Supplementary Online Content

Su YC, Hung JH, Chang KC, et al. Comparison of sodium glucose cotransporter 2 inhibitors vs glucagonlike peptide-1 receptor agonists and incidence of dry eye disease in patients with type 2 diabetes in Taiwan. *JAMA Netw Open*. 2022;5(9):e2232584. doi:10.1001/jamanetworkopen.2022.32584

eFigure. Cohort Selection

eTable 1. Taiwan’s National Health Insurance Reimbursement Guidelines for Artificial Tears and Topical Cyclosporine

eTable 2. Diagnosis Codes for Study Outcome and Comorbidities

eTable 3. Individual Comedication Drugs

This supplementary material has been provided by the authors to give readers additional information about their work.
Type 2 diabetes patients initiating SGLT2 inhibitors or GLP-1 RAs between 2016 and 2018 in CGRD, n= 21,968

Exclusion criteria:
1. Age < 18 years old, n=23
2. No baseline or follow-up outpatient visits, n=834
3. Previous diagnoses of keratitis, Sjögren’s syndrome, history of a corneal transplant or conjunctivochalasis, n=336
4. Incomplete baseline laboratory data, n=8,189
5. eGFR<30 ml/min/1.73m², n=159
6. Prevalent DED cases, n=77

Patient cohort, n=12,350
(SGLT2 inhibitors: n=11,022; GLP-1 RAs: n=1,328)

5% propensity score trimming, n=1,235

Study cohort, n=11,115
(SGLT2 inhibitors: n=10,038; GLP-1 RAs: n=1,077)

eFigure. Cohort selection.

Abbreviations: eGFR: estimated glomerular filtration rate, GLP-1 RA: glucagon-like peptide-1 receptor agonist, IPTW: inverse probability of treatment weighting, SGLT2: sodium-glucose co-transporter 2.
| Medications            | Reimbursement guidelines                                                                                                                                                                                                 |
|------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Artificial tears       | 1. Basal Schirmer test shows less than 5 mm of wetting, or  2. Patients have keratopathy caused by dry eye disease, exposure keratopathy, or other related keratopathies.                                                  |
| Topical cyclosporin    | 1. Dry eye disease severity is over grade 3, and  2. Basal Schirmer test shows less than 5 mm of wetting, and  3. Tear film break-up time is less than or equal to 5 seconds, and  4. Corneal surface images under fluorescein stain show punctate epithelial erosions, injected conjunctiva with filamentary keratitis, corneal ulcer, symblepharon, or keratinization of ocular surface epithelium, and  5. Patient tried topical anti-inflammatory agents or punctal occlusion or artificial tears but had limited treatment response. |
### eTable 2. Diagnosis codes for study outcome and comorbidities

| Diseases                        | ICD-9-CM codes | ICD-10-CM codes |
|---------------------------------|----------------|-----------------|
| **Study outcome**               |                |                 |
| Dry eye disease                 | 37515          | H0412           |
| **False outcome**               |                |                 |
| Vitreous floaters               | 37924          | H4339           |
| **Exclusion criteria**          |                |                 |
| Keratitis                       | 370            | H16             |
| Sjögren’s syndrome              | 7102           | M350            |
| History of a corneal transplant | V42.5          | Z947            |
| Conjunctivochalasis             | 37281          | H1182           |
| **Co-morbidities**              |                |                 |
| Diabetic complications          |                |                 |
| Diabetic retinopathy            | 2505, 3620     | E113            |
| Diabetic neuropathy             | 2506           | E114            |
| Diabetic nephropathy            | 2504           | E112            |
| **Ophthalmological conditions**|                |                 |
| Myopia                          | 36021, 3671    | H442, H521      |
| Presbyopia                      | 3674           | H524            |
| Glaucoma                        | 365            | H40, H42        |
| Uveitis                         | 36012, 3630, 3631, 36320, 36321, 36322, 3640, 3641, 3642, 3643 | H20, H300, H301, H302, H308, H309, H4411 |
| Blepharitis                     | 3730           | H010            |
| Conjunctivitis                  | 3720, 3721, 3722, 3723 | H100, H101, H102, H103, H104, H105, H1089, H109 |
| Pterygium / Pinguecula          | 3724, 3725     | H1081, H110     |
| **Cardiovascular co-morbidities**|                |                 |
| Coronary heart disease          | 410, 411, 412, 413, 414 | I20, I21, I22, I23, I24, I25 |
| Ischemic stroke                 | 433, 434       | I63             |
| Peripheral artery disease       | 440            | I70, I73        |
| Heart failure                   | 428            | I50             |
| Hypertension                    | 401, 402, 403, 404, 405 | I10, I11, I12, I13, I15, I16 |
| Atrial fibrillation             | 42731          | I48             |
| Dyslipidemia                    | 272            | E78             |
| Other co-morbidities                  | Code   | ICD-9-CM                        |
|--------------------------------------|--------|--------------------------------|
| Asthma                               | 493    | J45                            |
| Hypothyroidism / Hyperthyroidism     | 242, 244 | E03, E05                      |
| Liver disease                        | 456, 571, 572 | I85, K70, K71, K72, K73, K74, K75, K76, K77 |
| Benign prostatic hyperplasia         | 600    | N40                            |
| Chronic obstructive pulmonary disease| 491, 492, 496 | J44                           |
| Arthritis                            | 7162, 7163, 7165, 7166 | M13                           |
| Gout                                 | 274    | M10, M1A                       |
| Rheumatoid diseases                  | 4465, 7100, 7101, 7103, 7104, 7140, 7141, 7142, 7148, 725 | M051, M052-M059, M316, M321, M328, M329, M3303, M3313, M332, M3390, M3393, M340, M341, M349, M353 |
| Migraine                             | 346    | G43                            |
| Sleep apnea                          | 32723  | G473                           |
| Depression                           | 2962, 2963 | F32, F33                      |
| Schizophrenia                        | 295    | F20                            |
| Rosacea                              | 6953   | L71                            |

ICD-9-CM: International Classification of Diseases, Ninth Revision, Clinical Modification, ICD-10-CM: International Classification of Diseases, Tenth Revision, Clinical Modification
**eTable 3. Individual comedication drugs**

| Drug class                              | ATC code                          |
|-----------------------------------------|-----------------------------------|
| **Cardiovascular co-medication**        |                                   |
| Anti-platelet agents                    | B01AC04, B01AC07, B01AC24, N02BA01|
| Beta-blockers                           | C07AA05, C07AB02, C07AB03, C07AB07, C07AB12, C07AG02 |
| ACEI or ARBs                            | C09AA01, C09AA02, C09AA05, C09CA01, C09CA04, C09CA06, C09CA07, C09CA09, C09CA08, C09AA09, C09DB01 |
| Calcium channel blockers                | C08CA01, C08CA02, C08CA05, C08CA13, C08DB01, C08DA01 |
| Diuretics                               | S01EC01, C03EA01, C03AA, C03CA01, C03CA02, C03DA01, C03DA04, C02LA51, C03BA11 |
| Statin                                  | C10AA01, C10AA04, C10AA05, C10AA08, C10AA07 |
| Fibrate                                 | C10AB04, C10AB05 |
| **Diabetes co-medication**              |                                   |
| Sulfonylurea                            | A10BB01, A10BB07, A10BB09, A10BB12 |
| Dipeptidyl peptidase-4 inhibitors       | A10BH01, A10BH02, A10BH03, A10BH04, A10BH05 |
| Glinides                                | A10BX02, A10BX03, A10BX08 |
| Thiazolidinediones                      | A10BG03 |
| Insulins                                | A10AB01, A10AC01, A10AD01, A10AD04 |
| **Other co-medication**                 |                                   |
| Oral antihistamines                     | R06 |
| Antidepressants                         | N06A |
| Antianxiety medications                 | N05B |
| Oral steroids                           | H02 |
| Hormone replacement therapy             | G03C, G03F, G03H |

ACEI: Angiotensin converting enzyme inhibitor, ARB: Angiotensin receptor blocker