**Table D14. Results from randomized controlled trials and observational studies reporting outcomes in a subpopulation**

|  |  |
| --- | --- |
| **Subgroup** | **Outcome** |
|  | **HbA1c** | **Weight** | **Cardiovascular events** | **Nephropathy** | **Other AEs** |
| **Age** | **Metformin vs. sitagliptin:**[7](#_ENREF_7)**Metformin vs. alogliptin:**[131](#_ENREF_131) **Pioglitazone vs. alogliptin**:[141](#_ENREF_141)**Pioglitazone vs. sitagliptin:**[124](#_ENREF_124) **Glipizide vs. sitagliptin:**[6](#_ENREF_6)No age-treatment interaction**Metformin vs. metformin + DPP-4:**[2](#_ENREF_2), [57](#_ENREF_57), [61](#_ENREF_61), [72](#_ENREF_72), [96](#_ENREF_96), [119](#_ENREF_119), [131](#_ENREF_131), [135](#_ENREF_135), [175](#_ENREF_175), [188](#_ENREF_188) Favors combined therapy across age groups**Metformin vs. metformin + SU:**[2](#_ENREF_2), [57](#_ENREF_57), [61](#_ENREF_61)Favors combined therapy across age groups**Metformin + TZD vs. metformin + DPP-4:**[31](#_ENREF_31), [153](#_ENREF_153)No age-treatment interaction**Metformin + SU vs. metformin + DPP-4:**[148 41187](#_ENREF_148)No age-treatment interaction | No evidence | **Metformin vs. glyburide vs. glimepiride:**[199](#_ENREF_199) Favors metformin and glimepiride over glyburide in patients age 51 or older, but only metformin for patients aged 30 to 50 **Metformin vs. SU**:[210](#_ENREF_210) No interaction age-treatment | **Metformin vs. SU vs. Rosiglitazone:**[198](#_ENREF_198) No interaction age-treatment | **Hypoglycemia:****Metformin + SU vs. metformin + DPP4:**[5](#_ENREF_5), [70](#_ENREF_70) No age-treatment interaction**Fractures:** No evidence |
| **Sex** | **Metformin vs. sitagliptin:**[7](#_ENREF_7) **Metformin vs. alogliptin:**[131](#_ENREF_131) **Metformin vs. pioglitazone:**[50](#_ENREF_50)**Pioglitazone vs. alogliptin:**[141](#_ENREF_141)**Pioglitazone vs. sitagliptin:**[124](#_ENREF_124) **Glipizide vs. sitagliptin:**[6](#_ENREF_6)No sex-treatment interaction**Metformin vs.** **metformin + DPP-4:**[2](#_ENREF_2), [57](#_ENREF_57), [72](#_ENREF_72), [96](#_ENREF_96), [119](#_ENREF_119) , [131](#_ENREF_131), [135](#_ENREF_135), [175](#_ENREF_175), [188](#_ENREF_188) Favors combined therapy regardless of sex**Metformin vs.** **metformin + SU:**[2](#_ENREF_2), [57](#_ENREF_57), [61](#_ENREF_61)Favors combined therapy regardless of sex**Metformin + TZD vs. metformin DPP-4:**[31](#_ENREF_31), [153](#_ENREF_153)No sex-treatment interaction | **Metformin vs. pioglitazone:**[50](#_ENREF_50)Favors metformin for weight control regardless of sex**Metformin vs. metformin + pioglitazone:**[231](#_ENREF_231) Favors metformin plus pioglitazone for weight control regardless of sex**Metformin vs. metformin + dapaglifozin:**[17](#_ENREF_17) Increased weight loss for men with combined therapy | **Cardiovascular events:****Metformin vs. glyburide vs. glimepiride**:[199](#_ENREF_199) No interaction sex-treatment**Metformin vs. SU**:[210](#_ENREF_210)No interaction sex-treatment**Death:****Metformin vs. glipizide vs. glibenclamide vs. rosiglitazone:**[214](#_ENREF_214)No differences in death by treatment regardless of sex | No evidence | **Hypoglycemia:****Metformin + SU vs. metformin + DPP4:**[5](#_ENREF_5), [232](#_ENREF_232) No sex-treatment interaction**Fractures:****Metformin vs. TZD vs. SU:**[219](#_ENREF_219), [220](#_ENREF_220) Glyburide and metformin favored over rosiglitazone or pioglitazone in pre- and post-menopausal women; difference in men unclear |
| **Obesity** | **Metformin vs. SU:**[169](#_ENREF_169) Favors SU among obese patients in long-term treatment (over 9 years)**Metformin vs. sitagliptin:**[7](#_ENREF_7) **Metformin vs. alogliptin:**[131](#_ENREF_131) **Pioglitazone vs. alogliptin:**[141](#_ENREF_141)**Glipizide vs. sitagliptin:**[6](#_ENREF_6)No baseline BMI-treatment interaction**Metformin vs. metformin + rosiglitazone:**[202](#_ENREF_202) Favors metformin + rosiglitazone among overweight and obese patients**Metformin vs.** **metformin + DPP-4:**[2](#_ENREF_2), [57](#_ENREF_57), [72](#_ENREF_72), [119](#_ENREF_119), [131](#_ENREF_131), [135](#_ENREF_135) Favors combined therapy across BMI groups**Metformin vs.** **metformin + SU:**[2](#_ENREF_2), [57](#_ENREF_57), [61](#_ENREF_61)Favors combined therapy across BMI groups**Metformin + TZD vs. metformin + DPP-4:**[31](#_ENREF_31), [153](#_ENREF_153)No baseline BMI-treatment interaction**Metformin + rosiglitazone vs. metformin + sitagliptin:**[153](#_ENREF_153) No baseline BMI-treatment interaction**Metformin + dapagliflozin vs. metformin + glipizide:**[32](#_ENREF_32) No baseline BMI-treatment interaction | **Metformin vs. SU:**[233](#_ENREF_233) Obese patients lost more weight with metformin**Metformin vs. metformin + rosiglitazone:**[202](#_ENREF_202) Favors metformin for weight loss among obese patients | No evidence | No evidence | No evidence |
| **Race** | **Metformin vs. sitagliptin:**[7](#_ENREF_7)**Metformin vs. alogliptin:**[131](#_ENREF_131) **Pioglitazone vs. alogliptin:**[141](#_ENREF_141)**Glipizide vs. sitagliptin:**[6](#_ENREF_6)No age-treatment interaction**Metformin vs. metformin + DPP-4:**[2](#_ENREF_2), [57](#_ENREF_57), [61](#_ENREF_61), [72](#_ENREF_72), [119](#_ENREF_119) , [131](#_ENREF_131), [135](#_ENREF_135), [175](#_ENREF_175) Favors combined therapy across age groups**Metformin vs. metformin + SU:**[2](#_ENREF_2), [57](#_ENREF_57), [61](#_ENREF_61)Favors combined therapy across age groups**Metformin + TZD vs. metformin + DPP-4:**[31](#_ENREF_31), [153](#_ENREF_153) | No evidence | No evidence | **Metformin vs. SU vs. rosiglitazone:**[198](#_ENREF_198) No race-treatment interaction**Metformin vs. metformin + DPP-4:**[173 41196](#_ENREF_173)No race-treatment interaction | No evidence |

BMI = body mass index; CHF = congestive heart failure; HbA1c = hemoglobin A1c

The summary of results above is based on qualitative synthesis of the studies. Statistical significance for interactions is provided in the text if reported in the publication