRs that numerically favoured GLP-1 RAs.[22, 30] However, the same studies also assessed the HRs for stroke, with both numerically favouring SGLT2is,[22, 30] highlighting a lack of clear benefit for either agent across atherosclerotic (MI and stroke) endpoints.

Outcomes in Obese Individuals

Of the seven primary research studies reporting populations with BMI >30 kg/m^2, only Edmonston 2024 and FLOW assessed CV outcomes. Edmonston found no difference in heart failure hospitalizations between therapies.[35] FLOW reported that semaglutide added to SGLT2is improved MI incidence, while stroke rates decreased in the SGLT2i-only group.[30]

Other Efficacy Outcomes

Three meta-analyses reported other efficacy outcomes, including hypoglycaemia, changes in glycated haemoglobin A1c (HbA1c), changes in low-density lipoprotein (LDL) cholesterol, changes in blood pressure and changes in body weight.[9-11] Two studies indirectly compared SGLT2is with GLP-1 RAs, with no significant differences between treatment classes being reported for any outcomes.[9, 11] However, SGLT2is had preferential glucose- and weight-lowering functions, while GLP-1 RAs had preferential LDL-C- and blood glucose-lowering.[11] In the remaining MA, both SGLT2is and GLP-1 RAs generally demonstrated beneficial effects compared to placebo across the outcomes.[10]

Seven primary studies reported at least one other efficacy outcome, including changes in blood glucose from baseline, change in body weight from baseline and change in BMI.[17-19, 21, 27, 29, 33] Five primary research studies reported changes in HbA1c from baseline[17, 19, 21, 29, 33] and five reported changes in body weight from baseline;[17, 19, 27, 29, 33] differences between treatment arms for either outcome were generally not statistically significant.

Two primary research studies reported changes in BMI.[17, 29] In one study, the addition of a GLP-1 RA to SGLT2is resulted in significant reductions to BMI compared to cohorts receiving SGLT2is only.[17] However, in the other study, whilst semaglutide significantly reduced BMI compared with placebo, this was not affected by SGT2i use at baseline.[29]

Safety

Meta-Analyses

In total, 10 out of 11 MAs reported at least one safety outcome (**Supplementary Table 12**). Significant differences were assessed in four MAs, and one study, Bellos 2025, reported no significant differences in the risk of serious adverse events (SAEs), discontinuation due to AEs or acute kidney injury (AKI) between SGLT2is and GLP-1 RAs.[8] Other meta-analyses did not directly compare SGLT2is and GLP-1 RAs in the context of safety outcomes.[12, 14, 16]

Supplementary Table 12: Heat Map of Adverse Events Reported in Meta-Analyses

Study Name	Intervention	Comparator	Effect estimate (95% CI)			
			Mortality from CV Outcomes	AKI	Hypoglycaemia	UTI
Apperloo 2024[9]	SGLT2i	GLP-1 RA	NR	NR	HR: 1.68 (1.07–2.63)***	NR
	SGLT2i	Placebo	NR	NR	HR: 0.90 (0.81–1.00)*	NR
Bellos 2025[8]	SGLT2i	Placebo	NR	RR: 0.87 (0.77–0.91)*	NR	NR
	GLP-1 RA	Placebo	NR	RR: 0.95 (0.79–1.14)*	NR	NR
	SGLT2i	GLP-1 RA	NR	RR: 0.88 (0.72–1.07)*	NR	NR
Guo 2025[11]	Canagliflozin	Placebo	NR	NR	NR	OR: 0.89 (0.80–0.99)*
	Placebo	Luseogliflozin	NR	NR	NR	OR: 0.26 (0.01–5.17)*
	Placebo	Ertugliflozin	NR	NR	NR	OR: 0.98 (0.80–1.19) *
	Placebo	Empagliflozin	NR	NR	NR	OR: 1.00 (0.92–1.09)***
	Placebo	Dapagliflozin	NR	NR	OR: 1.13 (1.01–1.27)**	OR: 1.07 (0.60–1.92)**
	Sotagliflozin	Semaglutide	NR	NR	NR	OR: 0.20 (0.01–4.25)*
	Sotagliflozin	Placebo	NR	NR	NR	OR: 1.04 (0.93–1.17)**
	Semaglutide	Placebo	NR	NR	NR	OR: 5.35 (0.25–116.29)***
	Semaglutide	Luseogliflozin	NR	NR	NR	OR: 1.40 (0.02–101.84)**
	Semaglutide	Ertugliflozin	NR	NR	NR	OR: 5.23 (0.24–114.37)***
	Semaglutide	Empagliflozin	NR	NR	NR	OR: 5.36 (0.25–116.67) ***

Study Name	Intervention	Comparator	Effect estimate (95% CI)			
			Mortality from CV Outcomes	AKI	Hypoglycaemia	UTI
	Semaglutide	Dapagliflozin	NR	NR	NR	OR: 5.72 (0.25–131.35) ***
	Semaglutide	Canagliflozin	NR	NR	NR	OR: 4.78 (0.22–104.17) ***
	Luseogliflozin	Exenatide	NR	NR	OR: 0.65 (0.12–3.45)*	NR
	Luseogliflozin	Semaglutide	NR	NR	OR: 0.94 (0.05–18.16)*	NR
	Luseogliflozin	Placebo	NR	NR	OR: 1.96 (0.38–10.11)***	NR
	Luseogliflozin	Liraglutide	NR	NR	OR: 0.32 (0.04–2.32)*	NR
	Exenatide	Dapagliflozin	NR	NR	OR: 1.02 (0.63–1.67)**	NR
	Exenatide	Empagliflozin	NR	NR	OR: 0.88 (0.67–1.16)*	NR
	Exenatide	Canagliflozin	NR	NR	OR: 0.84 (0.62–1.13)*	NR
	Exenatide	Ertugliflozin	NR	NR	OR: 0.83 (0.61–1.13)*	NR
	Exenatide	Bexagliflozin	NR	NR	OR: 0.77 (0.43–1.38)*	NR
	Exenatide	Sotagliflozin	NR	NR	OR: 1.27 (0.94–1.70)**	NR
	Exenatide	Placebo	NR	NR	OR: 1.28 (0.99–1.66)**	NR
	Dapagliflozin	Semaglutide	NR	NR	OR: 0.63 (0.05–7.65)*	NR
	Dapagliflozin	Placebo	NR	NR	OR: 1.31 (0.87–1.98)**	NR
	Dapagliflozin	Liraglutide	NR	NR	OR : 2.09 (0.64–6.85)***	NR
	Semaglutide	Empagliflozin	NR	NR	OR: 0.55 (0.05–6.39)*	NR
	Semaglutide	Canagliflozin	NR	NR	OR: 0.52 (0.04–6.06)*	NR
	Semaglutide	Ertugliflozin	NR	NR	OR: 0.51 (0.04–6.03)*	NR
	Semaglutide	Bexagliflozin	NR	NR	OR: 0.47 (0.04–5.86)*	NR
	Semaglutide	Sotagliflozin	NR	NR	OR: 2.05 (0.17–24.05)***	NR
	Semaglutide	Placebo	NR	NR	OR: 0.48 (0.04–5.64)*	NR
	Empagliflozin	Liraglutide	NR	NR	OR: 1.80 (0.59–5.51)***	NR
	Canagliflozin	Placebo	NR	NR	OR: 1.07 (0.93–1.24)**	NR
	Canagliflozin	Liraglutide	NR	NR	OR: 1.71 (0.56–5.24)**	NR
	Ertugliflozin	Placebo	NR	NR	OR: 1.06 (0.91–1.25)**	NR
	Ertugliflozin	Liraglutide	NR	NR	OR: 1.70 (0.55–5.22)**	NR
	Bexagliflozin	Placebo	NR	NR	OR: 0.98 (0.58–1.66)*	NR
	Bexagliflozin	Liraglutide	NR	NR	OR: 1.57 (0.46–5.37)**	NR
	Sotagliflozin	Placebo	NR	NR	OR: 0.99 (0.87–1.13)*	NR
	Sotagliflozin	Liraglutide	NR	NR	OR: 0.62 (0.20–1.90)*	NR
	Placebo	Liraglutide	NR	NR	OR: 0.63 (0.21–1.90)*	NR
	Placebo	Exenatide	NR	OR: 0.81 (0.08–7.81)*	NR	NR
	Placebo	Ertugliflozin	NR	OR: 1.20 (0.87–1.65)**	NR	NR
	Placebo	Canagliflozin	NR	OR: 1.14 (0.97–1.35)**	NR	NR
	Placebo	Bexagliflozin	NR	OR: 0.75 (0.25–2.21)*	NR	NR
	Exenatide	Ertugliflozin	NR	OR: 1.48 (0.15–14.57)**	NR	NR

Study Name	Intervention	Comparator	Effect estimate (95% CI)			
			Mortality from CV Outcomes	AKI	Hypoglycaemia	UTI
	Exenatide	Canagliflozin	NR	OR: 1.41 (0.15–13.7)**	NR	NR
	Exenatide	Bexagliflozin	NR	OR: 0.93 (0.08–11.41)*	NR	NR
Kamdar 2021[12]	SGLT2i	Placebo	RR: 0.82 (0.64–1.05)*	NR	NR	NR
	GLP-1 RA	Placebo	RR: 0.82 (0.73–0.92)*	NR	NR	NR
Li 2022[10]	GLP-1 RA	Placebo	NR	NR	OR: 4.20 (0.69–25.67)***	NR
	SGLT2i	Placebo	NR	NR	OR: 1.16 (0.66–2.02)**	NR
	SGLT2i	GLP-1 RA	NR	NR	OR: 0.28 (0.04–1.83)*	NR
Yang 2023[15]	SGLT2i	GLP-1 RA	NR	RR: 1.02 (0.76–1.37)**	NR	NR
	SGLT2i	Placebo	NR	RR: 0.89 (0.75–1.07)*	NR	NR
	GLP-1 RA	Placebo	NR	RR: 0.87 (0.69–1.09)*	NR	NR

Footnote: * represents values ⩽1; ** represents values >1 to ⩽1.75; *** represents values >1.75.
Abbreviations: AKI: acute kidney injury; CI: confidence interval; CV: cardiovascular; GLP-1 RA: Glucagon-like peptide-1 receptor agonist; HR: hazard ratio; NR: not reported; OR: odds ratio; RR: risk ratio; SGLT2i: sodium-glucose cotransporter 2 inhibitor; UTI: urinary tract infection

Primary Research

Nineteen of 27 primary studies reported at least one safety outcome (frequently reported AEs are presented in **Supplementary Table 13**). The FLOW trial was the only study to report all-cause mortality rate.[30] A numerical difference was observed between subgroups receiving semaglutide with versus without SGLT2i use at baseline (mortality rate 6.5% with baseline SGLT2i versus 14% without), p interaction=0.901. However, this finding should be interpreted with caution, given the lack of statistical significance, the limited subgroup size and the exploratory nature of the subgroup analysis.

Two studies documented serious AEs.[30, 32] In the FLOW trial, the rate of serious AEs in participants treated with semaglutide was similar between participants with and without baseline SGLT2i use, 48.4% versus 49.9%, respectively.[30] Similarly, when stratified by GLP-1 RA use at baseline, the DAPA-CKD trial reported comparable rates of serious AEs following dapagliflozin treatment: 30.2% for participants with baseline GLP-1 RA use, and 29.4% for those without baseline GLP1-RA use.[32]

Supplementary Table 13: Frequently Reported Adverse Events in Primary Research Studies

Study Name	Intervention	Mortality from CV Outcomes	Overall Serious AEs	AKI	Hypoglycaemia	UTI	Kidney Replacement Therapy (KRT; Dialysis/ Transplantation)
DAPA-CKD[32]	Dapagliflozin (with GLP-1 RA use at baseline)	NR	19 (30.2%)	NR	NR	NR	NR
	Dapagliflozin (without GLP-1 RA use at baseline)	NR	614 (29.4%)	NR	14 (0.7%)	NR	NR
Edmonston 2024[35]	SGLT2i initiators[a]	NR	NR	Reference group	Reference group	Reference group	Dialysis Incidence rate: 6.42 Reference group for HR Transplantation Incidence rate: 0
	GLP-1 RA initiators[a]	NR	NR	HR: 0.85 (0.38–1.91)	HR: 0.87 (0.63–1.21)	HR: 0.93 (0.29–2.94)	Dialysis Incidence rate: 8.66 HR: 0.71 (95% CI: 0.43–1.17) Transplantation Incidence rate: 0.11
FLOW[30]	Semaglutide (with SGLT2i use at baseline)	9 (3.2%); HR: 0.68 (0.28–1.57) (Reference group: placebo with SGLT2i use at baseline)	48.40%	NR	NR	NR	Dialysis 12 (4.3%) HR: 0.98 (95% CI: 0.43–2.20) Reference group: placebo with SGLT2i use at baseline
	Semaglutide (without SGLT2i use at baseline)	114 (7.7%) HR: 0.71 (0.56–0.91) (Reference group: placebo without SGLT2i use at baseline)	49.9%	NR	NR	NR	Dialysis 75 (5%) HR: 0.82 (95% CI: 0.60–1.12) Reference group: placebo without SGLT2i use at baseline
Fu 2023[37]	SGLT2i (after PSM)	NR	NR	NR	HR: 1.08 (0.92–1.26)	325 events[b]	NR
	GLP-1 RA (after PSM)	NR	NR	NR	Reference group	322 events[b]	NR
Hartsell 2024[38]	SGLT2i	NR	NR	NR	HR: 0.67 (0.54–0.83)	NR	NR
	GLP-1 RA	NR	NR	NR	HR: 1 (Reference group)	NR	NR
Lee 2025[25]	SGLT2i Matched group (ITT)	NR	NR	NR	NR	NR	Dialysis 1 year (n=31): HR:1.72 (95% CI:1.11–2.68) 2 year (n=94): HR: 1.73 (95% CI: 1.34–2.23) 3 year (n=174): HR: 1.48 (95% CI: 1.22–1.79)

Study Name	Intervention	Mortality from CV Outcomes	Overall Serious AEs	AKI	Hypoglycaemia	UTI	Kidney Replacement Therapy (KRT; Dialysis/ Transplantation)
							Reference group for all HRs was GLP-1 RA Matched group (ITT)
	SGLT2i Matched group (Full time analysis)	NR	NR	NR	NR	NR	Dialysis N=261 HR: 1.39 (95% CI: 1.19–1.63) Reference group was GLP-1 RA Matched group (Full time analysis)
	GLP-1 RA Matched group (ITT)	NR	NR	NR	NR	NR	Dialysis 1 year (n=54) 2 year (n=165) 3 year (n=262) Reference group for SGLT2i Matched group (ITT)
	GLP-1 RA eGFR 45–59 mL/min/1.73 m^2 matched group (ITT)	NR	NR	NR	NR	NR	Dialysis 1 year (n=363) 2 year: HR:0.49 (95% CI: 0.15–1.63) 3 year: HR: 1.10 (95% CI: 0.55–2.21) Reference group was SGLT2i matched group
	GLP-1 RA eGFR 45–59 mL/min/1.73 m^2 matched group (Full time analysis)	NR	NR	NR	NR	NR	Dialysis HR: 1.24 (95% CI: 0.77–1.98) Reference group was SGLT2i matched group
	GLP-1 RA eGFR <45 mL/min/1.73 m^2 matched group (ITT)	NR	NR	NR	NR	NR	Dialysis 1 year: HR:1.93 (95% CI: 1.19–3.13) 2 year: HR:1.92 (95% CI: 1.46–2.53) 3 year: HR: 1.60 (95% CI:1.30–1.97) Reference group was SGLT2i matched group
	GLP-1 RA eGFR <45 mL/min/1.73 m^2 matched group (Full time analysis)	NR	NR	NR	NR	NR	Dialysis HR: 1.56 (95% CI: 1.31–1.86) Reference group was SGLT2i matched group
	GLP-1 RA UACR <300 mg/g matched group (ITT)	NR	NR	NR	NR	NR	Dialysis 2 year: HR:1.96 (95% CI: 0.36–10.72) 3 year: HR: 0.97 (95% CI:0.37–2.59) Reference group was SGLT2i matched group
	GLP-1 RA UACR <300 mg/g matched group (Full time analysis)	NR	NR	NR	NR	NR	Dialysis HR: 1.09 (95% CI: 0.44 to 2.68) Reference group was SGLT2i matched group
	GLP-1 RA UACR ≥300 mg/g matched group (ITT)	NR	NR	NR	NR	NR	Dialysis 1 year: HR:2.67 (95% CI: 1.24–5.75) 2 year: HR:1.70 (95% CI: 1.14–2.53)

Study Name	Intervention	Mortality from CV Outcomes	Overall Serious AEs	AKI	Hypoglycaemia	UTI	Kidney Replacement Therapy (KRT; Dialysis/ Transplantation)
							3 year: HR: 1.43 (95% CI:1.04–1.95) Reference group was SGLT2i matched group
	GLP-1 RA UACR ≥300 mg/g matched group (Full time analysis)	NR	NR	NR	NR	NR	Dialysis HR: 1.33 (95% CI: 1.03–1.71) Reference group was SGLT2i matched group
Nawaz 2024[26]	GLP-1 RA	NR	NR	NR	RR: 1.10	14,385/343,991	NR
	SGLT2i	NR	NR	NR	RR: 1.08	10,062/266,094	NR

Footnote: Green: HR≤1 and 95% CIs do not cross 1. [a]In Edmonston 2024, patients are referred to as initiators because follow-up began the day after patients started treatment with either SGLT2i or GLP-1 RA (the index date) and continued until the earliest occurrence of one of the following: death, 12 months after their last observed prescription, 2 years after the index date, or the study end date (31/12/2021); [b]Events of severe UTI.

Abbreviations: AE: adverse event; AKI: acute kidney injury; CI: confidence interval; CV: cardiovascular; eGFR: estimated glomerular filtration rate; GLP-1 RA: Glucagon-like peptide-1 receptor agonist; HR: hazard ratio; ITT: intention to treat; KRT: kidney replacement therapy; NR: not reported; PSM: propensity score matching; RR: risk ratio; SGLT2i: Sodium-glucose cotransporter 2 inhibitor; UACR: urine albumin creatinine ratio; UTI: urinary tract infection.

Treatment Sequencing and Preferences

No MAs reported outcomes related to treatment sequencing. One primary research study discussed the relative positioning of therapies with respect to efficacy.[19]

In the RECAP trial, the incidence of kidney composite outcomes did not differ significantly between the two groups (SGLT2i first or GLP-1 RA first).[19] A 'win ratio' was calculated as a separate prespecified outcome. It included the components of the composite kidney outcome while accounting for prespecified clinical priorities. All participants in each group competed in the order of the outcome weights and the number of 'wins' was counted. The 'win ratio' of the GLP-1 RA first group was significant, however, the authors stated that this result should be interpreted with caution as the better kidney outcomes in the GLP-1 RA-first group may have been attributable to the addition of an SGLT2i, and larger prospective studies are needed.

260 **Supplementary Table 14. Summary of Treatment Preferences in Meta-Analyses**

Study Name	Discussion Related to Best Therapy	Discussion Related to Combination of GLP-1 and SGLT2i	Discussion Related to mechanism of action (MoA)	Author Conclusion(s)
Apperloo 2024[9]	♦ Effect of SGLT2i on major adverse CV events and HHF or CV death was consistent in participants receiving and not receiving a GLP-1 RA at baseline ♦ SGLT2i reduced the risk of CKD progression in participants receiving and not receiving GLP-1 RAs	♦ Findings suggest independent effects of these evidence-based therapies and support clinical practice guidelines recommending the use of both these agents to optimise CV and kidney outcomes	♦ CV and kidney protective effects of SGLT2i and GLP-1 RAs likely explained through distinct MoAs. Both reduce cardiometabolic risk factors, although effects of GLP-1 RAs on glycaemia and bodyweight are substantially greater than those of SGLT2i. Effects are unlikely to fully explain the magnitude of benefit observed on the clinical outcomes for either class ♦ SGLT2is reduce measures of glomerular pressure, which might contribute to their kidney protective effects, effects on tubular energy expenditure, nutrient deprivation signalling, autophagy, and inflammation are also likely to be important ♦ GLP-1 RAs stabilise atherosclerotic plaques, and suppress pro-inflammatory and pro-fibrotic pathways, with the latter potentially contributing to kidney benefits ♦ Thus, these two classes of agents have distinct domains, clinically and biologically, such that the beneficial CV and kidney effects are likely to be complementary	♦ No clear and separate benefits of SGLT2i on kidney endpoints. A dedicated clinical trial outcome looking at the additive benefits of combination therapy for both drugs is needed
Arshad 2021[6]	♦ For patients with T2D and CKD, the results conclude SGLT2is afford protection from MACEs, although fragility index studies suggest this statistically significant outcome can be altered with event reclassification of only 12 study participants ♦ No statistically significant benefit is observed with the use of GLP-1 analogues in patients with an eGFR <60 ml/min per 1.73 m^2	♦ NR	♦ The mechanisms for SGLT2is providing CV protection remain a source of speculation ♦ One hypothesis is that the CV protection is primarily driven by the attenuation of adverse outcomes related to HF	♦ The data in this publication suggests that only SGLT2is have a clinical evidence base for the prevention of major adverse cardiovascular outcomes for individuals with an eGFR <60 ml/min per 1.73 m^2

Study Name	Discussion Related to Best Therapy	Discussion Related to Combination of GLP-1 and SGLT2i	Discussion Related to mechanism of action (MoA)	Author Conclusion(s)
Bellos 2025[8]	♦ Study included a multicriteria decision analysis as tool to guide optimal treatment selection, balancing efficacy and safety ♦ SGLT2i therapy emerged as the intervention of choice in all scenarios ♦ Finding was stable in majority of subgroups, as SGLT2i was suggested to represent the best interventions among patients with diabetes mellitus, history of CV disease, eGFR <45 mL/min/1.73 m^2, and UACR >300 mg/g ♦ A similar effect in studies at low risk of bias, designed to randomise exclusively CKD patients	♦ SGLT2i may exert beneficial CV and kidney effects irrespective of baseline GLP-1 RA therapy ♦ A similar outcome has been proposed for GLP-1 RAs, as its administration is linked to favourable outcomes regardless of baseline SGLT2i intake ♦ On the other hand, observational studies have pointed towards a potential synergistic effect of SGLT2i and GLP-1 RAs since their combination has shown superiority over monotherapy with either agent	♦ NR	♦ SGLT2i, GLP-1 RAs, and nsMRA are associated with significant reductions in the risk of major CV events and the progression of kidney disease compared to the placebo, in patients with CKD ♦ While indirect evidence suggests that SGLT2i may offer the most favourable balance of efficacy and safety, the certainty of evidence is low, necessitating confirmation through direct comparative trials ♦ Future studies should prioritise head-to-head comparisons of these therapies and investigate the potential for synergistic effects in combination regimens
D'Andrea 2020[7]	♦ A direction toward larger benefits was observed among patients with baseline CKD for the SGLT2i treatment, and among patients with baseline uncontrolled diabetes for both SGLT-2i or GLP-1 RA drugs	♦ NR	♦ NR	♦ The overall benefits of SGLT2i or GLP-1 RA drugs on major adverse cardiovascular events range between 11% and 12% ♦ History of established atherosclerotic CV disease appears to be only modifier of treatment effect of SGLT2i or GLP-1 RA for major CV events, though more information on the effect of these agents is needed among patients without history of CV disease
Guo 2025[11]	♦ Semaglutide appears to be the optimal choice among all drug classes for patients with high HbA1c and poor	♦ NR	♦ NR	♦ Also, it is important to note that there was very little comparison of an SGLT2i to a GLP-1 RA for any of the outcomes so it may not be useful to judge

Study Name	Discussion Related to Best Therapy	Discussion Related to Combination of GLP-1 and SGLT2i	Discussion Related to mechanism of action (MoA)	Author Conclusion(s)
	eGFR, when compared to the other two drugs ♦ Canagliflozin, empagliflozin and semaglutide are considered the most suitable medications for patients with high body weight and elevated HbA1c levels, especially canagliflozin ♦ There does not appear to be a specific benefit to one drug class over another in this NMA			combination therapy/positioning from this NMA
Kamdar 2021[12]	♦ SGLT2i have significantly lower rates of ACM and HHF ♦ GLP-1 RA agonists appear to reduce fatal/nonfatal MI, but across the class have differing effects on other CV outcomes	♦ NR	♦ NR	♦ There is encouraging evidence from existing trial data that SGLT2i and GLP-1 RA agonists are safe in patients with CKD ♦ Additionally, long-term follow-up data is required with wider inclusion of patients with eGFR <30 mL/min/1.73 m^2 to confidently evaluate the safety of these medications in patients with CKD 4 or above, as well as dialysis-dependent patients ♦ Further studies specifically designed for patients with CKD without T2D are also of merit to account for the differences in disease progression
Li 2022[10]	♦ No significant difference between the drugs. However, SGLT2i had highest surface under the cumulative ranking (SUCRA) ranking and the best efficacy for lower ACM, incidence of serious renal-related AEs or renal death, and severe side effects and worst ranking in reducing HbA1c, ACM and severe kidney injury ♦ GLP-1 RAs did not differ from placebo concerning serious renal-related AEs or renal death in patients with severe	♦ T2DM patients with severe CKD may benefit from SGLT2i. If blood glucose control is poor, GLP-1 RAs can be administered as a supplement, but this is not recommended for patients with ESRD because there is insufficient evidence to support its safety and	♦ Theoretically, the hypoglycaemic effect of SGLT2i usually declines as kidney function declines. Thus, many physicians are sceptical about the use of SGLT2i in patients with stage 4 disease ♦ Nevertheless, patients with stage 4 disease were covered by all three included studies, and our findings illustrated that even CKD patients with stage 4 can still benefit from SGLT2i	♦ Appears that SGLT2i are a more favourable treatment option, with the conclusion being that the positioning on GLP-1 RAs should be a supplement to SGLT2i when blood glucose targets need to be met ♦ However, it is clear that more head-to-head clinical trials for GLP-1 RAs and SGLT2i in patients with CKD and T2D are needed

Study Name	Discussion Related to Best Therapy	Discussion Related to Combination of GLP-1 and SGLT2i	Discussion Related to mechanism of action (MoA)	Author Conclusion(s)
	CKD. GLP-1 RAs ranked lower than SGLT2i in SUCRA rankings	efficacy in this population	♦ Renal protection of SGLT2i is not entirely dependent on blood glucose control but is most likely through direct renal mechanisms to benefit the kidneys	
Nguyen 2023[13]	♦ SGLT2is did not significantly reduce the risks of MACE but were associated with significantly lower risks of CRO and HHF compared with GLP-1 RAs	♦ NR	♦ Compared with GLP-1 RAs, the better efficacy of SGLT2is may be explained by their ability to directly influence CV and renal outcomes beyond their effects through lowering glucose levels	♦ SGLT2i provided better cardiorenal protection than GLP-1 RAs and nsMRAs ♦ However, there is no data directly comparing SGLT2i and GLP-1 RAs for these outcomes
Yamada 2021[14]	♦ SGLT2i decrease risk of CV and renal events in T2DM patients with CKD, which is compatible with RCTs of CKD patients ♦ GLP-1 RAs did not lead to significantly lower cardiovascular or renal endpoints, although they showed results numerically better ♦ Indirect comparison of SGLT2i with GLP-1 RAs revealed SGLT2i significantly decreased risk of renal outcomes. Sensitivity analyses showed a similar tendency	♦ NR	♦ Several mechanisms have been proposed ♦ SGLT2i have mild natriuretic and diuretic effects, which lead to BP reduction and thereby confer cardiovascular and nephroprotective benefits ♦ SGLT2i mitigate low-grade inflammation; prevent glucose entry into proximal tubular cells, which limits glucotoxicity, potentially leading to less oxidative stress ♦ SGLT2i block sodium reuptake in the proximal tubule; an increased delivery of sodium to the macula densa leads to afferent arteriolar constriction and a reduction in intraglomerular pressure ♦ Since SGLT2i antagonise glucose reabsorption in renal tubule, expect the effect to be dependent on eGFR. However, a pooled analysis of clinical trials revealed that SGLT2i decrease body weight, BP, and albuminuria regardless of eGFR, although glucose-lowering effects decreased as eGFR declined. This study also revealed beneficial effects of SGLT-2 inhibitors in both eGFR 30–44 and 45–59 mL/m^2/min/1.73 m^2 groups ♦ In addition to glycaemic control, GLP-1 RAs lead to BP reduction, which can be	♦ SGLT2is significantly decrease the risk of renal events compared to GLP-1 RAs. Sensitivity analyses were consistent ♦ Among GLP-1 RAs, GLP-1 analogues showed a positive impact, while exendin-4 analogues did not

Study Name	Discussion Related to Best Therapy	Discussion Related to Combination of GLP-1 and SGLT2i	Discussion Related to mechanism of action (MoA)	Author Conclusion(s)
			attributed to natriuresis. Other possible mechanisms are the reduction of reactive oxygen species and inflammation and improvement of endothelial function. However, this study did not find a significant difference between GLP-1 RAs and placebo	
Yang 2023[15]	♦ For kidney outcomes, moderate to high-quality evidence suggested that SGLT-2is were optimal in terms of reducing composite renal events, slowing eGFR decline, and lessening albuminuria ♦ Then MRAs, GLP-1 RAs, and ERAs were followed in parallel ♦ However, for CV protection, GLP-1 RAs also reduce the risk of MACE as well as HHF	♦ NR	♦ A novel finding in this NMA was that SGLT2i probably reduce the risk of hyperkalaemia ♦ The possible mechanisms might be that enhanced sodium reabsorption from collecting duct principal cells increased the negative charge in the tubules, thereby promoting potassium excretion from the distal renal unit, and reducing the risk of hyperkalaemia	♦ SGLT2i were determined to be definitely better than control for CROs, eGFR decline and HHF ♦ GLP-1 RAs were only determined to be possibly better than control for these outcomes, positioning SGLT2i ahead of GLP-1 RAs ♦ The results of this meta-analysis also reflect other MAs, where SGLT2i were found to have the best effect on kidney protection
Zhang 2022[16]	♦ GLP-1 RA decreased the risk of MACE compared with placebo but did not show any significant benefit in reducing renal outcome when compared with placebo ♦ SGLT2i were associated with a decreased risk of renal outcome and HHF compared with finerenone and GLP-1 RA. Implies that GLP-1 RA has no significant advantage over SGLT2i	♦ NR	♦ The mechanism of nephroprotective action of GLP-1 analogues is not entirely clear ♦ It was believed that GLP-1 analogues are metabolised in target tissues via the common proteolytic pathway of large proteins. Their large molecular size or noncovalent attachment to albumin can prevent them from being eliminated by the kidneys. However, exendin-4 analogues are metabolized and eliminated by the kidneys	♦ For renal outcome and HHF, SGLT2i had significant effect over finerenone and GLP-1 RA ♦ CV risks are common within diabetic patients with CKD, when such risk jeopardize the well being of the patient, SGLT2i, finerenone and GLP-1 analogues are all apposite recommendations, but when the risk of renal events heightens, then SGLT2i will be the sole recommendation available

Abbreviations: ACM: all-cause mortality; AE: adverse event; BP: blood pressure; CKD: chronic kidney disease; CRO: composite renal outcomes; CV: cardiovascular; ERA: endothelin receptor antagonist; ESRD: end stage renal disease; GLP-1 RA: glucagon-like peptide-1 receptor agonists; HbA1c: haemoglobin A1c; HF: heart failure; HHF: heart failure hospitalisation; MACE: major adverse cardiovascular event; MI: myocardial infarction; MoA: mechanism of action; MRA: mineralocorticoid receptor antagonist; NMA: network meta-analysis; NR: not reported; ns-MRA: non-steroidal mineralocorticoid receptor antagonists; RCT: randomised controlled trial; SAEs: serious adverse events; SGLT2i: sodium–glucose cotransporter 2 inhibitor; SLR: systematic literature review; SUCRA: Surface Under the Cumulative Ranking; T2D: type 2 diabetes; UACR: urine albumin creatinine ratio.

6. Study Quality

Supplementary Table 15. Summary of Results of A MeaSurement Tool to Assess Systematic Reviews 2 (AMSTAR-2) Checklist for Meta-Analyses

AMSTAR-2 Checklist Questions	Apperloo 2024[9]	Arshad 2021[6]	Bellos 2025[8]	D'Andrea 2020[7]	Guo 2025[11]	Kamdar 2021[12]	Li 2022[10]	Nguyen 2023[13]	Yamada 2021[14]	Yang 2023[15]	Zhang 2022[16]
1. Did the research questions and inclusion criteria for the review include the components of PICO?	NI	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
2. Did the report of the review contain an explicit statement that the review methods were established prior to the conduct of the review and did the report justify any significant deviations from the protocol?	NI	Y	Y	NI	Y	Y	NI	PY	Y	Y	Y
3. Did the review authors explain their selection of the study designs for inclusion in the review?	N	N	N	N	N	Y	Y	N	Y	N	Y
4. Did the review authors use a comprehensive literature search strategy?	NI	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
5. Did the review authors perform study selection in duplicate?	NI	Y	Y	NI	Y	Y	Y	Y	Y	Y	Y
6. Did the review authors perform data extraction in duplicate?	NI	Y	Y	Y	Y	Y	Y	NI	Y	Y	Y
7. Did the review authors provide a list of excluded studies and justify the exclusions?	PY	PY	Y	N	PY	N	PY	PY	N	PY	N
8. Did the review authors describe the included studies in adequate detail?	N	PY	PY	PY	PY	PY	PY	PY	PY	PY	PY
9. a) Did the review authors use a satisfactory technique for assessing the risk of bias in RCTs that were included in the review?	NI	Y	Y	N	Y	PY	Y	Y	Y	Y	Y
9. b) Did the review authors use a satisfactory technique for assessing the risk of bias in non-RCTs on the intervention that were included in the review?	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
10. Did the review authors report on the sources of funding for the studies included in the review?	Y	N	N	N	N	N	N	N	N	N	N
11. Was quantitative synthesis of the results (e.g., via meta-analysis) performed?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
11. a) If meta-analysis of RCTs was performed did the review authors use appropriate methods for statistical combination of results?	Y	NI	Y	Y	Y	Y	Y	NI	Y	NI	Y
11. b) If meta-analysis of non-RCTs of the intervention was performed did the review authors use appropriate methods for statistical combination of results?	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

12. If meta-analysis was performed, did the review authors assess the potential impact of risk of bias in individual studies on the results of the meta-analysis or other evidence synthesis?	N	N	Y	Y	N	Y	N	N	N	Y	N
13. Did the review authors account for risk of bias in individual studies when interpreting/discussing the results of the review?	N	Y	Y	Y	Y	Y	N	N	Y	Y	N
14. Did the review authors provide a satisfactory explanation for, and discussion of, any heterogeneity observed in the results of the review?	Y	N	N	Y	Y	N	Y	Y	Y	Y	N
15. If they performed quantitative synthesis did the review authors carry out an adequate investigation of publication bias (small study bias) and discuss its likely impact on the results of the review?	N	Y	N	Y	Y	Y	Y	Y	N	Y	Y
16. Did the review authors report any potential sources of conflict of interest, including any funding they received for conducting the review?	N	N	Y	Y	Y	Y	N	N	Y	N	Y

Abbreviations: N: no; NA: not applicable; NI: no information; PICO: population, intervention, comparator and outcome; PN or PY: partially no or partially yes; RCT: randomised controlled trials; Y: yes

Supplementary Table 16. Summary of Results of the Cochrane Risk-of-Bias (RoB 2) Tool for Randomised Controlled Trials

RoB 2 Checklist Questions	DAPA-CKD[32]	DECADE[27]	FLOW[30]	Marx 2025[29]	Selvarajah 2024[31]
1.1 Was the allocation sequence random?	Y	Y	Y	Y	Y
1.2 Was the allocation sequence concealed until participants were enrolled and assigned to interventions?	Y	PN	NI	NI	NI
1.3 Did the baseline differences between intervention groups suggest a problem with the randomisation process?	N	PN	N	PN	PN
2.1 Were participants aware of their assigned intervention during the trial?	N	PY	N	N	PY
2.2 Were carers and people delivering the interventions aware of participants' assigned intervention during the trial?	N	PY	N	N	PY
2.3 Were there deviations from the intended intervention that arose because of the trial context?	NA	NI	NA	NA	NI
2.4 Were these deviations likely to have affected the outcome?	NA	NA	NA	NA	NA
2.5 Were these deviations from intended intervention balanced between groups?	NA	NA	NA	NA	NA
2.6 Was an appropriate analysis used to estimate the effect of assignment to intervention?	Y	PY	Y	Y	Y
2.7 Was there potential for a substantial impact (on the result) of the failure to analyse participants in the group to which they were randomised?	NA	NA	NA	NA	NA
3.1 Were data for this outcome available for all, or nearly all, participants randomised?	NI	PY	Y	PN	Y
3.2 Is there evidence that the result was not biased by missing outcome data?	PN	NA	NA	PN	NA

3.3 Could missingness in the outcome depend on its true value?	PN	NA	NA	PN	NA
3.4 Is it likely that missingness in the outcome depended on its true value?	NA	NA	NA	NA	NA
4.1 Was the method of measuring the outcome inappropriate?	N	N	PN	N	N
4.2 Could measurement or ascertainment of the outcome have differed between intervention groups?	N	N	PN	N	N
4.3 Were outcome assessors aware of the intervention received by study participants?	N	Y	N	N	PY
4.4 Could assessment of the outcome have been influenced by knowledge of intervention received?	NA	PN	NA	NA	N
4.5 Is it likely that assessment of the outcome was influenced by knowledge of intervention received?	NA	PN	NA	NA	NA
5.1 Were the data that produced this result analysed in accordance with a pre-specified analysis plan that was finalised before unblinded outcome data were available for analysis?	Y	Y	PY	Y	Y
5.2. Is the numerical result being assessed likely to have been selected, on the basis of the results, from multiple eligible outcome measurements (e.g. scales, definitions, time points) within the outcome domain?	N	PN	N	N	N
5.3 Is the numerical result being assessed likely to have been selected, on the basis of the results, from multiple eligible analyses of the data?	N	PN	N	N	N
Overall risk of bias: low risk, high risk, some concerns	**Low risk**	**Some concerns**	**Low risk**	**Some concerns**	**Some concerns**

Abbreviations: N: no; NA: not applicable; NI: no information; PN or PY: partially no or partially yes; RoB: risk of bias; Y: yes.

Supplementary Table 17. Summary of Results of the Risk of Bias in Non-Randomised Studies of Interventions (ROBINS-I) Tool for Observational Studies

ROBINS-I Checklist Questions	Chaiyakunapruk 2025[34]	Chu 2024[17]	DARWIN-Renal[43]	Dong 2022[22]	Edmonston 2024[35]	EMPRISE[36]	Fu 2023[37]	Hartsell 2024[38]	Hsiao 2022[23]	Htoo 2022[36]	Hu 2024[18]	Juliusdottir 2023[28]	Kashima 2023[48]	Lee 2025[25]	McCormick 2024[40]	Nawaz 2024[26]	Paik 2024[41]	RECAP[19]	Rhee 2024[42]	Rossing 2023[33]	Tsuchida 2022[20]	Yang 2024[21]
1.1 Is there potential for confounding of the effect of intervention in this study?	PY	N	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	N	N	PN	N	Y
1.2 Was the analysis based on splitting participants'	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	N	NA	NA	NA	NA	NA	NA	NA	NA	N

ROBINS-I Checklist Questions	Chaiyakunapruk 2025[34]	Chu 2024[17]	DARWIN-Renal[43]	Dong 2022[22]	Edmonston 2024[35]	EMPRISE[36]	Fu 2023[37]	Hartsell 2024[38]	Hsiao 2022[23]	Htoo 2022[36]	Hu 2024[18]	Juliusdottir 2023[28]	Kashima 2023[48]	Lee 2025[25]	McCormick 2024[40]	Nawaz 2024[26]	Paik 2024[41]	RECAP[19]	Rhee 2024[42]	Rossing 2023[33]	Tsuchida 2022[20]	Yang 2024[21]
follow-up time according to intervention received?																						
1.3 Were intervention discontinuations or switches likely to be related to factors that are prognostic for the outcome?	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1.4 Did the authors use an appropriate analysis method that controlled for all the important confounding domains?	Y	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NI	NA	NA	NA	NA	NA	NA	NA	NA	NI
1.5 Were confounding domains that were controlled for measured validly and reliably by the variables available in this study?	PN	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1.6 Did the authors control for any post-	PN	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NI	NA	NA	NA	NA	NA	NA	NA	NA	NI

ROBINS-I Checklist Questions	Chaiyakunapruk 2025[34]	Chu 2024[17]	DARWIN-Renal[43]	Dong 2022[22]	Edmonston 2024[35]	EMPRISE[36]	Fu 2023[37]	Hartsell 2024[38]	Hsiao 2022[23]	Htoo 2022[36]	Hu 2024[18]	Juliusdottir 2023[28]	Kashima 2023[48]	Lee 2025[25]	McCormick 2024[40]	Nawaz 2024[26]	Paik 2024[41]	RECAP[19]	Rhee 2024[42]	Rossing 2023[33]	Tsuchida 2022[20]	Yang 2024[21]
intervention variables that could have been affected by the intervention?																						
1.7 Did the authors use an appropriate analysis method that adjusted for all the important confounding domains and for time-varying confounding?	PN	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1.8 Were confounding domains that were adjusted for measured validly and reliably by the variables in this study?	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2.1 Was selection of participants into the study (or into the analysis) based on participant characteristics observed after	PN	N	PN	N	N	N	N	PN	N	N	N	N	N	N	N	N	N	Y	N	Y	N	N

ROBINS-I Checklist Questions	Chaiyakunapruk 2025[34]	Chu 2024[17]	DARWIN-Renal[43]	Dong 2022[22]	Edmonston 2024[35]	EMPRISE[36]	Fu 2023[37]	Hartsell 2024[38]	Hsiao 2022[23]	Htoo 2022[36]	Hu 2024[18]	Juliusdottir 2023[28]	Kashima 2023[48]	Lee 2025[25]	McCormick 2024[40]	Nawaz 2024[26]	Paik 2024[41]	RECAP[19]	Rhee 2024[42]	Rossing 2023[33]	Tsuchida 2022[20]	Yang 2024[21]
the start of the intervention?																						
2.2 Were the post-intervention variables that influenced selection likely to be influenced by the intervention?	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	PY	NA	PY	NA	NA
2.3 Were the post-intervention variables that influenced selection likely to be influenced by the outcome or a cause of the outcome?	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	PY	NA	PY	NA	NA
2.4 Do start of follow-up and start of intervention coincide for most participants?	Y	Y	NI	Y	Y	Y	Y	NI	Y	Y	Y	NI	N	Y	PY	NI	Y	NA	Y	NA	NI	PY
2.5 Were adjustment techniques used that are likely to correct for the	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	N	NA	NA	NA	NA	N	NA	Y	NA	NA

ROBINS-I Checklist Questions	Chaiyakunapruk 2025[34]	Chu 2024[17]	DARWIN-Renal[43]	Dong 2022[22]	Edmonston 2024[35]	EMPRISE[36]	Fu 2023[37]	Hartsell 2024[38]	Hsiao 2022[23]	Htoo 2022[36]	Hu 2024[18]	Juliusdottir 2023[28]	Kashima 2023[48]	Lee 2025[25]	McCormick 2024[40]	Nawaz 2024[26]	Paik 2024[41]	RECAP[19]	Rhee 2024[42]	Rossing 2023[33]	Tsuchida 2022[20]	Yang 2024[21]
presence of selection bias?																						
3.1 Were intervention groups clearly defined?	Y	Y	Y	Y	Y	Y	Y	PN	Y	Y	Y	Y	PN	Y	PY	Y	Y	Y	PN	Y	Y	Y
3.2 Was the information used to define intervention groups recorded at the start of the intervention?	Y	Y	Y	Y	Y	Y	Y	NI	Y	Y	Y	Y	NI	Y	Y	NI	Y	NI	NI	NI	Y	NI
3.3 Could classification of intervention status have been affected by knowledge of the outcome or risk of the outcome?	N	N	PY	N	N	N	N	N	N	PN	N	N	NI	N	N	N	N	NI	N	N	N	NI
4.1 Were there deviations from the intended interventions beyond what would be expected in usual practice?	PN	PY	PY	PY	PN	PN	Y	NI	NI	PY	NI	NI	NI	N	NI	NI	PN	N	NI	NI	NI	NI
4.2 Were these deviations from intended	NI	NA	PN	NI	NA	NA	NI	NI	NI	NI	NI	NI	NI	NA	NI	NI	NA	NA	NA	NI	NI	NI

ROBINS-I Checklist Questions	Chaiyakunapruk 2025[34]	Chu 2024[17]	DARWIN-Renal[43]	Dong 2022[22]	Edmonston 2024[35]	EMPRISE[36]	Fu 2023[37]	Hartsell 2024[38]	Hsiao 2022[23]	Htoo 2022[36]	Hu 2024[18]	Juliusdottir 2023[28]	Kashima 2023[48]	Lee 2025[25]	McCormick 2024[40]	Nawaz 2024[26]	Paik 2024[41]	RECAP[19]	Rhee 2024[42]	Rossing 2023[33]	Tsuchida 2022[20]	Yang 2024[21]
interventions unbalanced between groups and likely to have affected the outcome?																						
4.3 Were important co-interventions balanced across intervention groups?	NI	Y	PY	Y	Y	Y	Y	NI	PY	PY	Y	PN	NI	Y	NI	NI	Y	Y	PY	NI	PY	NI
4.4 Was the intervention implemented successfully for most participants?	NI	NI	PY	NI	NI	NI	N	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
4.5 Did study participants adhere to the assigned intervention group?	NI	PY	PY	N	NI	PY	N	NI	NI	NI	NI	NI	NI	NI	NI	NI	PY	NI	NI	NI	NI	NI
4.6 Was an appropriate analysis used to estimate the effect of starting and adhering to the intervention?	NI	NI	PY	Y	Y	Y	Y	NI	NI	NI	Y	NI	NI	NI	NI	NI	PY	Y	Y	NI	NI	NI
5.1 Were outcome data	Y	Y	Y	Y	Y	NI	Y	PY	NI	Y	Y	Y	NI	Y	PY	NI	NI	Y	PN	NI	PY	NI

ROBINS-I Checklist Questions	Chaiyakunapruk 2025[34]	Chu 2024[17]	DARWIN-Renal[43]	Dong 2022[22]	Edmonston 2024[35]	EMPRISE[36]	Fu 2023[37]	Hartsell 2024[38]	Hsiao 2022[23]	Htoo 2022[36]	Hu 2024[18]	Juliusdottir 2023[28]	Kashima 2023[48]	Lee 2025[25]	McCormick 2024[40]	Nawaz 2024[26]	Paik 2024[41]	RECAP[19]	Rhee 2024[42]	Rossing 2023[33]	Tsuchida 2022[20]	Yang 2024[21]
available for all, or nearly all, participants?																						
5.2 Were participants excluded due to missing data on intervention status?	PN	N	PY	PN	PN	PN	PN	NI	PN	PN	PN	PN	NI	PN	NI	NI	NI	PY	PY	NI	NI	NI
5.3 Were participants excluded due to missing data on other variables needed for the analysis?	NI	N	PY	PN	NI	Y	N	NI	Y	NI	N	NI	NI	N	PY	NI	NI	N	N	NI	NI	NI
5.4 Are the proportion of participants and reasons for missing data similar across interventions?	NA	NA	PY	NI	NI	NI	NI	NI	NI	NA	NI	NI	NI	NI	NI	NA	NI	NI	NI	NA	NA	NA
5.5 Is there evidence that results were robust to the presence of missing data?	NA	NA	Y	NA	NA	NI	NA	NI	Y	NA	PY	NI	NI	Y	NI	NA	NI	Y	Y	NA	NA	NA
6.1 Could the outcome measure have been influenced by knowledge	PN	N	PN	N	N	N	N	PN	N	PN	N	N	PN	N	PN	PN	N	N	N	PN	PN	PN

ROBINS-I Checklist Questions	Chaiyakunapruk 2025[34]	Chu 2024[17]	DARWIN-Renal[43]	Dong 2022[22]	Edmonston 2024[35]	EMPRISE[36]	Fu 2023[37]	Hartsell 2024[38]	Hsiao 2022[23]	Htoo 2022[36]	Hu 2024[18]	Juliusdottir 2023[28]	Kashima 2023[48]	Lee 2025[25]	McCormick 2024[40]	Nawaz 2024[26]	Paik 2024[41]	RECAP[19]	Rhee 2024[42]	Rossing 2023[33]	Tsuchida 2022[20]	Yang 2024[21]
of the intervention received?																						
6.2 Were outcome assessors aware of the intervention received by study participants?	N	N	N	N	N	N	N	PN	N	N	N	N	NI	N	N	N	N	NI	NI	N	N	N
6.3 Were methods of outcome assessment comparable across intervention groups?	Y	Y	Y	Y	Y	Y	Y	NI	Y	PY	Y	Y	NI	Y	Y	Y	Y	NI	NI	Y	Y	Y
6.4 Were any systematic errors in measurement of the outcome related to intervention received?	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
7.1 Is the reported effect estimate likely to be selected, on the basis of results, from multiple outcome	NI	N	PY	N	N	N	N	NI	N	PN	N	N	NI	N	PN	NI	N	N	PN	NI	PN	NI

ROBINS-I Checklist Questions	Chaiyakunapruk 2025[34]	Chu 2024[17]	DARWIN-Renal[43]	Dong 2022[22]	Edmonston 2024[35]	EMPRISE[36]	Fu 2023[37]	Hartsell 2024[38]	Hsiao 2022[23]	Htoo 2022[36]	Hu 2024[18]	Juliusdottir 2023[28]	Kashima 2023[48]	Lee 2025[25]	McCormick 2024[40]	Nawaz 2024[26]	Paik 2024[41]	RECAP[19]	Rhee 2024[42]	Rossing 2023[33]	Tsuchida 2022[20]	Yang 2024[21]
measurements within the outcome domain?																						
7.2 Is the reported effect estimate likely to be selected, on the basis of results, from multiple analyses of the intervention-outcome relationship?	NI	N	PY	N	N	N	N	NI	N	PN	N	N	NI	N	PN	NI	N	N	N	NI	PN	NI
7.3 Is the reported effect estimate likely to be selected, on the basis of results, from different subgroups?	NI	N	PN	N	N	N	N	NI	N	PN	N	NI	NI	N	PY	NI	N	N	N	NI	PY	NI
OVERALL RISK OF BIAS (Low / Moderate / High / Critical / NI)s	**M**	**L**	**M**	**L**	**L**	**L**	**H**	**M**	**L**	**M**	**L**	**M**	**M**	**L**	**M**	**M**	**L**	**M**	**M**	**M**	**M**	**M**

273 **Abbreviations:** H: high; L: low; M: moderate; N, no; NA: not applicable; NI, no information; PN or PY, partially no or partially yes; ROBINS-I: Risk of Bias in Non-Randomised Studies of Interventions; Y, yes.

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