# DATA SUPPLEMENT

## Appendix A. Search strategies

*Table S1. Search strategies for systematic review topics*

| Database | Search strategy |
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| **Diagnostic and prognostic benefit and safety of kidney biopsy (**Search date: March 2023**)** | |
| PubMed | 1. "Biopsy/adverse effects"[mh:noexp] OR "biopsy/complications"[mh:noexp] OR "biopsy/mortality"[mh:noexp]<br>2. "Biopsy, needle"[mh]<br>3. "Image-guided biopsy"[mh]<br>4. biops*[ti]<br>5. #1 OR #2 OR #3 OR #4<br>6. "Renal insufficiency, chronic"[mh]<br>7. CKD[tiab] OR "chronic kidney"[tiab] OR "chronic renal"[tiab] OR "progressive kidney"[tiab] OR "progressive renal"[tiab] OR "kidney insufficiency"[tiab] OR "renal insufficiency"[tiab]<br>8. #6 OR #7<br>9. #5 AND #8<br>10. Animals[mh] NOT humans[mh]<br>11. #9 NOT #10 |
| Embase | 1. 'Kidney biopsy'/exp/mj<br>2. 'Needle biopsy'/exp<br>3. 'Image guided biopsy'/de OR 'CT guided biopsy'/de OR 'Ultrasound guided biopsy'/de<br>4. biops*:ti<br>5. #1 OR #2 OR #3 OR #4<br>6. 'Chronic kidney failure'/exp<br>7. CKD:ti,ab OR 'chronic kidney':ti,ab OR 'chronic renal':ti,ab OR 'progressive kidney':ti,ab OR 'progressive renal':ti,ab OR 'kidney insufficiency':ti,ab OR 'renal insufficiency':ti,ab<br>8. #6 OR #7<br>9. #5 AND #8<br>10. Animals/exp NOT humans/exp<br>11. #9 NOT #10<br>12. 'conference abstract'/it<br>13. #11 NOT #12 |
| **Diagnostic accuracy of eGFR based on measurements of cystatin C and creatinine (**Search date: August 2022**)** | |
| PubMed | 1. Kidney glomerulus[mh]<br>2. Kidney disease[mh]<br>3. Kidney function tests[mh]<br>4. Renal[tiab] OR kidney[tiab]<br>5. #1 OR #2 OR #3 OR #4<br>6. Glomerular filtration rate[tiab] OR GFR[tiab]<br>7. Creatin*[tiab]<br>8. Cystat*[tiab] |

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| | 9. #6 AND (#7 OR #8)<br>10. DTPA[tiab] OR Diethylenetriaminepentaacetate[tiab] OR Diethylenetriaminepentaacetic acid[tiab] OR Pentetic acid[mh] OR Pentetic acid[tiab] OR EDTA[tiab] OR Chromium EDTA[tiab] OR Ethylenediaminetetraacetic acid[tiab] OR Ethylenediaminetetraacetate[tiab] OR Iohexol[mh] OR Iohexol[tiab] OR Iothalamic acid[mh] OR Iothalamic acid[tiab] OR Iothalamate[tiab] OR measure*[tiab]<br>11. #6 AND #10<br>12. Predict*[tiab]<br>13. Formula*[tiab]<br>14. Equation[tiab]<br>15. Regression analysis[mh]<br>16. #12 OR #13 OR #14 OR #15<br>17. #5 AND #9 AND #11 AND #16<br>18. Animals[mh] NOT humans[mh]<br>19. #17 NOT #18<br>20. #19 NOT review[pt] |
| Embase | 1. Glomerulus/exp<br>2. 'Kidney failure'/exp<br>3. 'Kidney function test'/exp<br>4. Renal:ti,ab OR kidney:ti,ab<br>5. #1 OR #2 OR #3 OR #4<br>6. 'Glomerular filtration rate':ti,ab OR GFR:ti,ab OR eGFR:ti,ab<br>7. Creatin*:ti,ab<br>8. Cystat*:ti,ab<br>9. #6 AND (#7 OR #8)<br>10. 'Pentetic acid'/exp OR Diethylenetriaminepentaacetate:ti,ab OR 'diethylenetriaminepentaacetic acid':ti,ab OR 'pentetic acid':ti,ab OR 'edetic acid'/exp OR 'edetic acid':ti,ab OR 'chromium EDTA':ti,ab OR 'ethylenediaminetetraacetic acid':ti,ab OR ethylenediaminetetraacetate:ti,ab OR iohexol/exp OR iohexol:ti,ab OR 'iotalamic acid'/exp OR 'iothalamic acid':ti,ab OR iothalamate:ti,ab OR measure*:ti,ab<br>11. #6 AND #10<br>12. Predict*:ti,ab<br>13. Formula*:ti,ab<br>14. Equation:ti,ab<br>15. 'Regression analysis'/exp<br>16. #12 OR #13 OR #14 OR #15<br>17. #5 AND #9 AND #11 AND #16<br>18. Animals/exp NOT humans/exp<br>19. #17 NOT #18<br>20. 'conference abstract'/it OR review/it<br>21. #19 NOT #20 |
| **Accuracy of albumin-to-creatinine ratio (ACR) vs. protein-to-creatinine ratio (PCR) in assessing proteinuria in children and young adults (**Search date: July 2022**)** | |
| PubMed | 1. "Renal insufficiency, chronic"[mh]<br>2. (chronic*[tiab] OR progressi*[tiab]) AND (renal*[tiab] OR kidney*[tiab]) |

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| | 3. (kidney*[tiab] OR renal*[tiab]) AND insufficien*[tiab]<br>4. CKD[tiab<br>5. #1 OR #2 OR #3 OR #4<br>6. Infant[mh] OR “infant health”[mh] OR “infant welfare”[mh]<br>7. prematur*[tiab] OR pre-matur*[tiab] OR preterm*[tiab] OR pre-term*[tiab] OR infan*[tiab] OR newborn*[tiab] OR new-born*[tiab] OR perinat*[tiab] OR peri-nat*[tiab] OR neonat*[tiab] OR neo-nat*[tiab] OR baby*[tiab] OR babies[tiab] OR toddler*[tiab]<br>8. Child[mh] OR “child behavior”[mh] OR “child health”[mh] OR “child welfare”[mh]<br>9. Minors[mh:noexp]<br>10. Child*[tiab] OR minor[tiab] OR minors[tiab] OR boy*[tiab] OR girl*[tiab] OR kid[tiab] OR kids[tiab] OR young*[tiab]<br>11. Pediatrics[mh]<br>12. Pediatric*[tiab] OR paediatric*[tiab] OR peadiatric*[tiab]<br>13. Adolescent[mh] OR “adolescent health”[mh] OR “adolescent behavior”[mh]<br>14. Puberty[mh<br>15. adolescen*[tiab] OR pubescen*[tiab] OR prepubescen*[tiab] OR pre-pubescen*[tiab] OR pubert*[tiab] OR prepubert*[tiab] OR prepubert*[tiab] OR teen*[tiab] OR preteen*[tiab] OR pre-teen*[tiab] OR juvenil*[tiab] OR youth*[tiab] OR under*age*[tiab]<br>16. Schools[mh:noexp]<br>17. Child Day Care Centers[mh] or Schools, Nursery[mh:noexp]<br>18. pre-school*[tiab] OR preschool*[tiab] OR kindergar*[tiab] OR daycare[tiab] OR day-care[tiab] OR nurser*[tiab] OR school*[tiab] OR pupil*[tiab] OR student*[tiab]<br>19. "under 18*"[tiab] OR "under eighteen*"[tiab] OR "under 25*"[tiab] OR "under twenty five*"[tiab]<br>20. “Young adult”[mh] OR “young adult*”[tiab]<br>21. #6 OR #7 OR #8 OR #9 OR #10 OR #11 OR #12 OR #13 OR #14 OR #15 OR #16 OR #17 OR #18 OR #19 OR #20<br>22. #5 AND #21<br>23. Proteinuria[mh]<br>24. Proteinur*[tiab]<br>25. Albuminur*[tiab] OR microalbuminur*[tiab]<br>26. #23 OR #24 OR #25<br>27. #22 and #26<br>28. ACR[tiab] OR UACR[tiab] OR PCR[tiab]<br>29. Proteins[mh:noexp]<br>30. Protein*[tiab]<br>31. Albumins[mh]<br>32. Albumin*[tiab]<br>33. #28 OR #29 OR #30 OR #31 OR #32<br>34. Creatinine[mh:noexp]<br>35. Creatin*[tiab]<br>36. #34 OR #35<br>37. Ratio*[tiab]<br>38. (#33 OR #36) AND #37<br>39. #28 OR #38<br>40. #27 AND #39 |

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| | 41. Animals[mh] NOT humans[mh]<br>42. #40 NOT #41 |
| Embase | 1. 'Kidney failure'/exp<br>2. ((Chronic* or progressi*) NEAR/1 (renal* OR kidney*)):ti,ab<br>3. ((kidney* OR renal*) NEAR/1 insufficien*):ti,ab<br>4. CKD:ti,ab<br>5. #1 OR #2 OR #3 OR #4<br>6. Juvenile/exp OR 'child behavior'/de OR 'child welfare'/de OR 'child health'/de OR 'infant welfare'/de OR 'minor (person)'/de OR 'elementary student'/de<br>7. (prematur* or pre-matur* or preterm* or pre-term* or infan* or newborn* or new-born* or perinat* or peri-nat* or neonat* or neo-nat* or baby* or babies or toddler*):ti,ab<br>8. (child* or minor or minors or boy* or girl* or kid or kids or young*):ti,ab<br>9. Pediatrics/exp<br>10. (pediatric* or paediatric* or peadiatric*):ti,ab<br>11. Adolescence/exp OR 'adolescent behavior'/exp OR 'adolescent health'/de OR 'high school student'/de OR 'middle school student'/de<br>12. (adolescen* or pubescen* or prepubescen* or pre-pubescen* or pubert* or prepubert* or prepubert* or teen* or preteen* or pre-teen* or juvenil* or youth* or under*age*):ti,ab<br>13. school/de or 'high school'/de or kindergarten/de or 'middle school'/de or 'primary school'/de or 'nursery school'/de or 'day care'/de<br>14. (pre-school* or preschool* or kindergar* or daycare or day-care or nurser* or school* or pupil* or student*):ti,ab<br>15. ("under 18*" or "under eighteen*" or "under 25*" or "under twenty five*"):ti,ab<br>16. 'Young adult'/de OR ("young adult" OR "young adults":ti,ab)<br>17. #6 OR #7 OR #8 OR #9 OR #10 OR #11 OR #12 OR #13 OR #14 OR #15 OR #16<br>18. #5 AND #17<br>19. Proteinuria/exp<br>20. Proteinur*:ti,ab<br>21. (Albuminur* or microalbuminur*):ti,ab<br>22. #19 OR #20 OR #21<br>23. #18 and #22<br>24. (acr or uacr or pcr):ti,ab<br>25. Protein/de<br>26. Protein:ti,ab<br>27. Albumin/de<br>28. Albumin:ti,ab<br>29. #25 OR #26 OR #27 OR #28<br>30. Creatinine/de<br>31. Creatin*:ti,ab<br>32. #30 OR #31<br>33. Ratio*:ti,ab<br>34. (#29 OR #32) AND #33<br>35. #24 OR #34 |

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| | 36. #23 AND #35<br>37. Animals/exp NOT humans/exp<br>38. #36 NOT #37<br>39. 'conference abstract'/it<br>40. #38 NOT #39 |
| CINAHL | 1. [mh "Renal insufficiency, chronic"]<br>2. (Chronic* OR progressi*) NEAR/1 (renal* OR kidney*):ti,ab,kw<br>3. (Kidney* or renal*) NEAR/1 (insufficien*):ti,ab,kw<br>4. CKD:ti,ab,kw<br>5. #1 OR #2 OR #3 OR #4<br>6. [mh Infant]<br>7. [mh "Infant health"]<br>8. [mh "Infant welfare"]<br>9. (prematur* or pre-matur* or preterm* or pre-term* or infan* or newborn* or new-born* or perinat* or peri-nat* or neonat* or neo-nat* or baby* or babies* or toddler*):ti,ab,kw<br>10. ((prematur* or pre-matur* or preterm* or pre-term* or infan* or newborn* or new-born* or perinat* or peri-nat* or neonat* or neo-nat* or baby* or babies* or toddler*)):so<br>11. [mh Child]<br>12. MeSH descriptor: [Child behavior] this term only<br>13. MeSH descriptor: [Child health] this term only<br>14. MeSH descriptor: [Child welfare] this term only<br>15. MeSH descriptor: [Minors] this term only<br>16. ((child* or minor or minors or boy* or girl* or kid or kids or young*)):ti,ab,kw<br>17. ((child* or minor or minors or boy* or girl* or kid or kids or young*)):so<br>18. [mh Pediatrics]<br>19. ((pediatric* or paediatric* or peadiatric*)):ti,ab,kw<br>20. ((pediatric* or paediatric* or peadiatric*)):so<br>21. MeSH descriptor: [Adolescent] this term only<br>22. MeSH descriptor: [Adolescent behavior] this term only<br>23. MeSH descriptor: [Adolescent health] this term only<br>24. MeSH descriptor: [Puberty] this term only<br>25. ((adolescen* or pubescen* or prepubescen* or pre-pubescen* or pubert* or prepubert* or pre-pubert* or teen* or preteen* or pre-teen* or juvenil* or youth* or under*age*)):ti,ab,kw<br>26. ((adolescen* or pubescen* or prepubescen* or pre-pubescen* or pubert* or prepubert* or pre-pubert* or teen* or preteen* or pre-teen* or juvenil* or youth* or under*age*)):so<br>27. MeSH descriptor: [Schools] this term only<br>28. MeSH descriptor: [Child day care centers] this term only<br>29. MeSH descriptor: [Nurseries, infant] this term only<br>30. MeSH descriptor: [Schools, nursery] this term only<br>31. ((pre-school* or preschool* or kindergar* or daycare or day-care or nurser* or school* or pupil* or student*)):ti,ab,kw<br>32. ((pre-school* or preschool* or kindergar* or daycare or day-care or nurser* or school* or pupil* or student*)):so<br>33. (("under 18*" or "under eighteen*" or "under 25*" or "under twenty five*")):ti,ab,kw |

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| | 34. #6 OR #7 OR #8 OR #9 OR #10 OR #11 OR #12 OR #13 OR #14 OR #15 OR #16 OR #17 OR #18 OR #19 OR #20 OR #21 OR #22 OR #23 OR #24 OR #25 OR #26 OR #27 OR #28 OR #29 OR #30 OR #31 OR #32 OR #33<br>35. #5 AND #34<br>36. [mh Proteinuria]<br>37. (albuminur* or microalbuminur*):ti,ab,kw<br>38. (proteinur*):ti,ab,kw<br>39. #36 OR #37 OR #38<br>40. #35 AND #39<br>41. (acr or uacr or pcr):ti,ab,kw<br>42. [mh Proteins]<br>43. Protein*:ti,ab,kw<br>44. [mh Albumins]<br>45. Albumin*:ti,ab,kw<br>46. #42 or #43 or #44 or #45<br>47. MeSH descriptor: [Creatinine] this term only<br>48. Creatin*:ti,ab,kw<br>49. #47 OR #48<br>50. Ratio*:ti,ab,kw<br>51. (#46 OR #49) AND #50<br>52. #41 OR #51<br>53. #40 AND #52 |
| **Accuracy and reproducibility of point-of-care blood creatinine tests (**Search date: January 2023**)** | |
| PubMed | 1. "Point-of-Care Systems"[Mesh]<br>2. "Point-of-Care Testing"[Mesh]<br>3. "point-of-care"[tiab]<br>4. POC[tiab]<br>5. POCT[tiab]<br>6. Rapid[tiab] OR bedside[tiab] OR "bed side"[tiab] OR onsite[tiab] OR "on site"[tiab] OR handheld[tiab] OR "hand held"[tiab] OR desktop[tiab] OR "desk top"[tiab] OR tabletop[tiab] OR "table top"[tiab] OR benchtop[tiab] OR "bench top"[tiab] OR portable[tiab] OR transportable[tiab]<br>7. test [tiab] OR tests[tiab] OR testing[tiab] OR testings[tiab] OR tested[tiab] OR determin*[tiab] OR assess*[tiab] OR analys*[tiab] OR analyz*[tiab] OR identif*[tiab] OR measur*[tiab] OR screen* [tiab] OR device[tiab]<br>8. #6 AND #7<br>9. StatSensor[tiab] OR "i-STAT"[tiab] OR "ABL90 FLEX PLUS"[tiab] OR "ABL90 FLEX"[tiab] OR "ABL800 FLEX"[tiab] OR "ABL827 FLEX"[tiab] OR "ABL837 FLEX"[tiab] OR "Piccolo Xpress"[tiab] OR "Dri-chem NX500"[tiab]<br>10. #1 OR #2 OR #3 OR #4 OR #5 OR #9<br>11. Creatinine[Mesh]<br>12. creatinin*[tiab]<br>13. "serum creatinin*"[tiab]<br>14. SCr[tiab]<br>15. SrCr[tiab]<br>16. "kidney function tests" |

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| | 17. #11 OR #12 OR #13 OR #14 OR #15 OR #16<br>18. “Sensitivity and specificity”[mh] OR “area under curve”[mh]<br>19. Sensitivity[tiab]<br>20. Specificity[tiab]<br>21. “Predictive value”[tiab]<br>22. “Area under the curve”[tiab] OR “area under curve”[tiab] OR AUC[tiab]<br>23. “Receiver operating characteristic”[tiab] OR “receiver operating characteristics”[tiab] OR ROC[tiab]<br>24. Accuracy[tiab]<br>25. Predict*[tiab]<br>26. #18 OR #19 OR #20 OR #21 OR #22 OR #23 OR #24 OR #25<br>27. Animals[mh] NOT humans[mh]<br>28. #26 NOT #27 |
| EMBASE | 1. 'point of care testing'/exp OR 'point of care testing'<br>2. 'point of care system'/exp<br>3. 'point of care':ab,ti<br>4. poc:ab,ti<br>5. rapid:ab,ti OR bedside:ab,ti OR 'bed side':ab,ti OR onsite:ab,ti OR 'on site':ab,ti OR handheld:ab,ti OR 'hand held':ab,ti OR desktop:ab,ti OR 'desk top':ab,ti OR tabletop:ab,ti OR 'table top':ab,ti OR benchtop:ab,ti OR 'bench top':ab,ti OR portable:ab,ti OR transportable:ab,ti<br>6. test:ab,ti OR tests:ab,ti OR testing:ab,ti OR testings:ab,ti OR tested:ab,ti OR determin*:ab,ti OR assess*:ab,ti OR analys*:ab,ti OR analyz*:ab,ti OR identif*:ab,ti OR measur*:ab,ti OR screen*:ab,ti OR device:ab,ti<br>7. #5 AND #6<br>8. statsensor:ab,ti OR 'i-stat':ab,ti OR 'abl90 flex plus':ab,ti OR 'abl90 flex':ab,ti OR 'abl800 flex':ab,ti OR 'abl827 flex':ab,ti OR 'abl837 flex':ab,ti OR 'piccolo xpress':ab,ti OR 'dri-chem nx500':ab,ti<br>9. #1 OR #2 OR #3 OR #4 OR #7 OR #8<br>10. 'creatinine'/exp OR 'creatinine'<br>11. creatinine:ab,ti OR srcr:ab,ti OR scr:ab,ti<br>12. 'kidney function test'/exp OR 'kidney function test'<br>13. #10 OR #11 OR #12<br>14. #9 AND #13<br>15. 'sensitivity and specificity':ab,ti OR sensitivity:ab,ti OR specificity:ab,ti OR 'predictive value':ab,ti OR 'area under the curve':ab,ti OR 'area under curve':ab,ti OR auc:ab,ti OR 'receiver operating characteristic':ab,ti OR 'receiver operating characteristics':ab,ti OR roc:ab,ti OR accuracy:ab,ti OR predict:ab,ti OR prediction:ab,ti OR predictive:ab,ti<br>16. #9 AND #13 AND #15 |
| CINAHL | 1. (MH "Point-of-Care Testing+")<br>2. TI "Point of Care" OR AB "Point of Care" OR TI POC OR AB POC OR TI POCT OR AB POCT<br>3. TI( (Rapid OR bedside OR “bed side” OR onsite OR “on site” OR handheld OR “hand held” OR desktop OR “desk top” OR tabletop OR “table top” OR benchtop OR “bench top” OR portable OR transportable) ) OR AB( (Rapid OR bedside OR “bed side” OR |

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| | onsite OR “on site” OR handheld OR “hand held” OR desktop OR “desk top” OR tabletop OR “table top” OR benchtop OR “bench top” OR portable OR transportable) )<br>4. TI( (test OR tests OR testing OR testings OR tested OR determine OR determination OR determines OR assess OR assesses OR assessed OR assessment OR analysis OR analyse OR analysed OR analyses OR analyze OR analyzed OR analyzes OR identify OR identified OR identifies OR measure OR measures OR measured OR screen screens OR screened OR device) ) OR AB( (test OR tests OR testing OR testings OR tested OR determine OR determination OR determines OR assess OR assesses OR assessed OR assessment OR anal ...<br>5. TI( (StatSensor OR “i-STAT” OR “ABL90 FLEX PLUS” OR “ABL90 FLEX” OR “ABL800 FLEX” OR “ABL827 FLEX” OR “ABL837 FLEX” OR “Piccolo Xpress” OR “Dri-chem NX500”) ) OR AB( (StatSensor OR “i-STAT” OR “ABL90 FLEX PLUS” OR “ABL90 FLEX” OR “ABL800 FLEX” OR “ABL827 FLEX” OR “ABL837 FLEX” OR “Piccolo Xpress” OR “Dri-chem NX500”) )<br>6. S1 OR S2 OR (S3 AND S4) OR S5<br>7. (MM "Creatinine")<br>8. TI ( (creatinine OR "serum creatinine" OR SrCR OR SCr OR "kidney function test" OR "kidney function tests") ) OR AB ( (creatinine OR "serum creatinine" OR SrCR OR SCr OR "kidney function test" OR "kidney function tests") )<br>9. S7 OR S8<br>10. S6 AND S9<br>11. (MM "Sensitivity and Specificity")<br>12. area under the curve<br>13. TI "Area under curve" OR AB "Area under curve" OR TI "Area under the curve" OR AB "Area under the curve"<br>14. TI ( sensitivity OR specificity OR "predictive value" OR "receiver operating characteristic" OR "receiver operating characteristics" OR ROC OR accuracy OR predictability OR predict OR predictive ) OR AB ( sensitivity OR specificity OR "predictive value" OR "receiver operating characteristic" OR "receiver operating characteristics" OR ROC OR accuracy OR predictability OR predict OR predictive )<br>15. S11 OR S12 OR S13 OR S14<br>16. S10 AND S15 |
| **Accuracy and reproducibility of point-of-care quantitative and semi-quantitative protein or albumin urine dipstick tests (**Search date: July 2022**)** | |
| PubMed | 1. “Reagent strips”[mh]<br>2. Urinalysis[mh]<br>3. Dipstick*[tiab]<br>4. Urine[tiab] AND (strip[tiab] OR strips[tiab] OR stick[tiab] OR sticks[tiab])<br>5. Urinalysis[tiab]<br>6. Urine test*[tiab]<br>7. Stick test*[tiab]<br>8. Multistix[tiab] |

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| | 9. Clinitek[tiab] OR Uriscan[tiab] OR Urisys[tiab] OR Uropaper[tiab] OR "Siemens Novus"[tiab] OR "DCA 2000"[tiab]<br>10. #1 OR #2 OR #3 OR #4 OR #5 OR #6 OR #7 OR #8 OR #9<br>11. Proteinuria[mh:noexp] OR Albuminuria[mh]<br>12. Proteinur*[tiab] OR albuminur*[tiab] OR microalbuminur*[tiab]<br>13. ACR[tiab] OR UACR[tiab] OR albumin:creatinine[tiab] OR albumin-to-creatinine[tiab] OR albumin/creatinine[tiab] OR protein:creatinine[tiab] OR protein-to-creatinine[tiab] OR protein/creatinine[tiab]<br>14. #11 OR #12 OR #13<br>15. “Sensitivity and specificity”[mh] OR “area under curve”[mh]<br>16. Sensitivity[tiab]<br>17. Specificity[tiab]<br>18. “Predictive value”[tiab]<br>19. “Area under the curve”[tiab] OR “area under curve”[tiab] OR AUC[tiab]<br>20. “Receiver operating characteristic”[tiab] OR “receiver operating characteristics”[tiab] OR ROC[tiab]<br>21. Accuracy[tiab]<br>22. Predict*[tiab]<br>23. #15 OR #16 OR #17 OR #18 OR #19 OR #20 OR #21 OR #22<br>24. #10 AND #14 AND #23<br>25. Animals[mh] NOT humans[mh]<br>26. #24 NOT #25<br>27. Review[pt]<br>28. #26 NOT #27 |
| EMBASE | 1. 'Test strip'/exp<br>2. Urinalysis/exp<br>3. Dipstick*:ti,ab<br>4. Urine:ti,ab AND (strip:ti,ab OR strips:ti,ab OR stick:ti,ab OR sticks:ti,ab)<br>5. Urinalysis:ti,ab<br>6. 'Urine test*':ti,ab<br>7. 'Stick test*':ti,ab<br>8. Multistix:ti,ab<br>9. Clinitek:ti,ab OR Uriscan:ti,ab OR Urisys:ti,ab OR Uropaper:ti,ab OR "Siemens Novus":ti,ab OR "DCA 2000":ti,ab<br>10. #1 OR #2 OR #3 OR #4 OR #5 OR #6 OR #7 OR #8 OR #9<br>11. Proteinuria/exp<br>12. Proteinur*:ti,ab OR albuminur*:ti,ab OR microalbuminur*:ti,ab<br>13. ACR:ti,ab OR UACR:ti,ab OR ‘albumin:creatinine’:ti,ab OR ‘albumin-to-creatinine’:ti,ab OR ‘albumin/creatinine’:ti,ab OR ‘protein:creatinine’:ti,ab OR ‘protein-to-creatinine’:ti,ab OR ‘protein/creatinine’:ti,ab<br>14. #11 OR #12 OR #13<br>15. 'area under the curve'/exp<br>16. Sensitivity:ti,ab<br>17. Specificity:ti,ab<br>18. 'Predictive value':ti,ab<br>19. 'Area under the curve':ti,ab OR 'area under curve':ti,ab OR AUC:ti,ab |

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| | 20. 'Receiver operating characteristic':ti,ab OR 'receiver operating characteristics':ti,ab OR ROC:ti,ab<br>21. Accuracy:ti,ab<br>22. Predict*:ti,ab<br>23. #15 OR #16 OR #17 OR #18 OR #19 OR #20 OR #21 OR #22<br>24. #10 AND #11 AND #23<br>25. Animals/exp NOT humans/exp<br>26. #24 NOT #25<br>27. 'conference abstract'/it OR review/it<br>28. #26 NOT #27 |
| CINAHL | 1. MH “Reagent Strips”<br>2. MH “Urinalysis”<br>3. TI Dipstick* OR AB dipstick*<br>4. (TI Urine OR AB urine) AND ((TI (strip OR strips OR stick OR sticks) OR AB (strip OR strips OR stick OR sticks))<br>5. TI Urinalysis OR AB urinalysis<br>6. (TI “Urine test*”) OR (AB “urine test*”)<br>7. (TI “Stick test*”) OR (AB “stick test*”)<br>8. TI Multistix OR AB multistix<br>9. (TI Clinitek OR Uriscan OR Urisys OR Uropaper OR "Siemens Novus" OR "DCA 2000") OR (AB Clinitek OR Uriscan OR Urisys OR Uropaper OR "Siemens Novus" OR "DCA 2000")<br>10. S1 OR S2 OR S3 OR S4 OR S5 OR S6 OR S7 OR S8 OR S9<br>11. MH “Proteinuria” OR MH “Albuminuria”<br>12. (TI Proteinur* OR albuminur* OR microalbuminur*) OR (AB Proteinur* OR albuminur* OR microalbuminur*)<br>13. (TI ACR OR UACR OR “albumin:creatinine” OR “albumin-to-creatinine” OR “albumin/creatinine” OR “protein:creatinine” OR “protein-to-creatinine” OR “protein/creatinine”) OR (AB ACR OR UACR OR “albumin:creatinine” OR “albumin-to-creatinine” OR “albumin/creatinine” OR “protein:creatinine” OR “protein-to-creatinine” OR “protein/creatinine”)<br>14. S11 OR S12 OR S13<br>15. MH “Sensitivity and specificity”<br>16. TI Sensitivity OR AB sensitivity<br>17. TI Specificity OR AB specificity<br>18. (TI “predictive value”) OR (AB “predictive value”)<br>19. (TI “area under the curve” OR “area under curve” OR AUC) OR (AB “area under the curve” OR “area under curve” OR AUC)<br>20. (TI “Receiver operating characteristic” OR “receiver operating characteristics” OR ROC) OR (AB “Receiver operating characteristic” OR “receiver operating characteristics” OR ROC)<br>21. TI Accuracy OR AB accuracy<br>22. TI Predict* OR AB predict*<br>23. S15 OR S16 OR S17 OR S18 OR S19 OR S20 OR S21 OR S22<br>24. S10 AND S14 AND S23 |
| **Effect of sodium-glucose cotransporter-2 inhibitors (SGLT2i) among people with CKD (**Search date: April 2023**)** | |
| PubMed | 1. Randomized controlled trial[pt]<br>2. Controlled clinical trial[pt] |

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| | 3. Randomized[tiab]<br>4. Placebo[tiab]<br>5. “Clinical trials as topic”[mh:noexp]<br>6. Randomly[tiab]<br>7. Trial[ti]<br>8. #1 OR #2 OR #3 OR #4 OR #5 OR #6 OR #7<br>9. “Sodium-glucose transporter 2 inhibitors”[mh]<br>10. SGLT2[tiab] OR SGLT-2[tiab]<br>11. “Sodium-glucose transporter 2”[mh]<br>12. "Sodium-glucose co-transporter”[tiab] OR “sodium-glucose cotransporter”[tiab]<br>13. Canagliflozin[tiab] OR dapagliflozin[tiab] OR empagliflozin[tiab] OR ertugliflozin[tiab] OR ipragliflozin[tiab] OR luseogliflozin[tiab] OR remogliflozin[tiab] OR sotagliflozin[tiab] OR tofogliflozin[tiab]<br>14. #9 OR #10 OR #11 OR #12 OR #13<br>15. #8 AND #14<br>16. Animals[mh] NOT humans[mh]<br>17. #15 NOT #16 |
| Embase | 1. ‘Randomized controlled trial’/de<br>2. ‘Controlled clinical study’/de<br>3. Random$:ti,ab<br>4. Randomization/de<br>5. ‘Intermethod comparison’/de<br>6. Placebo:ti,ab<br>7. (compare OR compared OR comparison):ti<br>8. ((evaluated OR evaluate OR evaluating OR assessed OR assess) AND (compare OR compared OR comparing OR comparison)):ab<br>9. (Open NEXT/1 label):ti,ab<br>10. ((double OR single OR doubly OR singly) NEXT/1 (blind OR blinded OR blindly)):ti,ab<br>11. ‘double blind procedure’/de<br>12. (parallel group$):ti,ab<br>13. (crossover OR “cross over”):ti,ab<br>14. ((assign* OR match OR matched OR allocation) NEXT/5 (alternate OR group? OR intervention? OR patient? OR subject? OR participant?)):ti,ab<br>15. (assigned OR allocated):ti,ab<br>16. (controlled NEXT/7 (study OR design OR trial)):ti,ab<br>17. (volunteer OR volunteers):ti,ab<br>18. ‘human experiment’/de<br>19. Trial:ti<br>20. #1 OR #2 OR #3 OR #4 OR #5 OR #6 OR #7 OR #8 OR #9 OR #10 OR #11 OR #12 OR #13 OR #14 OR #15 OR #16 OR #17 OR #18 OR #19<br>21. ((random* NEXT/1 sampl* NEXT/7 ('cross section*' OR questionnaire* OR survey* OR database*)):ti,ab) NOT (((‘comparative study'/de OR 'controlled study'/de OR randomi?ed) AND controlled:ti,ab OR randomly) AND assigned:ti,ab)<br>22. 'cross-sectional study'/de NOT ('randomized controlled trial'/de OR 'controlled clinical study'/de OR 'controlled study'/de OR |

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| | (randomi?ed:ti,ab AND controlled:ti,ab) OR (control:ti,ab AND group$:ti,ab))<br>23. ((case NEXT/1 control$):ti,ab) AND random$:ti,ab NOT (randomi?ed:ti,ab AND controlled:ti,ab)<br>24. (Systematic review NOT (trial OR study)):ti<br>25. (nonrandom$ NOT random$):ti,ab<br>26. "Random field$":ti,ab<br>27. ('random cluster' NEXT/3 sampl$):ti,ab<br>28. (review:ab AND review/it) NOT trial:ti<br>29. "we searched":ab AND (review:ti OR review/it)<br>30. "update review":ab<br>31. (databases NEXT/4 searched):ab<br>32. (rat OR rats OR mouse OR mice OR swine OR porcine OR murine OR sheep OR lambs OR pigs OR piglets OR rabbit OR rabbits OR cat OR cats OR dog OR dogs OR cattle OR bovine OR monkey OR monkeys OR trout OR marmoset$1):ti AND 'animal experiment'/de<br>33. 'Animal experiment'/de NOT ('human experiment'/de OR human/de)<br>34. #21 OR #22 OR #23 OR #24 OR #25 OR #26 OR #27 OR #28 OR #29 OR #30 OR #31 OR #32 OR #33<br>35. #20 NOT #34<br>36. 'Sodium-Glucose Transporter 2 Inhibitors'/exp<br>37. sglt2:ti,ab<br>38. 'sglt-2':ti,ab<br>39. 'Sodium-Glucose Transporter 2'/exp<br>40. ('sodium glucose' NEXT/1 transporter$):ti,ab<br>41. 'sodium-glucose co-transporter*':ti,ab<br>42. 'sodium glucose cotransporter$':ti,ab<br>43. (canagliflozin$ OR dapagliflozin$ OR empagliflozin$ OR ertugliflozin$ OR ipragliflozin$ OR luseogliflozin$ OR remogliflozin$ OR sergliflozin$ OR sotagliflozin$ OR tofogliflozin$):ti,ab<br>44. #36 OR #37 OR #38 OR #39 OR #40 OR #41 OR #42 OR #43<br>45. #35 AND #44<br>46. 'conference abstract'/it<br>47. #45 NOT #46 |
| CENTRAL | 1. [mh "Renal insufficiency, chronic"]<br>2. CKD:ti,ab OR CKF:ti,ab OR CRF:ti,ab OR CRD:ti,ab OR kidney:ti,ab OR nephro*:ti,ab OR renal:ti,ab<br>3. #1 OR #2<br>4. [mh "Sodium-Glucose Transporter 2 Inhibitors"]<br>5. "sodium glucose co-transporter 2" or "Sodium glucose transporter 2":ti,ab<br>6. canagliflozin or ipragliflozin or dapagliflozin or empagliflozin OR remogliflozin or sergliflozin or tofogliflozin OR ipragliflozin or ertugliflozin or luseogliflozin or sotagliflozin:ti,ab<br>7. #4 OR #5 OR #6<br>8. #3 AND #7 |
| **Effect of uric acid-lowering therapy among people with chronic kidney disease (CKD) and hyperuricemia (**Search date: March 2023) | |

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| PubMed | 1. Hyperuricemia[mh]<br>2. Uric acid[mh]<br>3. Hyperuricaemi*[tiab] OR hyperuricemi*[tiab]<br>4. (“uric acid”[tiab] OR urate[tiab]) AND (elevat*[tiab] OR high[tiab] OR raise*[tiab] OR rise[tiab] OR rising[tiab])<br>5. #1 OR #2 OR #3 OR #4<br>6. “Gout suppressants”[mh]<br>7. Allopurinol[mh] OR allopurinol[tiab]<br>8. “Uricosuric agents”[mh]<br>9. “Urate oxidase”[mh] OR uricase[tiab] OR “urate oxidase”[tiab]<br>10. “Xanthin oxidase inhibit*”[tiab] OR “xanthine oxidoreductase”[tiab]<br>11. Benzbromarone[mh] OR benzbromarone[tiab]<br>12. Probenecid[mh] OR probenecid[tiab]<br>13. Febuxostat[mh] OR febuxostat[tiab]<br>14. Pegloticase[tiab<br>15. Topiroxostat[tiab] OR FYX-051[supplementary concept]<br>16. Oxypurinol[mh] OR oxypurinol[tiab] OR oxipurinol[tiab]<br>17. Sulfinpyrazone[mh] OR sulfinpyrazone[tiab] OR sulphinpyrazone[tiab] OR rasburicase[tiab] OR lesinurad[tiab]<br>18. #6 OR #7 OR #8 OR #9 OR #10 OR #11 OR #12 OR #13 OR #14 OR #15 OR #16 OR #17<br>19. Randomized controlled trial[pt]<br>20. Controlled clinical trial[pt]<br>21. Randomized controlled trials[mh]<br>22. randomized[tiab]<br>23. placebo[tiab]<br>24. "drug therapy"[Subheading]<br>25. randomly[tiab]<br>26. trial[tiab]<br>27. groups[tiab]<br>28. #19 OR #20 OR #21 OR #22 OR #23 OR #24 OR #25 OR #26 OR #27<br>29. #5 AND #18 AND #28<br>30. Animals[mh] NOT humans[mh]<br>31. #29 NOT #30<br>32. 2016/01/01:2023/03/15[dp]<br>33. #31 AND #32 |
| Embase | 1. Hyperuricemia/exp<br>2. ‘Uric acid’/exp<br>3. Hyperuricaemi*:ti,ab OR hyperuricemi*:ti,ab<br>4. ((‘uric acid’ or urate) NEAR/3 (elevat* or high or raise* or rise or rising)):ti,ab<br>5. #1 OR #2 OR #3 OR #4<br>6. ‘Xanthine oxidase inhibitor’/exp OR ‘xanthin oxidase inhibit*’:ti,ab OR ‘xanthine oxidoreductase’:ti,ab<br>7. Allopurinol/de OR allopurinol:ti,ab<br>8. Febuxostat/de OR febuxostat:ti,ab<br>9. ‘Uricosuric agent’/de OR ‘uricosuric agent*’:ti,ab<br>10. ‘Antigout agent’/de<br>11. Benzbromarone/de OR benzbromarone:ti,ab<br>12. Probenecid/de OR probenecid:ti,ab |

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| | 13. Pegloticase/de OR pegloticase:ti,ab<br>14. 'Urate oxidase'/de OR uricase:ti,ab OR 'urate oxidase':ti,ab<br>15. Oxipurinol/de OR oxypurinol:ti,ab OR oxipurinol:ti,ab<br>16. Topiroxostat/de OR topiroxostat:ti,ab<br>17. Sulfinpyrazone/exp OR sulfinpyrazone:ti,ab OR sulphinpyrazone:ti,ab OR rasburicase/exp OR rasburicase:ti,ab OR lesinurad/exp OR lesinurad:ti,ab<br>18. #6 OR #7 OR #8 OR #9 OR #10 OR #11 OR #12 OR #13 OR #14 OR #15 OR #16 OR #17<br>19. 'Randomized controlled trial'/exp<br>20. 'Crossover procedure'/exp OR 'single blind procedure'/exp OR 'double blind procedure'/exp<br>21. Random*:ti,ab<br>22. Placebo*:ti,ab<br>23. Factorial*:ti,ab OR crossover*:ti,ab OR 'cross over*':ti,ab OR cross-over*:ti,ab<br>24. (Doubl* NEAR/1 blind*):ti,ab OR (singl* NEAR/1 blind*):ti,ab<br>25. Assign*:ti,ab OR allocate*:ti,ab<br>26. Volunteer*:ti,ab<br>27. #19 OR #20 OR #21 OR #22 OR #23 OR #24 OR #25 OR #26<br>28. #5 AND #18 AND #27<br>29. Animals/exp NOT humans/exp<br>30. #28 NOT #29<br>31. 'conference abstract'/it<br>32. #30 NOT #31 |
| CENTRAL | 1. hyperuric*emi*:ti,ab,kw<br>2. "uric acid":kw<br>3. ("uric acid" or urate near/3 (elevat* or high or raise* or rise or rising)):ti,ab<br>4. #1 OR #2 OR #3<br>5. allopurinol:ti,ab,kw<br>6. febuxostat:ti,ab,kw<br>7. probenecid:ti,ab,kw<br>8. benzbromarone:ti,ab,kw<br>9. pegloticase:ti,ab,kw<br>10. (xanthine next oxidase next inhibit*):ti,ab,kw<br>11. (uricosuric next agent*):ti,ab,kw<br>12. uricase:ti,ab,kw<br>13. Oxypurinol:ti,ab,kw OR oxipurinol:ti,ab,kw<br>14. Topiroxostat:ti,ab,kw<br>15. Sulfinpyrazone:ti,ab,kw OR sulphinpyrazone:ti,ab,kw OR rasburicase:ti,ab,kw OR lesinurad:ti,ab,kw<br>16. (#5 OR #6 OR #7 OR #8 OR #9 OR #10 OR #11 OR #12 OR #13 OR #14 OR #15)<br>17. #4 AND #16<br>18. #4 AND #16 with Cochrane Library publication date from Jul 2016 to Mar 2023, in trials |
| **Effects of aspirin in terms of primary prevention of CVD and safety among people with CKD (**Search date: August 2022**)** | |
| PubMed | 1. "Renal insufficiency, chronic"[mh] |

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| | 2. CKD[tiab] OR kidney[tiab] OR nephro*[tiab] OR renal[tiab]<br>3. #1 OR #2<br>4. Aspirin[mh]<br>5. Aspirin[tiab] OR *salicyl*[tiab] OR asa[tiab] OR anti-platelet[tiab] OR antiplatelet[tiab]<br>6. #4 OR #5<br>7. "Randomized controlled trial"[pt]<br>8. "Controlled clinical trial"[pt]<br>9. Randomized[tiab]<br>10. Placebo[tiab]<br>11. "Drug therapy"[sh]<br>12. Randomly[tiab]<br>13. Trial[tiab]<br>14. Groups[tiab]<br>15. #7 OR #8 OR #9 OR #10 OR #11 OR #12 OR #13 OR #14<br>16. #3 AND #6 AND #15<br>17. Infant[mh] OR "infant health"[mh] OR "infant welfare"[mh]<br>18. prematur*[tiab] OR pre-matur*[tiab] OR preterm*[tiab] OR pre-term*[tiab] OR infan*[tiab] OR newborn*[tiab] OR new-born*[tiab] OR perinat*[tiab] OR peri-nat*[tiab] OR neonat*[tiab] OR neo-nat*[tiab] OR baby*[tiab] OR babies[tiab] OR toddler*[tiab]<br>19. Child[mh] OR "child behavior"[mh] OR "child health"[mh] OR "child welfare"[mh]<br>20. Minors[mh]<br>21. Child*[tiab] OR minor[tiab] OR minors[tiab] OR boy*[tiab] OR girl*[tiab] OR kid[tiab] OR kids[tiab] OR young*[tiab]<br>22. Pediatrics[mh]<br>23. Pediatric*[tiab] OR paediatric*[tiab] OR peadiatric*[tiab]<br>24. Adolescent[mh] OR "adolescent health"[mh] OR "adolescent behavior"[mh]<br>25. Puberty[mh]<br>26. adolescen*[tiab] OR pubescen*[tiab] OR prepubescen*[tiab] OR pre-pubescen*[tiab] OR pubert*[tiab] OR prepubert*[tiab] OR prepubert*[tiab] OR teen*[tiab] OR preteen*[tiab] OR pre-teen*[tiab] OR juvenil*[tiab] OR youth*[tiab] OR under*age*[tiab]<br>27. Schools[mh]<br>28. Child Day Care Centers[mh] or Nurseries[mh] or Schools, Nursery[mh]<br>29. pre-school*[tiab] OR preschool*[tiab] OR kindergar*[tiab] OR daycare[tiab] OR day-care[tiab] OR nurser*[tiab] OR school*[tiab] OR pupil*[tiab] OR student*[tiab]<br>30. "under 18*"[tiab] OR "under eighteen*"[tiab] OR "under 25*"[tiab] OR "under twenty five*"[tiab]<br>31. #17 OR #18 OR #19 OR #20 OR #21 OR #22 OR #23 OR #24 OR #25 OR #26 OR #27 OR #28 OR #29 OR #30<br>32. #16 AND #31<br>33. Animals[mh] NOT humans[mh]<br>34. #32 NOT #33 |
| Embase | 1. 'Kidney failure'/exp<br>2. CKD:ti,ab OR kidney:ti,ab OR nephro*:ti,ab OR renal:ti,ab<br>3. #1 or #2 |

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| | 4. ‘Acetylsalicylic acid’/exp<br>5. Aspirin:ti,ab OR acet*salicyl*:ti,ab OR asa:ti,ab OR anti-platelet:ti,ab OR antiplatelet:ti,ab<br>6. #4 OR #5<br>7. ‘Randomized controlled trial’/exp<br>8. ‘Crossover procedure’/exp OR ‘single blind procedure’/exp OR ‘double blind procedure’/exp<br>9. Random*:ti,ab<br>10. Placebo*:ti,ab<br>11. Factorial*:ti,ab OR crossover*:ti,ab OR ‘cross over*’:ti,ab OR cross-over*:ti,ab<br>12. (Doubl* NEAR/1 blind*):ti,ab OR (singl* NEAR/1 blind*):ti,ab<br>13. Assign*:ti,ab OR allocate*:ti,ab<br>14. Volunteer*:ti,ab<br>15. #7 OR #8 OR #9 OR #10 OR #11 OR #12 OR #13 OR #14<br>16. #3 AND #6 AND #15<br>17. Infant/exp OR 'infant health'/exp OR 'infant welfare'/exp<br>18. prematur*:ti,ab OR pre-matur*:ti,ab OR preterm*:ti,ab OR pre-term*:ti,ab OR infan*:ti,ab OR newborn*:ti,ab OR new-born*:ti,ab OR perinat*:ti,ab OR peri-nat*:ti,ab OR neonat*:ti,ab OR neo-nat*:ti,ab OR baby*:ti,ab OR babies:ti,ab OR toddler*:ti,ab<br>19. Child/exp OR 'child behavior'/exp OR 'child health'/exp OR 'child welfare'/exp<br>20. Minors/exp<br>21. Child*:ti,ab OR minor:ti,ab OR minors:ti,ab OR boy*:ti,ab OR girl*:ti,ab OR kid:ti,ab OR kids:ti,ab OR young*:ti,ab<br>22. Pediatrics/exp<br>23. Pediatric*:ti,ab OR paediatric*:ti,ab OR peadiatric*:ti,ab<br>24. Adolescent/exp OR 'adolescent health'/exp OR 'adolescent behavior'/exp<br>25. Puberty/exp<br>26. adolescen*:ti,ab OR pubescen*:ti,ab OR prepubescen*:ti,ab OR pre-pubescen*:ti,ab OR pubert*:ti,ab OR prepubert*:ti,ab OR prepubert*:ti,ab OR teen*:ti,ab OR preteen*:ti,ab OR pre-teen*:ti,ab OR juvenil*:ti,ab OR youth*:ti,ab OR under*age*:ti,ab<br>27. Schools/exp<br>28. 'Child Day Care Centers'/exp OR Nurseries/exp OR 'Schools, Nursery'/exp<br>29. pre-school*:ti,ab OR preschool*:ti,ab OR kindergar*:ti,ab OR daycare:ti,ab OR day-care:ti,ab OR nurser*:ti,ab OR school*:ti,ab OR pupil*:ti,ab OR student*:ti,ab<br>30. 'under 18*':ti,ab OR 'under eighteen*':ti,ab OR 'under 25*':ti,ab OR 'under twenty five*':ti,ab<br>31. #17 OR #18 OR #19 OR #20 OR #21 OR #22 OR #23 OR #24 OR #25 OR #26 OR #27 OR #28 OR #29 OR #30<br>32. #16 AND #31<br>33. Animals/exp NOT humans/exp<br>34. #32 NOT #33<br>35. 'conference abstract'/it<br>36. #34 NOT #35 |
| CENTRAL | 1. [mh "Renal insufficiency, chronic"] |

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| | 2. CKD:ti,ab,kw OR kidney:ti,ab,kw OR nephro*:ti,ab,kw OR renal:ti,ab,kw<br>3. #1 OR #2<br>4. [mh Aspirin]<br>5. Aspirin:ti,ab,kw OR *salicyl*:ti,ab,kw OR asa:ti,ab,kw OR anti-platelet:ti,ab,kw OR antiplatelet:ti,ab,kw<br>6. #4 OR #5<br>7. #3 AND #6<br>8. [mh Infant] OR [mh "infant health"] OR [mh "infant welfare"]<br>9. prematur*:ti,ab,kw OR pre-matur*:ti,ab,kw OR preterm*:ti,ab,kw OR pre-term*:ti,ab,kw OR infan*:ti,ab,kw OR newborn*:ti,ab,kw OR new-born*:ti,ab,kw OR perinat*:ti,ab,kw OR peri-nat*:ti,ab,kw OR neonat*:ti,ab,kw OR neo-nat*:ti,ab,kw OR baby*:ti,ab,kw OR babies:ti,ab,kw OR toddler*:ti,ab,kw<br>10. [mh Child] OR [mh "child behavior"] OR [mh "child health"] OR [mh "child welfare"]<br>11. [mh Minors]<br>12. Child*:ti,ab,kw OR minor:ti,ab,kw OR minors:ti,ab,kw OR boy*:ti,ab,kw OR girl*:ti,ab,kw OR kid:ti,ab,kw OR kids:ti,ab,kw OR young*:ti,ab,kw<br>13. [mh Pediatrics]<br>14. Pediatric*:ti,ab,kw OR paediatric*:ti,ab,kw OR peadiatric*:ti,ab,kw<br>15. [mh Adolescent] OR [mh "adolescent health"] OR [mh "adolescent behavior"]<br>16. [mh Puberty]<br>17. adolescen*:ti,ab,kw OR pubescen*:ti,ab,kw OR prepubescen*:ti,ab,kw OR pre-pubescen*:ti,ab,kw OR pubert*:ti,ab,kw OR prepubert*:ti,ab,kw OR prepubert*:ti,ab,kw OR teen*:ti,ab,kw OR preteen*:ti,ab,kw OR pre-teen*:ti,ab,kw OR juvenil*:ti,ab,kw OR youth*:ti,ab,kw OR under*age*:ti,ab,kw<br>18. [mh Schools]<br>19. [mh "Child Day Care Centers"] OR [mh Nurseries] OR [mh "Schools, Nursery"]<br>20. pre-school*:ti,ab,kw OR preschool*:ti,ab,kw OR kindergar*:ti,ab,kw OR daycare:ti,ab,kw OR day-care:ti,ab,kw OR nurser*:ti,ab,kw OR school*:ti,ab,kw OR pupil*:ti,ab,kw OR student*:ti,ab,kw<br>21. ("under" NEXT 18*):ti,ab,kw OR ("under" NEXT eighteen*):ti,ab,kw OR ("under" NEXT 25*):ti,ab,kw OR ("under twenty" NEXT five*):ti,ab,kw<br>22. #8 OR #9 OR #10 OR #11 OR #12 OR #13 OR #14 OR #15 OR #16 OR #17 OR #18 OR #19 OR #20 OR #21<br>23. #7 AND #22<br>24. #23 in trials |
| **Effects of angiography or coronary revascularization among people with CKD and ischemic heart disease (**Search date: March 2023**)** | |
| PubMed | 1. "Coronary artery disease"[mh]<br>2. Arterioscleros*[tiab] OR atheroscleros*[tiab] OR coronary[tiab] OR ischemi*[tiab] OR occlusion*[tiab] OR STEMI[tiab] OR |

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| | NSTEMI*[tiab] OR angina[tiab] OR ACS[tiab] OR “myocardial infarction”[tiab] OR “acute coronary syndrome”[tiab]<br>3. #1 OR #2<br>4. “Kidney failure, chronic”[mh]<br>5. Kidney[tiab] OR renal[tiab] OR CKD[tiab]<br>6. #4 OR #5<br>7. #3 AND #6<br>8. “Percutaneous coronary intervention”[mh]<br>9. “Percutaneous coronary”[tiab] OR PCI[tiab] OR stent[tiab]<br>10. “Coronary artery bypass”[mh]<br>11. Graft[tiab] OR CABG[tiab] OR surgery[tiab] OR “coronary artery bypass”[tiab]<br>12. #8 OR #9 OR #10 OR #11<br>13. “Drug therapy”[mh]<br>14. (((((Medici*[tiab]) OR (Drug[tiab])) OR (Conservative[tiab])) OR (OMT[tiab])) OR (MT[tiab])) OR (Pharmacotherap*[tiab]) OR “optimal medication”[tiab]<br>15. #13 OR #14<br>16. #7 AND #12 AND #15<br>17. "Randomized controlled trial"[pt]<br>18. "Controlled clinical trial"[pt]<br>19. Randomized[tiab]<br>20. Placebo[tiab]<br>21. "Drug therapy"[sh]<br>22. Randomly[tiab]<br>23. Trial[tiab]<br>24. Groups[tiab]<br>25. #17 OR #18 OR #19 OR #20 OR #21 OR #22 OR #23 OR #24<br>26. #16 AND #25<br>27. Animals[mh] NOT humans[mh]<br>28. #26 NOT #27<br>29. Review[pt]<br>30. #28 NOT #29 |
| Embase | 1. ‘Coronary artery disease’/exp<br>2. 'Arteriosclerosis':ab,ti OR 'Atherosclerosis':ab,ti OR 'Occlusion':ab,ti OR 'Ischemi*':ab,ti OR 'angina':ab,ti OR ' Occlusion':ab,ti OR 'STEMI':ab,ti OR 'ACS':ab,ti OR ‘myocardial infarction’:ab,ti OR ‘acute coronary syndrome’:ab,ti<br>3. #1 OR #2<br>4. ‘Kidney failure, chronic‘/exp<br>5. 'Kidney':ab,ti OR 'Renal':ab,ti OR 'CKD':ab,ti<br>6. #4 OR #5<br>7. #3 AND #6<br>8. ‘Percutaneous Coronary Intervention‘/exp<br>9. ‘Percutaneous coronary’:ab,ti OR PCI:ab,ti OR stent:ab,ti<br>10. ‘Coronary artery bypass graft’/exp<br>11. Graft:ab,ti OR CABG:ab,ti OR surgery:ab,ti OR ‘coronary artery bypass’:ab,ti<br>12. #8 OR #9 OR #10 OR #11<br>13. ‘Drug therapy‘/exp |

| | |
|---|---|
| | 14. Drug:ab,ti OR Pharmacotherapy:ab,ti OR Medicine:ti,ab OR Medical:ab,ti OR Medication:ab,ti OR Conservative:ab,ti OR OMT:ab,ti OR MT:ab,ti<br>15. #13 OR #14<br>16. #7 AND #12 AND #15<br>17. 'Randomized controlled trial'/exp<br>18. 'Crossover procedure'/exp OR 'single blind procedure'/exp OR 'double blind procedure'/exp<br>19. Random*:ti,ab<br>20. Placebo*:ti,ab<br>21. Factorial*:ti,ab OR crossover*:ti,ab OR 'cross over*':ti,ab OR cross-over*:ti,ab<br>22. (Doubl* NEAR/1 blind*):ti,ab OR (singl* NEAR/1 blind*):ti,ab<br>23. Assign*:ti,ab OR allocate*:ti,ab<br>24. Volunteer*:ti,ab<br>25. #17 OR #18 OR #19 OR #20 OR #21 OR #22 OR #23 OR #24<br>26. #16 AND #25<br>27. Animals/exp NOT humans/exp<br>28. #26 NOT #27<br>29. 'conference abstract'/it<br>30. #28 NOT #29 |
| CENTRAL | 1. [mh "coronary artery disease"]<br>2. Arteriosclerosis:ab,ti,kw OR Atherosclerosis:ab,ti,kw OR Coronary:ab,ti,kw OR Ischemi*:ab,ti,kw OR Angina:ab,ti,kw OR Ischemic:ab,ti,kw OR Occlusion:ab,ti,kw OR STEMI:ab,ti,kw OR NSTEMI:ab,ti,kw OR ACS:ab,ti,kw OR "myocardial infarction":ab,ti OR "acute coronary syndrome":ab,ti<br>3. #1 OR #2<br>4. [mh "Kidney Failure, Chronic"]<br>5. Kidney:ti,ab,kw OR Renal:ti,ab,kw OR CKD:ti,ab,kw<br>6. #4 OR #5<br>7. #3 AND #6<br>8. [mh "Percutaneous Coronary Intervention"]<br>9. "Percutaneous coronary":ti,ab,kw OR PCI:ti,ab,kw OR Stent:ti,ab,kw<br>10. [mh "Coronary Artery Bypass"]<br>11. Graft:ti,ab,kw OR CABG:ti,ab,kw OR Surgery:ti,ab,kw<br>12. #8 OR #9 OR #10 OR #11<br>13. [mh "Drug Therapy"]<br>14. Drug:ti,ab,kw OR Pharmacotherapy:ti,ab,kw OR Medicince:ti,ab,kw OR Medical:ti,ab,kw OR Medication:ti,ab,kw OR Conservative:ti,ab,kw OR OMT:ti,ab,kw OR MT:ti,ab,kw<br>15. #13 OR #14<br>16. #7 AND #12 AND #15<br>17. #16 in Trials |
| **Effect of non-vitamin K antagonist oral anticoagulants (NOAC) with or without warfarin among people with CKD and atrial fibrillation (**Search date: March 2023**)** | |
| PubMed | 1. "Atrial fibrillation"[mh]<br>2. "Atrial fibrillation"[tiab]<br>3. "Auricular fibrillation"[tiab] |

| | |
|---|---|
| | 4. #1 OR #2 OR #3<br>5. New[tiab] AND anticoagulant*[tiab]<br>6. Dabigatran[mh] OR dabigatran[tiab<br>7. Apixaban[SC] OR apixaban[tiab]<br>8. Rivaroxaban[mh] OR rivaroxaban[tiab]<br>9. Edoxaban[sc] OR edoxaban[tiab]<br>10. Direct thrombin inhibit*[tiab]<br>11. Anticoagulants[mh] AND "Factor Xa"[mh]<br>12. Factor xa inhibit*[tiab]<br>13. #5 OR #6 OR #7 OR #8 OR #9 OR #10 OR #11 OR #12<br>14. #4 AND #13<br>15. "Randomized controlled trial"[pt]<br>16. "Controlled clinical trial"[pt]<br>17. Randomized[tiab]<br>18. Placebo[tiab]<br>19. "Drug therapy"[sh]<br>20. Randomly[tiab<br>21. Trial[tiab]<br>22. Groups[tiab]<br>23. #15 OR #16 OR #17 OR #18 OR #19 OR #20 OR #21 OR #22<br>24. #14 AND #23<br>25. 2016:2023 [dp]<br>26. #24 AND #25<br>27. Animals[mh] NOT humans[mh]<br>28. #26 NOT #27<br>29. Review[pt<br>30. #28 NOT #29<br>31. 2016/08/01:2023/03/15[dp]<br>32. #30 AND #31 |
| Embase | 1. 'heart atrium fibrillation'/exp<br>2. atrial fibrillation:ti,ab<br>3. auricular fibrillation:ti,ab<br>4. #1 OR #2 OR #3<br>5. (new NEAR/3 anticoagulant*):ti,ab<br>6. dabigatran/exp OR dabigatran:ti,ab<br>7. apixaban/exp OR apixaban:ti,ab<br>8. rivaroxaban/exp OR rivaroxaban:ti,ab<br>9. edoxaban/exp OR edoxaban:ti,ab<br>10. 'blood clotting factor 10a inhibitor'/exp<br>11. 'thrombin inhibitor'/exp<br>12. direct thrombin inhibit*:ti,ab<br>13. factor Xa inhibit*:ti,ab<br>14. #5 OR #6 OR #7 OR #8 OR #9 OR #10 OR #11 OR #12 OR #13<br>15. #4 AND #14<br>16. 'Randomized controlled trial'/exp<br>17. 'Crossover procedure'/exp OR 'single blind procedure'/exp OR 'double blind procedure'/exp<br>18. Random*:ti,ab<br>19. Placebo*:ti,ab<br>20. Factorial*:ti,ab OR crossover*:ti,ab OR 'cross over*':ti,ab OR cross-over*:ti,ab |

| | |
|---|---|
| | 21. (Doubl* NEAR/1 blind*):ti,ab OR (singl* NEAR/1 blind*):ti,ab<br>22. Assign*:ti,ab OR allocate*:ti,ab<br>23. Volunteer*:ti,ab<br>24. #16 OR #17 OR #18 OR #19 OR #20 OR #21 OR #22 OR #23<br>25. #15 AND #24<br>26. [2016-2023]/py<br>27. #25 AND #26<br>28. Animals/exp NOT humans/exp<br>29. #27 NOT #28<br>30. 'conference abstract'/it OR review/it<br>31. #29 NOT #30 |
| CENTRAL | 1. "atrial fibrillation":ti,ab,kw<br>2. "auricular fibrillation":ti,ab,kw<br>3. #1 OR #2<br>4. (new near/3 anticoagulant*):ti,ab<br>5. dabigatran:ti,ab,kw<br>6. apixaban:ti,ab,kw<br>7. rivaroxaban:ti,ab,kw<br>8. edoxaban:ti,ab,kw<br>9. (thrombin next inhibit*):ti,ab,kw<br>10. ((factor next xa next inhibit*) or (factor next 10a next inhibit*)):ti,ab,kw<br>11. MeSH descriptor: [Anticoagulants] this term only<br>12. MeSH descriptor: [Factor Xa] this term only<br>13. #11 and #12<br>14. MeSH descriptor: [Factor Xa] explode all trees<br>15. #4 OR #5 OR #6 OR #7 OR #8 OR #9 OR #10 OR #13 OR #14<br>16. #3 AND #15 |

## Appendix B. Concurrence with Institute of Medicine (IOM) standards for guideline development

*Table S2. Guideline development checklist - IOM standards for development of trustworthy clinical practice guidelines*[1]

| IOM Standard | Description | Addressed in 2023 KDIGO CKD guideline |
|---|---|---|
| Establishing transparency | Clear description on the process of guideline development. | See *Methods for Guideline Development* |
| Management of conflicts of interests | Disclosure of a comprehensive conflict of interests of the Work Group against a set-criteria and a clear strategy to manage conflicts of interests | See *Work Group Disclosures of Interest* |
| Guideline group composition and guideline development | Appropriate clinical and methodological expertise in the Work Group<br>The processes of guideline development are transparent and allow for involvement of all Work Group Members | For guideline group composition – see *Work Group Membership*<br>For guideline development process see *Methods for Guideline Development* |
| Establishing evidence foundations for rating strength of recommendations | Rationale is provided for the rating the strength of the recommendation and the transparency for the rating the quality of the evidence. | See *Methods for Guideline Development* |
| Articulation of recommendations | Clear and standardized wording of recommendations | All recommendations were written to standards of GRADE and were actionable statements. Please see *Methods for Guideline Development* |
| External review | An external review of relevant experts and stakeholders was conducted. All comments received from external review are considered for finalization of the guideline. | An external public review was undertaken in July 2023. |
| Updating | An update for the guidelines is planned, with a provisional timeframe provided. | The KDIGO clinical practice guideline will be updated. However, no set timeframe has been provided. |

**Appendix C. Data supplement - Summary of findings (SoF) tables cited in the guideline text**
*Chapter 1. Evaluation of chronic kidney disease (CKD)*

**Table S3.**
Population: Adults and children with or without CKD
Intervention: Estimated GFR (eGFR) based on measurements of cystatin C (eGFRcys); creatinine (eGFRcr); cystatin C and creatinine (eGFRcr-cys)
Comparator: Measured GFR (mGFR; using urinary or plasma clearance of exogenous filtration marker)

| № of studies | Certainty assessment | | | | | | № of patients | Effect* | Certainty |
|---|---|---|---|---|---|---|---|---|---|
| | Study design | Risk of bias | Inconsistency | Indirectness | Imprecision | Other considerations | eGFR-estimating equation | Range of measurement bias* | |
| **Measurement bias (eGFR - mGFR) for cystatin C-based equations** | | | | | | | | | |
| 13 | observational studies[24-37] | not serious | serious[a] | not serious | very serious[b] | none | 11602 | -12.9 to 5- | ⊕◯◯◯ Very low |
| **Measurement bias (eGFR - mGFR) for creatinine + cystatin-based equations** | | | | | | | | | |
| 17 | observational studies[24, 25, 27, 28, 30, 31, 33-42] | not serious | very serious[c] | not serious | very serious[b] | none | 13296 | -9.7 to 4.1- | ⊕◯◯◯ Very low |
| **Measurement bias (eGFR - mGFR) for creatinine-based equations** | | | | | | | | | |
| 16 | observational studies[25-39, 41, 43] | not serious | very serious[c] | not serious | very serious[d] | none | 12491 | -8.8 to 11.3- | ⊕◯◯◯ Very low |

| № of studies | Study design | Risk of bias | Inconsistency | Indirectness | Imprecision | Other considerations | eGFR-estimating equation | Range of P30 | Certainty |
|---|---|---|---|---|---|---|---|---|---|
| **$P_{30}$ for cystatin C-based equations** | | | | | | | | | |
| 12 | observational studies[24, 25, 27, 33-43] | not serious | very serious[e] | not serious | very serious[f] | none | 11462 | -59.9 to 97.8 | ⊕◯◯◯ Very low |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **$P_{30}$ for creatinine + cystatin C-based equations** | | | | | | | | | |
| 14 | observational studies[24, 25, 27, 28, 30, 33-41, 43] | not serious | serious[e] | not serious | serious[g] | none | 12499 | 77 to 97.6- | ⨁◯◯◯ Very low |
| **$P_{30}$ for creatinine-based equations** | | | | | | | | | |
| 16 | observational studies[25-39] | not serious | very serious[e] | not serious | very serious[f] | none | 12125 | -55.5 to 96 | ⨁◯◯◯ Very low |

CI, confidence interval

*Measurement bias is the median difference eGFR-mGFR

a. Measurement bias is consistent across most studies with enough exceptions to cause some concern.

b. Wide range in confidence intervals (positive to negative)

c. Measurement bias is inconsistent enough across all studies to cause serious concerns.

d. Very wide range of confidence intervals (positive to negative) spanning 20+ points.

e. Wide range of P30 values.

f. Very wide range of confidence intervals.

g. Wide range of confidence intervals.

**Table S4.**
Population: Adults and children with suspected or diagnosed CKD
Intervention: Native kidney biopsy
Comparator: Clinical or standard diagnosis or prognosis for studies evaluating diagnostic or prognostic benefit; No comparator for studies evaluating safety

| № of studies | Certainty assessment | | | | | | № of patients | Effect | Certainty |
|---|---|---|---|---|---|---|---|---|---|
| | Study design | Risk of bias | Inconsistency | Indirectness | Imprecision | Other considerations | Kidney biopsy | Pooled Rate (95% CI) | |
| **Mortality** | | | | | | | | | |
| 15 | observational studies[2-16] | serious[a] | not serious | not serious | very serious[b] | none | 3/11,180 (0.0%) | 0% (0.00% to 0.00%) | ⊕◯◯◯ Very low |
| **Perirenal hematoma** | | | | | | | | | |
| 14 | observational studies[4-6, 8, 10, 13, 16-23] | serious[a] | serious[c] | not serious | not serious | none | 647/2943 (22.0%) | 16% (12% to 22%) | ⊕⊕◯◯ Low |
| **Retroperitoneal hemorrhage** | | | | | | | | | |
| 0 | | | | | | | | | - |

CI, confidence interval
a. Studies had moderate risk of bias due to concerns with potential confounding.
b. There were 3 events.
c. $I^2$ >50%, suggesting some statistical heterogeneity.

**Table S5.**
Population: Adults and children
Intervention: Machine-read quantitative or semiquantitative protein or albumin urine dipstick tests
Comparator: Laboratory-based methods for measuring urinary protein or albumin (e.g., 24-hour urinary sample, spot urine protein-to-creatinine ratio [PCR], or albumin-to-creatinine ratio [ACR])

| № of studies | Certainty assessment | | | | | | № of patients | Effect | Certainty |
|---|---|---|---|---|---|---|---|---|---|
| | Study design | Risk of bias | Inconsistency | Indirectness | Imprecision | Other considerations | POC urine dipstick | Measurement bias | |
| **Measurement bias of POC urine dipstick compared to laboratory-based methods** | | | | | | | | | |
| 1 | observational studies[44] | serious[a] | serious[b] | not serious | serious[c] | none | 60 | 0.119[*] | ⨁◯◯◯ Very low |
| № of studies | Study design | Risk of bias | Inconsistency | Indirectness | Imprecision | Other considerations | POC urine dipstick | Analytical Variability | Certainty |
| **Analytical variability (coefficient of variation) of POC urine dipstick compared to laboratory-based methods** | | | | | | | | | |
| 5 | observational studies[45-50] | serious[d] | serious[b] | not serious | serious[c] | none | 738 | [†] | ⨁◯◯◯ Very low |
| № of studies | Study design | Risk of bias | Inconsistency | Indirectness | Imprecision | Other considerations | POC urine dipstick | Analytical Sensitivity | Certainty |
| **Analytical sensitivity (limit of detection)** | | | | | | | | | |
| 2 | observational studies[51, 52] | serious[e] | serious[b] | not serious | not serious | none | 639 | -[‡] | ⨁◯◯◯ Very low |

CI, confidence interval; POC, point-of-care testing
*Mean difference: POC – lab values
†This measure varies too greatly across studies to present a range.
‡This measure varies too greatly across studies to present a range
‖Analytic specificity (%)
a. All parameters are unclear
b. Wide range of analytic specificity values
c. CIs are not reported for many studies. When reported, they are precise.
d. High risk of bias in 3 studies
e. Interpretation or conduct of the index test could have introduced bias.

f. Wide range of CIs
g. High risk of bias in 1 study.
h. Wide range in analytical variability
i. Studies are addressing different outcomes and diagnoses.
j. High risk of bias in patient selection and poor reporting about the reference test and index test.

**Table S6.***

Population: Adults, children, and young people with CKD G1-G5
Predictors: Kidney failure risk equations for predicting progression (e.g.. Tangri equation [KFRE])
Outcome: C-statistics

| № of studies | Certainty assessment | | | | | | Effect | | Certainty |
|---|---|---|---|---|---|---|---|---|---|
| | Study design | Risk of bias | Inconsistency | Indirectness | Imprecision | Other considerations | Sample size | C statistic (95% CI) | |
| KFRE 4 variable (follow-up: 2 years) | | | | | | | | | |
| 2[54, 55] | Retrospective and prospective cohort | not serious | not serious[a] | not serious | not serious | none | 756896 | 0.92 (0.88 to 0.95) | ⨁⨁⨁⨁ High |
| KFRE 4 variable in children (follow-up: 2 years) | | | | | | | | | |
| 1[56] | Retrospective cohort | not serious | NA[b] | not serious | not serious | none | 603 | 0.86 (0.81 to 0.9) | ⨁⨁⨁⨁ High |
| KFRE 4 variable (follow-up: 3 years) | | | | | | | | | |
| 1[57] | Retrospective cohort | not serious | NA[b] | not serious | not serious | none | 406 | 0.91 (0.83 to 0.99) | ⨁⨁⨁⨁ High |
| FKRE 4 variable (follow-up: 5 years) | | | | | | | | | |
| 4[54, 55, 58, 59] | Retrospective cohort | not serious | not serious[a] | not serious | not serious | none | 760682 | 0.91 (0.89 to 0.94) | ⨁⨁⨁⨁ High |
| KFRE 4 variable in children (follow-up: 5 years) | | | | | | | | | |
| 1[56] | Retrospective cohort | not serious | NA[b] | not serious | not serious | none | 603 | 0.81 (0.77 to 0.83) | ⨁⨁⨁⨁ High |
| KFRE 8 variable in children (follow-up: 1 years) | | | | | | | | | |
| 1[56] | Retrospective cohort | not serious | NA[b] | not serious | not serious | none | 603 | 0.91 (0.87 to 0.94) | ⨁⨁⨁⨁ High |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| KFRE 8 variable in children (follow-up: 2 years) | | | | | | | | | |
| 1[56] | Retrospective cohort | not serious | NA[b] | not serious | not serious | none | 603 | 0.87 (0.82 to 0.91) | ⨁⨁⨁⨁ High |
| KFRE 8 variable in children (follow-up: 5 years) | | | | | | | | | |
| 1[56] | Retrospective cohort | not serious | NA[b] | not serious | not serious | none | 603 | 0.82 (0.78 to 0.85) | ⨁⨁⨁⨁ High |
| RRT prediction tool (follow-up: 5 years) | | | | | | | | | |
| 1[58] | Prospective cohort | not serious | NA[b] | not serious | not serious | none | 2274 | 0.93 (0.9 to 0.96) | ⨁⨁⨁⨁ High |

[*] Summary of findings tables copied from the NICE guideline Appendix G53 (Table G.2 Prediction equations to predict kidney failure or end stage renal disease (ESRD). Part G.2.1 C-statistics)

[a] Despite high statistical heterogeneity, confidence intervals were high in studies and the committee was confident.

[b] Single study contributed to the outcome.

**Table S7.***

Population: Adults, children, and young people with CKD G1-G5

Predictors: Kidney failure risk equations for predicting progression (e.g.. Tangri equation [KFRE])

Outcome: Brier scores

| № of studies | Certainty assessment | | | | | | Effect | | Certainty |
|---|---|---|---|---|---|---|---|---|---|
| | Study design | Risk of bias | Inconsistency | Indirectness | Imprecision | Other considerations | Sample size | Brier Score (95% CI) | |
| KFRE 4 variable in elderly (mean age 75 years) (follow-up: 2 years) | | | | | | | | | |
| 1[60] | Retrospective cohort | not serious | NA[a] | not serious | NA[b] | none | 17271 | 7.9% Bias: 3.4% (-7.8 to 11.2%) | ⨁⨁⨁⨁ High |
| KFRE 4 variable in elderly (mean age 75 years) (follow-up: 5 years) | | | | | | | | | |
| 1[60] | Retrospective cohort | not serious | NA[a] | not serious | NA[b] | none | 17271 | 7.9% Bias: 4.5% (-1.4 to 5.9%) | ⨁⨁⨁⨁ High |

* Summary of findings tables copied from the NICE guideline Appendix G53 (Table G.2 Prediction equations to predict kidney failure or end stage renal disease (ESRD). Part G.2.2 Brier scores)

[a] Inconsistency not applicable as results from single study.

[b] Imprecision not calculable.

**Table S8.***

Population: Adults, children, and young people with CKD G1-G5

Predictors: Kidney failure risk equations for predicting progression (Kidney failure risk equations [e.g.. Tangri equation [KFRE]])

Outcome: $R^2$ statistic

| № of studies | Certainty assessment | | | | | | Effect | | Certainty |
|---|---|---|---|---|---|---|---|---|---|
| | Study design | Risk of bias | Inconsistency | Indirectness | Imprecision | Other considerations | Sample size | $R^2$ statistic (%) | |
| KFRE 4 variable (follow-up: 3 years) | | | | | | | | | |
| 1[57] | Prospective cohort | not serious | NA[a] | not serious | NA[b] | none | 406 | undefined 0.29 (37.7) | ⨁⨁⨁⨁ High |

* Summary of findings tables copied from the NICE guideline Appendix G[53] (Table G.2 Prediction equations to predict kidney failure or end stage renal disease (ESRD). Part G.2.3 $R^2$ statistic)

[a] Inconsistency not applicable as results from single study.

[b] Imprecision not calculable.

**Table S9.***

Population: Adults, children, and young people with CKD G1-G5

Predictors: Kidney failure risk equations for predicting progression (Kidney failure risk equations [e.g.. Tangri equation [KFRE]])

Outcome: Sensitivity and specificity to start kidney replacement therapy (KRT)

| № of studies | Certainty assessment | | | | | | Effect | | | Certainty |
|---|---|---|---|---|---|---|---|---|---|---|
| | Study design | Risk of bias | Inconsistency | Indirectness | Imprecision | Other considerations | Sample size | Sensitivity | Specificity | |
| KFRE 4 variable (follow-up: 5 years) | | | | | | | | | | |
| 1[58] | Prospective cohort | not serious | NA[a] | not serious | NA[b] | none | 2274 | 0.84 | 0.89 | ⨁⨁⨁⨁ High |
| RRT prediction tool (follow-up: 5 years) | | | | | | | | | | |
| 1[58] | Prospective cohort | not serious | NA[a] | not serious | NA[b] | none | 2274 | 0.56 | 0.96 | ⨁⨁⨁⨁ High |

* Summary of findings tables copied from the NICE guideline Appendix G[53] (Table G.2 Prediction equations to predict kidney failure or end stage renal disease (ESRD). Part G.2.4 Sensitivity and specificity to start RRT)

[a] Inconsistency not applicable as results from single study.

[b] Imprecision not calculable.

**Table S10.**
Population: Adults and children with CKD
Intervention: Sodium-glucose cotransporter-2 inhibitors (SGLT2i)
Comparator: Placebo or usual care; Active comparator (e.g., another glucose-lowering agent)

| Certainty assessment | | | | | | | Effect estimates | Certainty |
|---|---|---|---|---|---|---|---|---|
| **Population** | **№ of studies & study design** | **Risk of bias** | **Inconsistency** | **Indirectness** | **Imprecision** | **Other considerations** | | |
| **Kidney failure** | | | | | | | | |
| People with CKD | 2 SR[61, 62] | not serious | not serious | not serious | not serious | none | HR ranged from 0.60 to 0.72 | ⊕⊕⊕⊕ High |
| People with CKD and T2D | 2 SR[61, 62] + 1 RCT[63] | not serious | not serious | not serious | not serious | none | Pooled HR, 0.6 (95% CI, 0.52 to 0.7) RR ranged from 0.60 to 0.66 | ⊕⊕⊕⊕ High |
| People with CKD but not T2D | 1 SR[61] | not serious | not serious | not serious | not serious | none | RR ranged from 0.67 to 0.72 | ⊕⊕⊕⊕ High |
| People with CKD and HF | 2 RCTs[64, 65] | not serious | not serious | not serious | serious[a] | none | HR, 0.69 (95% CI, 0.39 to 1.22) | ⊕⊕⊕◯ Moderate |
| People with CKD without albuminuria | 2 RCTs[66, 67] | not serious | not serious | not serious | serious[a] | publication bias strongly suspected[b] | HR ranged from 0.33 to 1.02 | ⊕⊕◯◯ Low |
| **All-cause hospitalizations** | | | | | | | | |
| People with CKD | 3 RCTs[65, 66, 68] | not serious | not serious | not serious | not serious | publication bias strongly suspected[b] | HR ranged from 0.81 to 0.87 | ⊕⊕⊕◯ Moderate |
| People with CKD and T2D | 1 RCT[68] | not serious | not serious | not serious | not serious | publication bias strongly suspected[b] | HR, 0.81 (95% CI, 0.72 to 0.92) | ⊕⊕⊕◯ Moderate |

| Certainty assessment | | | | | | | Effect estimates | Certainty |
|---|---|---|---|---|---|---|---|---|
| **Population** | **№ of studies & study design** | **Risk of bias** | **Inconsistency** | **Indirectness** | **Imprecision** | **Other considerations** | | |
| People with CKD but not T2D | | No studies | -- | -- | -- | -- | -- | -- |
| People with CKD and HF | 1 RCT[65] | not serious | not serious | not serious | not serious | publication bias strongly suspected[b] | HR, 0.87 (95% CI, 0.77 to 1) | ⨁⨁⨁◯ Moderate |
| People with CKD without albuminuria | | No studies | -- | -- | -- | -- | -- | -- |

**CI:** confidence interval; **CKD:** chronic kidney disease; **HF:** heart failure; **HR:** hazard ratio; **RCT:** randomized controlled trial; **RR:** risk ratio; **SGLT-2:** sodium-glucose cotransporter-2; **SR:** systematic review; **T2DM:** type 2 diabetes mellitus

*Explanations*

a. Few events.

b. Few studies reported on outcome/population.

**Table S11.**

Population: Adults and children with CKD and symptomatic hyperuricemia

Intervention: Uric acid-lowering therapy (ULT; allopurinol, benzbromarone, febuxostat, oxipurinol, pegloticase, probenecid, topiroxostat, rasburicase, sulfinpyrazone, lesinurad)

Comparator: Active comparator, placebo, or usual care

| Certainty assessment | | | | | | | № of patients | | Effect | | Certainty |
|---|---|---|---|---|---|---|---|---|---|---|---|
| № of studies | Study design | Risk of bias | Inconsistency | Indirectness | Imprecision | Other considerations | ULT | Placebo or usual care | Relative (95% CI) | Absolute (95% CI) | |
| **Progression of CKD to kidney failure* (follow-up: range 3 months to 12 months)** | | | | | | | | | | | |
| 2[69, 70] | RCTs | serious[a] | not serious | not serious | serious[b] | none | 5/215 (2.3%) | 10/70 (14.3%) | **RR 0.23** (0.06 to 0.88) | 110 fewer per 1,000 (from 134 fewer to 17 fewer) | ⊕⊕◯◯ Low |
| **Cutaneous reactions and hypersensitivity (follow-up: mean 3 months)** | | | | | | | | | | | |
| 2[69, 71] | RCTs | not serious | serious[c] | not serious | very serious[d] | none | 1/176 (0.6%) | 1/58 (1.7%) | **RR 0.46** (0.02 to 12.16) | 9 fewer per 1,000 (from 17 fewer to 192 more) | ⊕◯◯◯ Very low |
| **Hepatotoxicity (follow-up: range 3 months to 12 months)** | | | | | | | | | | | |
| 3[70-72] | RCTs | serious[e] | not serious | not serious | very serious[f] | none | 2/128 (1.6%) | 0/73 (0.0%) | **RR 1.55** (0.16 to 14.51) | 0 fewer per 1,000 (from 0 fewer to 0 fewer) | ⊕◯◯◯ Very low |

**CI:** confidence interval; **CKD**: chronic kidney disease; **RR:** risk ratio; **ULT**: uric acid-lowering therapy

* Gunawardhana 2018 and Saag 2016 reported on renal failure.[69, 70]

† Studies had varying definitions for cutaneous reactions. Gunawardhana 2018 reported on rash macular.[69] Tanaka 2015 reported on withdrawals due to rash.[71]

‡ Studies had varying definitions of hepatotoxicity. Wada 2018 reported on alanine aminotransferase increase.[72] Tanaka 2015 reported on abnormalities in liver function tests.[71] Saag 2016 reported on increased alanine aminotransferase level greater than 3 times the upper limit of normal.[70]

Explanations

a. One of the included trials had a high risk of bias.

b. There was a total of 15 events among the 285 participants enrolled in the two trials. The total number of events is lower than the number needed to reach the optimal information size (i.e., 300).

c. I-squared was greater than 50%.

d. There was a total of 2 events among the 234 participants enrolled in the two trials. The total number of events is lower than the number needed to reach the optimal information size (i.e., 300).
e. One of the included trials had a high risk of bias and another had some concerns with risk of bias.
f. There was a total of 2 events among the 201 participants enrolled in the three trials. The total number of events is lower than the number needed to reach the optimal information size (i.e., 300).

**Table S12.**
Population: Adults and children with CKD and asymptomatic hyperuricemia
Intervention: Uric acid-lowering therapy (ULT; allopurinol, benzbromarone, febuxostat, oxipurinol, pegloticase, probenecid, topiroxostat, rasburicase, sulfinpyrazone, lesinurad)
Comparator: Active comparator, placebo, or usual care

| Certainty assessment | | | | | | | № of patients | | Effect | | Certainty |
|---|---|---|---|---|---|---|---|---|---|---|---|
| № of studies | Study design | Risk of bias | Inconsistency | Indirectness | Imprecision | Other considerations | ULT | Placebo or usual care | Relative (95% CI) | Absolute (95% CI) | |
| **Progression of CKD to kidney failure* (follow-up: range 12 months to 84 months)** | | | | | | | | | | | |
| 6[73-78] | RCTs | not serious | not serious | not serious | serious[a] | none | 41/612 (6.7%) | 30/586 (5.1%) | **RR 1.38** (0.88 to 2.16) | 19 more per 1,000 (from 6 fewer to 59 more) | ⊕⊕⊕◯ Moderate |
| **Cutaneous reactions and hypersensitivity (follow-up: range 3 months to 41 months)** | | | | | | | | | | | |
| 7[73, 74, 78-82] | RCTs | not serious | not serious | not serious | serious[b] | none | 30/803 (3.7%) | 28/807 (3.5%) | **RR 1.07** (0.64 to 1.77) | 2 more per 1,000 (from 12 fewer to 27 more) | ⊕⊕⊕◯ Moderate |
| **Hepatotoxicity (follow-up: range 3 months to 25 months)** | | | | | | | | | | | |
| 5[78, 79, 81-83] | RCTs | not serious | not serious | not serious | very serious[c] | none | 7/363 (1.9%) | 14/368 (3.8%) | **RR 0.56** (0.23 to 1.34) | 17 fewer per 1,000 (from 29 fewer to 13 more) | ⊕⊕◯◯ Low |

**CI:** confidence interval; **CKD**: chronic kidney disease; **RR:** risk ratio; **ULT**: uric acid-lowering therapy
* Studies had varying definitions for the progression of chronic kidney disease to kidney failure. Siu 2006 reported on reaching end stage renal failure or needing dialysis.[77] Sircar 2015 reported on reaching an estimated glomerular filtration rate less than 15 mL/min/1.73 $m^2$.[76] Badve 2020 reported on reaching end-stage kidney disease, which was defined as

dialysis for at least 30 days or kidney transplantation.[73] Doria 2020 reported on progression to end-stage kidney disease.[74] Goicoechea 2015 and Yang H 2023 reported on the initiation of dialysis.[75, 78]

† Studies had varying definitions for cutaneous reactions. Jalal 2017 reported on rash.[79] Kao 2011 reported on withdrawals due to rash.[80] Wen 2020 reported on itch.[82] Badve 2020 reported on non-serious skin rash.[73] Kimura 2018 reported on rash and eruption.[81] Doria 2020 reported on skin and subcutaneous tissue disorders.[74] Yang H 2023 reported on skin rashes.[78]

‡ Studies had varying definitions of hepatotoxicity. Wen 2020 reported on liver injury.[82] Beddhu 2016 reported on elevated liver enzymes.[83] Kimura 2018 and Yang H 2023 reported on liver dysfunction.[78, 81] Jalal 2017 reported on mildly elevated liver function test.[79]

*Explanations*

a. There was a total of 71 events among the 1198 participants enrolled in the six trials. The number of events is lower than the number needed to reach the optimal information size (i.e., 300).

b. There was a total of 58 events among the 1610 participants enrolled in the seven trials. The number of events is lower than the number needed to reach the optimal information size (i.e., 300).

c. There was a total of 21 events among the 731 participants enrolled in the five trials. The number of events is lower than the number needed to reach the optimal information size (i.e., 300).

**Table S13.**
Population: Adults and children with CKD and ischemic heart disease
Intervention: Angiography or coronary revascularization
Comparator: Medical treatment

| Certainty assessment | | | | | | | № of patients | | Effect | | Certainty |
|---|---|---|---|---|---|---|---|---|---|---|---|
| № of studies | Study design | Risk of bias | Inconsistency | Indirectness | Imprecision | Other considerations | Coronary revascular-ization | Optimal medical therapy | Relative (95% CI) | Absolute (95% CI) | |
| **All-cause mortality (follow-up: range 2 years to 10 years)*** | | | | | | | | | | | |
| 4 | RCTs[84-87] | serious[a] | not serious | not serious | serious[b] | none | 127/1114 (11.4%) | 153/1129 (13.6%) | RR 0.80 (0.64 to 0.99) | 27 fewer per 1,000 (from 49 fewer to 1 fewer) | ⨁⨁◯◯ Low |
| **Cardiovascular mortality (follow-up: range 4.6 years to 5.6 years)** | | | | | | | | | | | |
| 2 | RCTs[84, 85] | serious[c] | not serious | not serious | serious[d] | publication bias strongly suspected[e] | -/300 | -/340 | HR 0.67 (0.37 to 1.20) | -- per 1,000 (from -- to --) | ⨁◯◯◯ Very low |
| **Composite cardiovascular events (follow-up: range 2 years to 10 years)** † | | | | | | | | | | | |
| 3 | RCTs[85-88] | serious[a] | not serious | not serious | serious[f] | none | -/965 | -/958 | RR 0.83 (0.67 to 1.02) | 0 fewer per 1,000 (from 0 fewer to 0 fewer) | ⨁⨁◯◯ Low |
| **Myocardial infarction (follow-up: range 2 years to 10 years)**‡ | | | | | | | | | | | |
| 4 | RCTs[84-88] | serious[a] | not serious | not serious | serious[g] | none | -/1114 | -/1129 | RR 0.84 (0.64 to 1.11) | 0 fewer per 1,000 (from 0 fewer to 0 fewer) | ⨁⨁◯◯ Low |
| **Heart failure (follow-up: range 3 years to 5.6 years)**§ | | | | | | | | | | | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | RCTs[84, 85] | serious[c] | not serious | not serious | serious[h] | none | 30/300 (10.0%) | 43/340 (12.6%) | RR 0.80 (0.52 to 1.23) | 25 fewer per 1,000 (from 61 fewer to 29 more) | ⊕⊕◯◯ Low |
| **Kidney failure - not measured[‖]** | | | | | | | | | | | |
| - | - | - | - | - | - | - | - | - | - | - | - |
| **Acute kidney injury (follow-up: range 3 years to 5.6 years)[¶]** | | | | | | | | | | | |
| 2 | RCTs[84, 85] | serious[i] | not serious | not serious | extremely serious[j] | none | 1/300 (0.3%) | 0/340 (0.0%) | not pooled | see comment | ⊕◯◯◯ Very low |

CI, confidence interval; HR, hazard ratio; RCT, randomized controlled trials; RR, risk ratio

*Doenst 2022 also reported on mortality but did not provide the number of deaths in each group.[89] Results from Doenst 2022 are consistent with the results presented in this table.

†Doenst 2022 also reported on composite events but did not provide the number of events in each group.[89] Sedlis 2009 reported on stroke and cardiac hospitalizations but did not provide the number of events in each group.[84] Results from Doenst 2022 and Sedlis 2009 are consistent with the results presented in this table. The studies had different definitions for composite events. Hastings 2012 reported on death, reinfarction, and hospitalizations for class IV heart failure.[85] Lopes 2009 reported on all-cause mortality, myocardial infarction, refractory angina requiring revascularization, or stroke.[86] Johnston 2006 reported on death or myocardial infarction.[88]

‡Hastings 2012 reported on reinfarctions.[85] Lopes 2009 reported on significant new Q waves in at least 2 electrocardiogram leads or symptoms compatible with myocardial infarction associated with creatinine kinase MB fraction concentrations greater than 3 times the upper limit of the reference range.[86] Johnston 2006 reported on the presence of 2 of the 3 conventional criteria (typical chest pain, diagnostic electrocardiogram, or elevation of biochemical markers of myocardial damage).[88]

§Hastings 2012 reported on hospitalizations for heart failure.[85] Sedlis 2009 reported on new heart failure.[84]

‖Sedlis 2009 reported no episodes of contrast nephropathy requiring dialysis.[84]

¶Hastings 2012 reported on kidney complications in the first 48 hours after percutaneous coronary intervention.[85] Creatinine levels were not routinely measured after 48 hours. Sedlis 2009 reported on contrast nephropathy requiring dialysis.[84]

a. There were at least some concerns with the risk of bias for all trials. While it is not possible to blind patients/carers, not all of the trials stated that outcome assessors were blinded (Johnston 2006). Many patients needed to cross-over to the other treatment arm (Hastings 2012, Sedlis 2009), but this information was not always reported in the trials (Johnston 2006). Most of the studies were *post hoc* analyses of trials (Hastings 2012, Lopes 2009, Sedlis 2009).

b. There were only 280 events among the 2243participants enrolled in the 8 trials. The total number of events is lower than the number needed to reach the optimal information size (i.e., 300).

c. There were at least some concerns with the risk of bias for all trials. Many patients needed to cross-over to the other treatment arm (Hastings 2012, Sedlis 2009). Most of the studies were *post hoc* analyses of trials (Hastings 2012, Sedlis 2009).

d. Not enough information is reported to assess precision. The total number of events is likely to be lower than the number needed to reach the optimal information size (i.e., 300).

e. Only 2 of the 5 trials reported on this outcome, even though all the trials assessed mortality and cardiovascular events.
f. CI crosses 1.
g. We cannot estimate the total number of events that occurred. There were at least 211 events among the 2243 participants enrolled in the 8 trials. The total number of events is lower than the number needed to reach the optimal information size (i.e., 300).
h. There were only 73 events among the 640 participants enrolled in the 2 trials. The total number of events is lower than the number needed to reach the optimal information size (i.e., 300).

**Table S14.**
Population: Adults and children with CKD and atrial fibrillation
Intervention: Non-vitamin K antagonist oral anticoagulants (NOAC) with warfarin or NOAC alone
Comparator: Medical treatment
Outcome: Stroke outcomes

| Certainty assessment | | | | | | | № of patients | | Effect | | Certainty |
|---|---|---|---|---|---|---|---|---|---|---|---|
| № of studies | Study design | Risk of bias | Inconsistency | Indirectness | Imprecision | Other considerations | NOAC | Warfarin | Relative (95% CI) | Absolute (95% CI) | |
| **Any stroke (follow-up: range 1.9 years to 2.8 years)** | | | | | | | | | | | |
| 4 | RCTs[90-93] | not serious | not serious | not serious | serious[a] | publication bias strongly suspected[b] | 133/3067 (4.3%) | 143/3016 (4.7%) | HR 0.93 (0.73 to 1.18) | 3 fewer per 1,000 (from 13 fewer to 8 more) | ⊕⊕◯◯ Low |
| **Ischemic stroke (follow-up: range 1.8 years to 2.8 years)** | | | | | | | | | | | |
| 5 | RCTs[90, 92-95] | not serious | not serious | not serious | serious[c] | none | NE | NE | HR 0.87 (0.69 to 1.10) | 1 fewer per 1,000 (from 1 fewer to 1 fewer) | ⊕⊕⊕◯ Moderate |
| **Hemorrhagic stroke (follow-up: range 1.9 years to 2.8 years)** | | | | | | | | | | | |
| 3 | RCTs[90, 92, 93] | not serious | not serious | not serious | serious[a] | publication bias strongly suspected[b] | 23/2994 (0.8%) | 36/2980 (1.2%) | HR 0.62 (0.36 to 1.04) | 5 fewer per 1,000 (from 8 fewer to 0 fewer) | ⊕⊕◯◯ Low |

CI, confidence interval; HR, hazard ratio; NE, not estimable; RCT, randomized controlled trials
a. The total number of events among the 6083 participants of the 4 trials was estimated to be less than the number needed to reach the optimal information size (i.e., 300). One study did not report the number of events (Hori 2013).
b. Only some of the 7 studies reported on outcome.

c. The total number of events among the participants of the 5 trials was estimated to be less than the number needed to reach the optimal information size (i.e., 300). The number of events and the number of participants were not always reported.

**Table S15.**
Population: Adults and children with CKD and atrial fibrillation
Intervention: Non-vitamin K antagonist oral anticoagulants (NOAC) with warfarin or NOAC alone
Comparator: Medical treatment
Outcomes: Bleeding outcomes

| Certainty assessment | | | | | | | № of patients | | Effect | | Certainty |
|---|---|---|---|---|---|---|---|---|---|---|---|
| № of studies | Study design | Risk of bias | Inconsistency | Indirectness | Imprecision | Other considerations | NOAC | Warfarin | Relative (95% CI) | Absolute (95% CI) | |
| **Intracranial hemorrhage (follow-up: range 1.9 years to 2.8 years)** | | | | | | | | | | | |
| 3 | RCTs[90, 92, 95] | not serious | not serious | not serious | serious[b] | publication bias strongly suspected[a] | 32/2981 (1.1%) | 59/2964 (2.0%) | **HR 0.60** (0.34 to 1.05) | 8 fewer per 1,000 (from 13 fewer to 1 more) | ⊕⊕◯◯ Low |
| **Major bleeding (factor Xa inhibitors) (follow-up: range 6 months to 2.8 years)** | | | | | | | | | | | |
| 6 | RCTs[90-93, 95, 96] | not serious | serious[c] | not serious | not serious | none | NE | NE | **HR 0.73** (0.58 to 0.92) | 1 fewer per 1,000 (from 1 fewer to 1 fewer) | ⊕⊕⊕◯ Moderate |
| **Major bleeding (factor IIa inhibitors) (follow-up: median 1.8 years)** | | | | | | | | | | | |
| 1 | RCTs[94] | serious[d] | serious[e] | not serious | serious[f] | none | NE | NE | **HR 1.11** (0.97 to 1.27) | 1 fewer per 1,000 (from 1 fewer to 1 fewer) | ⊕◯◯◯ Very low |
| **Clinically-relevant non-major bleeding (follow-up: range 1.9 years to 2.5 years)** | | | | | | | | | | | |

| Certainty assessment | | | | | | | № of patients | | Effect | | Certainty |
|---|---|---|---|---|---|---|---|---|---|---|---|
| № of studies | Study design | Risk of bias | Inconsistency | Indirectness | Imprecision | Other considerations | NOAC | Warfarin | Relative (95% CI) | Absolute (95% CI) | |
| 4 | RCTs[91-93, 95] | not serious | not serious | not serious | not serious | publication bias strongly suspected[a] | 346/1803 (19.2%) | 334/1752 (19.1%) | **HR 1.06** (0.86 to 1.31) | 10 more per 1,000 (from 24 fewer to 51 more) | ⨁⨁⨁◯ Moderate |

CI, confidence interval; HR, hazard ratio; NE, not estimable; NOAC, non-vitamin K antagonist oral anticoagulant

a. Only some of the 7 studies reported on outcome.

b. There were only 91 events across the 5945 participants enrolled in the 3 trials. The total number of events is lower than the number needed to reach the optimal information size (i.e., 300).

c. There were some concerns with the risk of bias, particularly with the reporting of selected results and the potential for missing data.

d. There was some statistical heterogeneity in the meta-analysis results ($I^2$ = 50%).

e. Only one study addressed this outcome for this comparison.

f. The total number of events among the participants enrolled in the trial is estimated to be less than the number needed to reach the optimal information size (i.e., 300). The number of events and the number of participants were not reported.

**Appendix D: Data supplement - Summary of Findings for reviews not cited the guideline text**

*Chapter 3. Delaying CKD progression and managing its complications*

**Table S16.**

Population: Adults and children with CKD but not type 2 diabetes

Intervention: Steroidal mineralocorticoid receptor agonists (MRAs; canrenone, eplerenone, spironolactone) or non-steroidal MRAs (finerenone, esaxerenone)

Comparator: Active comparator, placebo, or usual care

| Certainty assessment | | | | | | | № of patients | | Effect | | Certainty |
|---|---|---|---|---|---|---|---|---|---|---|---|
| № of studies | Study design | Risk of bias | Inconsistency | Indirectness | Imprecision | Other considerations | MRAs | Placebo/usual care | Relative (95% CI) | Absolute (95% CI) | |
| **Kidney failure** | | | | | | | | | | | |
| 1 | RCT[97] | serious[a] | not serious | not serious | very serious[b] | none | 1/15 (6.7%) | 0/15 (0.0%) | **RR 3.00** (0.13 to 68.26) | 0 fewer per 1,000 (from 0 fewer to 0 fewer) | ⨁◯◯◯ Very low |
| **Hospitalizations** | | | | | | | | | | | |
| 0 | | | | | | | | | not estimable | | - |

**CI:** confidence interval; **CKD:** chronic kidney disease; **MRA:** mineralocorticoid receptor agonist; **RCT**: randomized controlled trial; **RR:** risk ratio

Explanations

a. There were some concerns with the risk of bias with the trial because there was incomplete outcome assessment.

b. There was only one event among the 30 participants enrolled in the trial.[97] The total number of events is much lower than the number needed to reach the optimal information size (i.e., 300).

**Table S17.**
Population: Adults and children with CKD at risk for cardiovascular disease (CVD)
Intervention: Aspirin
Comparator: Placebo

| Certainty assessment | | | | | | | № of patients | | Effect | | Certainty |
|---|---|---|---|---|---|---|---|---|---|---|---|
| № of studies | Study design | Risk of bias | Inconsistency | Indirectness | Imprecision | Other considerations | Aspirin[*] | Placebo | Relative (95% CI) | Absolute (95% CI) | |
| **Cardiovascular mortality[†] (follow-up: range 3.8 years to 5.4 years)** | | | | | | | | | | | |
| 3 | RCTs[98-100] | serious[a,b] | not serious | not serious | serious[c] | none | 56/3956 (1.4%) | 78/3996 (2.0%) | **RR 0.73** (0.52 to 1.03) | 5 fewer per 1,000 (from 9 fewer to 1 more) | ⨁⨁◯◯ Low |
| **Composite cardiovascular events[‡] (follow-up: range 3.8 years to 5.4 years)** | | | | | | | | | | | |
| 5 | RCTs[98-102] | serious[d,e] | not serious | not serious | not serious | none | 242/4800 (5.0%) | 305/4767 (6.4%) | **RR 0.79** (0.62 to 1.00) | 13 fewer per 1,000 (from 24 fewer to 0 fewer) | ⨁⨁⨁◯ Moderate |
| **Myocardial infarction (follow-up: range 3.8 years to 5.4 years)** | | | | | | | | | | | |
| 3 | RCTs[98-100] | serious[a] | serious[f] | not serious | serious[g] | none | 88/3956 (2.2%) | 117/3996 (2.9%) | **RR 0.73** (0.43 to 1.22) | 8 fewer per 1,000 (from 17 fewer to 6 more) | ⨁◯◯◯ Very low |
| **Stroke[§] (follow-up: range 3.8 years to 5.4 years)** | | | | | | | | | | | |

| Certainty assessment | | | | | | | № of patients | | Effect | | Certainty |
|---|---|---|---|---|---|---|---|---|---|---|---|
| № of studies | Study design | Risk of bias | Inconsistency | Indirectness | Imprecision | Other considerations | Aspirin* | Placebo | Relative (95% CI) | Absolute (95% CI) | |
| 3 | RCTs[98-100] | serious[a,b] | serious[f] | not serious | serious[h] | none | 86/3956 (2.2%) | 112/3996 (2.8%) | **RR 0.86** (0.51 to 1.44) | 4 fewer per 1,000 (from 14 fewer to 12 more) | ⨁◯◯◯ Very low |
| **Major bleeding¶ (follow-up: range 3.8 years to 5.4 years)** | | | | | | | | | | | |
| 5 | RCTs[98-102] | serious[d,e] | not serious | not serious | serious[i] | none | -/4800 | -/4767 | **HR 1.31** (1.01 to 1.70) | -- per 1,000 (from -- to --) | ⨁⨁◯◯ Low |
| **Minor bleeding‖ (follow-up: range 3.8 years to 5.4 years)** | | | | | | | | | | | |
| 3 | RCTs[99-101] | serious[j] | not serious | not serious | serious[i] | none | -/2079 | -/2098 | **HR 2.25** (1.22 to 4.14) | -- per 1,000 (from -- to --) | ⨁⨁◯◯ Low |

CI, confidence interval; HR, hazard ratio; RCT, randomized controlled trials; RR, risk ratio

*The dose of aspirin was 75 mg in the Jardine 2010 and Mann 2023 trials[99, 101]; 100 mg in the Wolfe 2021 and Goicoechea 2018 trials[98, 100]; and 81 mg or 100 mg in the Saito 2011 trial.[102]

†*The studies had varying definitions for cardiovascular mortality. Wolfe 2021 reported on fatal myocardial infarction, sudden cardiac death, and other deaths in which the underlying cause was considered to be coronary heart disease.[98] Goicoechea 2018 reported on fatal myocardial infarction.[100] Jardine 2010 did not further specify how they defined cardiovascular mortality.[99]

‡The studies had different definitions for composite cardiovascular events. Mann 2023 reported on a composite of cardiovascular death, myocardial infarction, stroke, heart failure, cardiac arrest, and revascularization.[101] Wolfe 2021 reported on major adverse cardiac events, which included coronary heart disease death, nonfatal myocardial infarction, or fatal or nonfatal ischemic stroke.[98] Goiceochea 2018 reported on a composite of cardiovascular death, acute coronary syndrome (nonfatal myocardial infarction, coronary revascularization, or unstable angina pectoris), cerebrovascular disease, heart failure, or nonfatal peripheral arterial disease.[100] Saito 2011 reported on any atherosclerotic event (composite of sudden death: death from coronary, cerebrovascular, and aortic causes; nonfatal acute myocardial infarction; unstable angina; newly developed exertional angina; nonfatal ischemic and hemorrhagic stroke; transient ischemic attack; or nonfatal aortic and peripheral vascular disease (arteriosclerosis obliterans, aortic dissection, and mesenteric arterial thrombosis).[102] Jardine 2010 reported on major adverse cardiac events, including myocardial infarction, stroke, and death due to cardiovascular disease.[99]

§Studies had varying definitions for stroke. Wolfe 2021 reported on fatal and nonfatal ischemic stroke (rapidly developing clinical signs of focal disturbance of cerebral function lasting at least 24 hours with no apparent cause other than vascular disease).[98] Goicoechea 2018 reported on stroke (not further defined).[100] Jardine 2010 reported on all fatal and nonfatal stroke (unequivocal signs or symptoms of remaining neurologic deficit with a sudden onset and lasting at least 24 hours).[99]

¶Studies had varying definitions for major bleeding. Wolfe 2021 reported on clinically significant bleeding, which included hemorrhagic stroke, symptomatic intracranial bleeding, or extracranial clinically significant bleeding (i.e., requiring transfusion, hospitalization, prolongation of hospitalization, or surgery, or causing death).[98] Saito 2011 reported on

hemorrhagic stroke.[102] Jardine 2010 reported on bleeding that fatal, life-threatening, disabling, or requiring hospital admission.[99] Goicoechea 2018 reported on intracranial bleeding and bleeding associated with a hemoglobin decrease of more than 5 g/dl.[100] Results from Goicoechea 2018 are not included in the relative effect estimate because of heterogeneity in results reporting.

‖Jardine 2010 considered minor bleeding events to be all other bleeding events that were not considered major.[99] Goicoechea 2018 defined minor bleeding as spontaneous hematuria, hematemesis, and mild hemoglobin decreases less than 5 g/dl.[100] Results from Goicoechea 2018 are not included in the relative effect estimate because of heterogeneity in results reporting.

a. There were some concerns with the risk of bias of the 2 largest trials (Wolfe 2021 and Jardine 2010) because they were both *post hoc* subgroup analyses.
b. There were some concerns with risk of bias because one study (Goicoechea 2018) did not blind patients nor carers.
c. There were only 185 events among the 7952 participants enrolled in the 3 trials. The total number of events is lower than the number needed to reach the optimal information size (i.e., 300).
d. There were some concerns with 2 trials (Goicoechea 2018 and Saito 2011) because they did not blind patients nor carers.
e. There were some concerns with the risk of bias because 4 of the 5 trials were *post hoc* subgroup analyses.
f. $I^2$ from meta-analysis was greater than 50%, suggesting some heterogeneity in results. There was a wide range of effect estimates.
g. There were only 205 events among the 7952 participants enrolled in the 3 trials. The total number of events is lower than the number needed to reach the optimal information size (i.e., 300).
h. There were only 198 events among the 7952 participants enrolled in the 3 trials. The total number of events is lower than the number needed to reach the optimal information size (i.e., 300).
i. Not enough information is reported to assess precision.
j. There were some concerns with risk of bias because 2 studies were *post hoc* subgroup analyses and the other study did not blind patients nor carers.

## Appendix E: PRISMA Diagrams

*Chapter 1. Evaluation of CKD*

**Figure S1. PRISMA diagram for the clinical question "What is the diagnostic and prognostic benefit and safety of kidney biopsy among people with CKD?"**

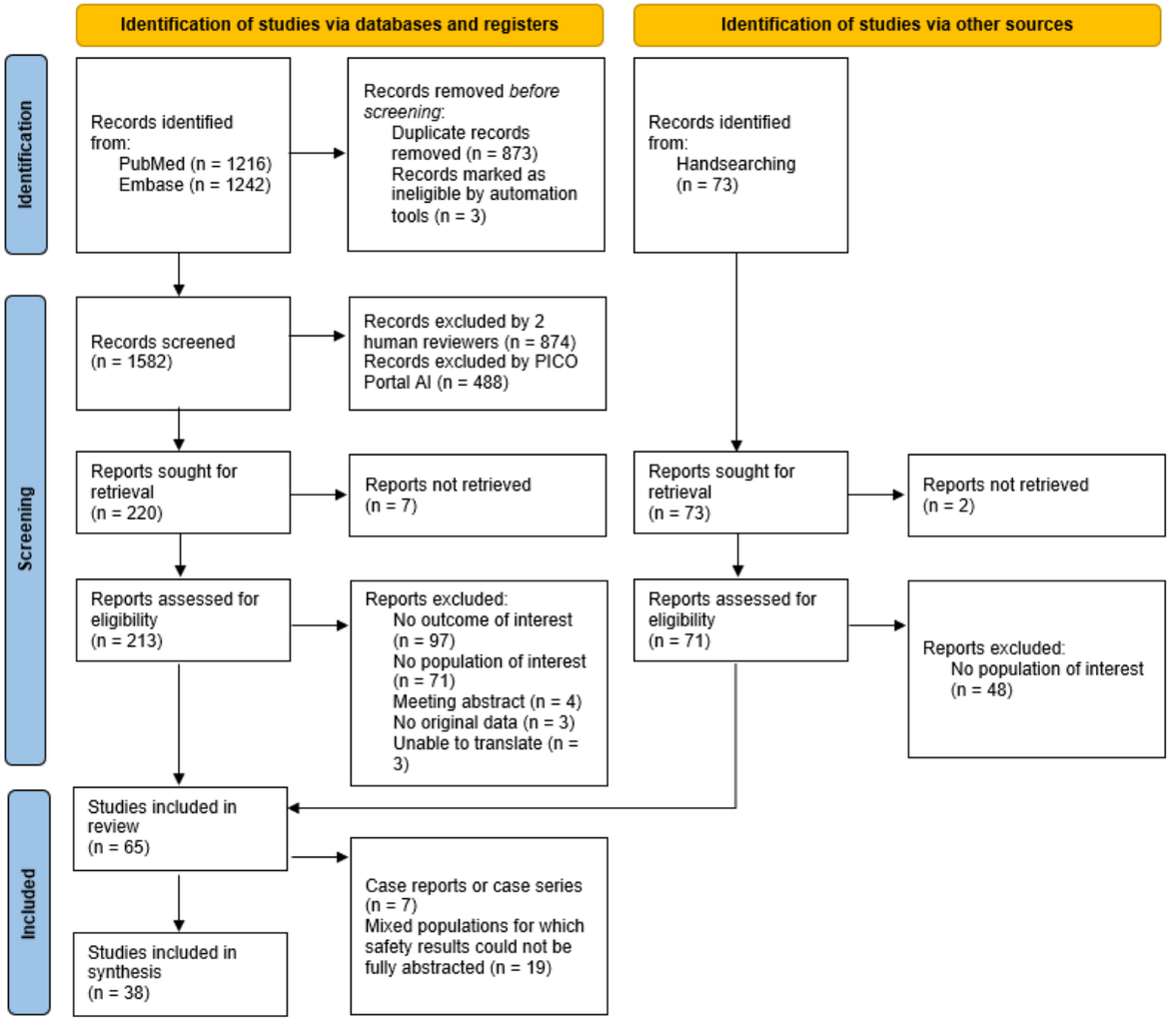


**Figure S2. PRISMA diagram for the clinical question "What is the diagnostic accuracy of eGFR based on measurements of cystatin C, creatinine, or their combination compared to mGFR among people with and without CKD?"**

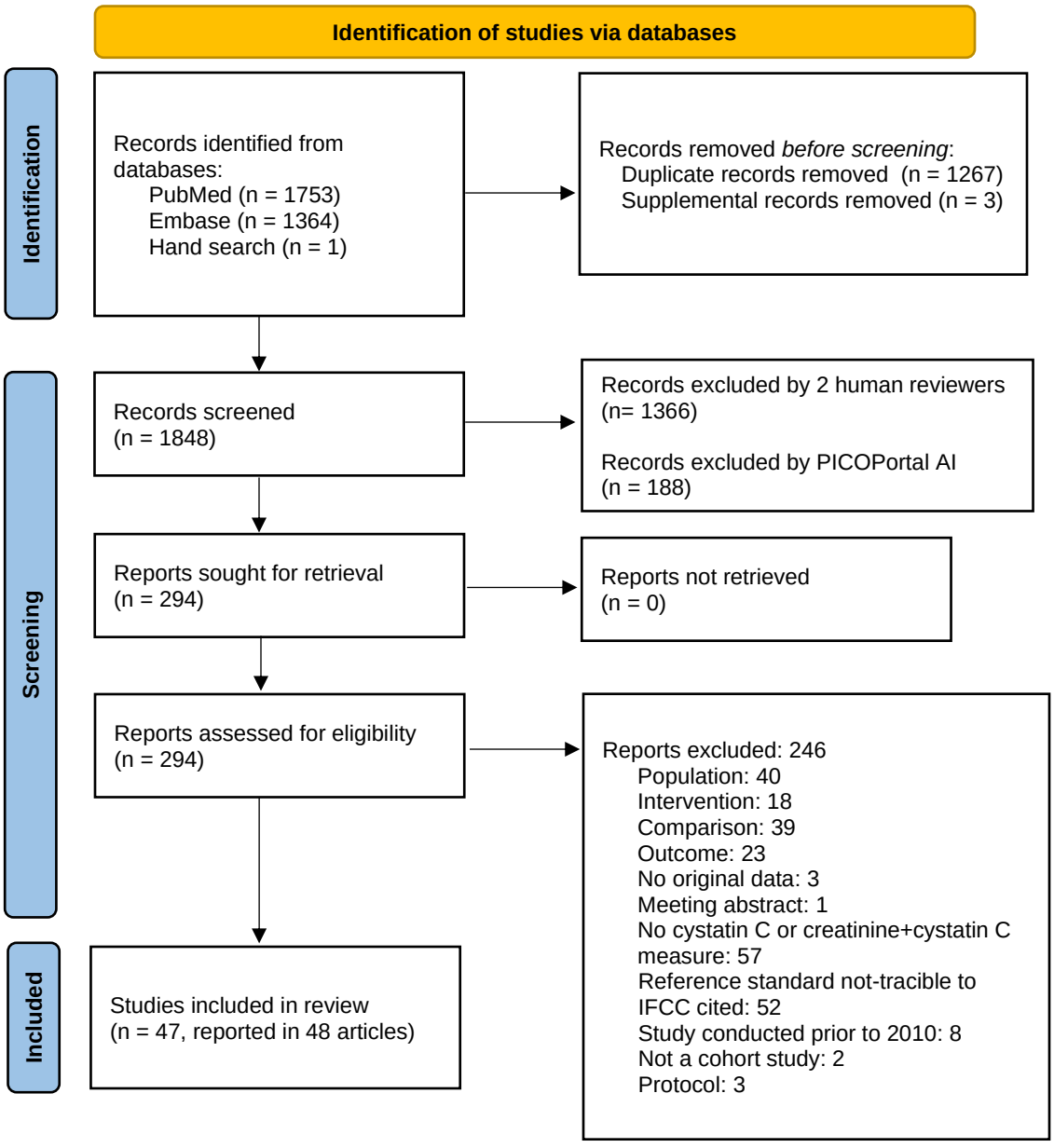


**Figure S3. PRISMA diagram for the clinical question "In children and young adults with suspected or diagnosed CKD, what is the accuracy of ACR and PCR compared to 24-hour excretion of albumin or protein?"**
NICE, September 2020

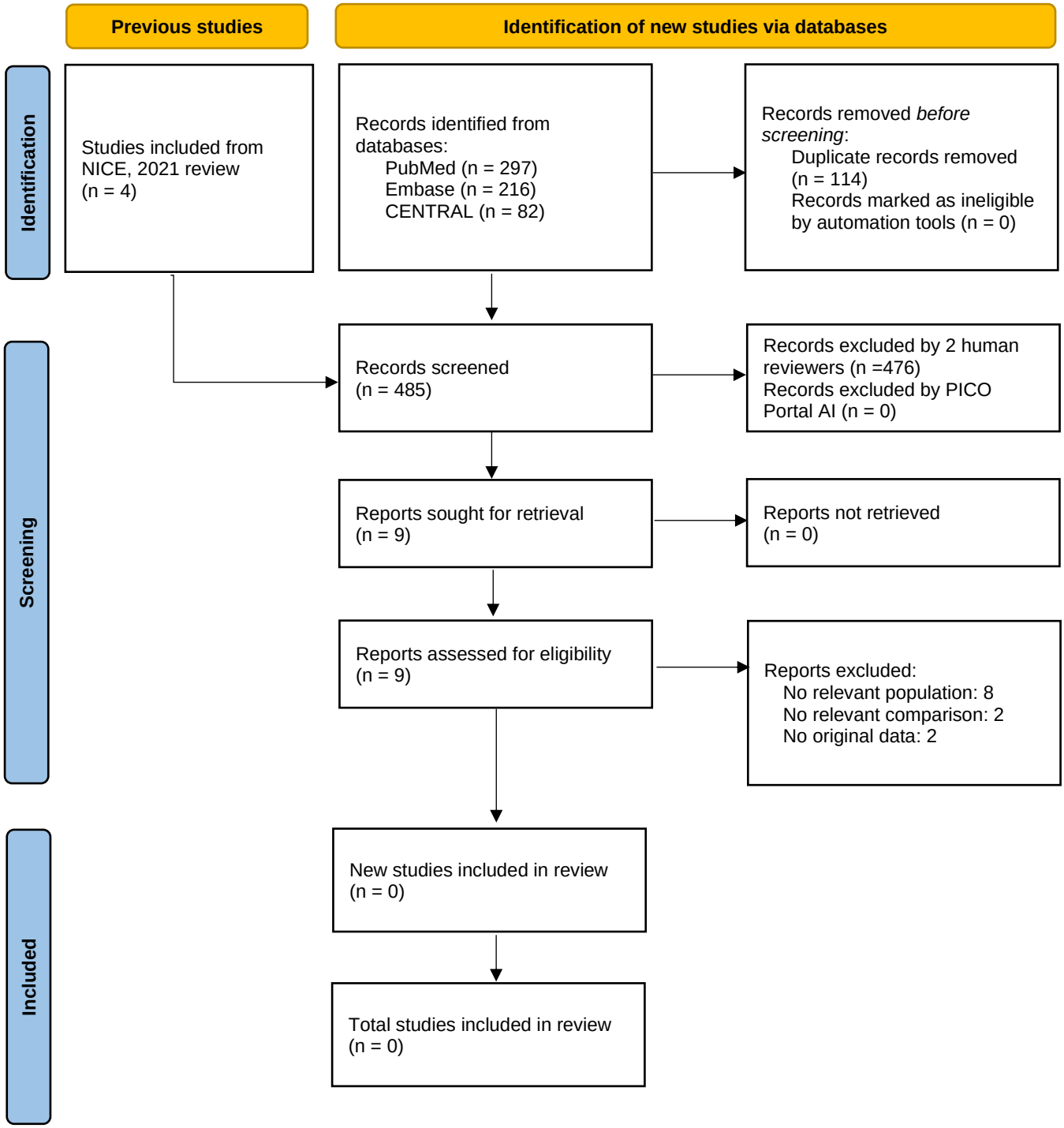


**Figure S4. PRISMA diagram for the clinical question "What is the diagnostic accuracy and reproducibility of POC blood creatinine compared to laboratory-based tests among people with suspected or diagnosed CKD?"**
NICE/NIHR, November 2018

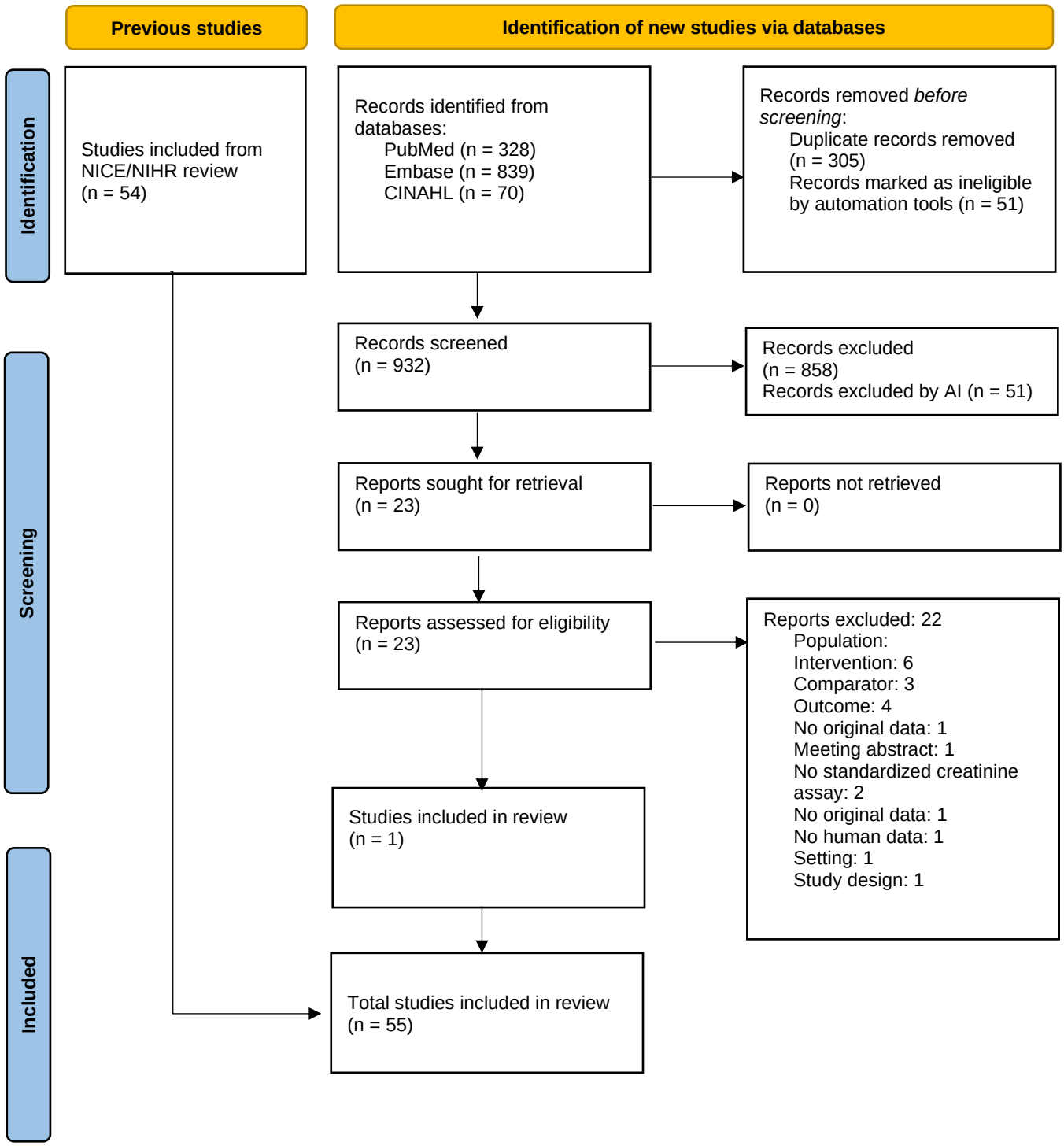


**Figure S5. PRISMA diagram for the clinical question "What is the diagnostic accuracy of quantitative and semiquantitative protein or albumin urine dipstick tests compared to laboratory-based tests among people with suspected or diagnosed CKD?"**

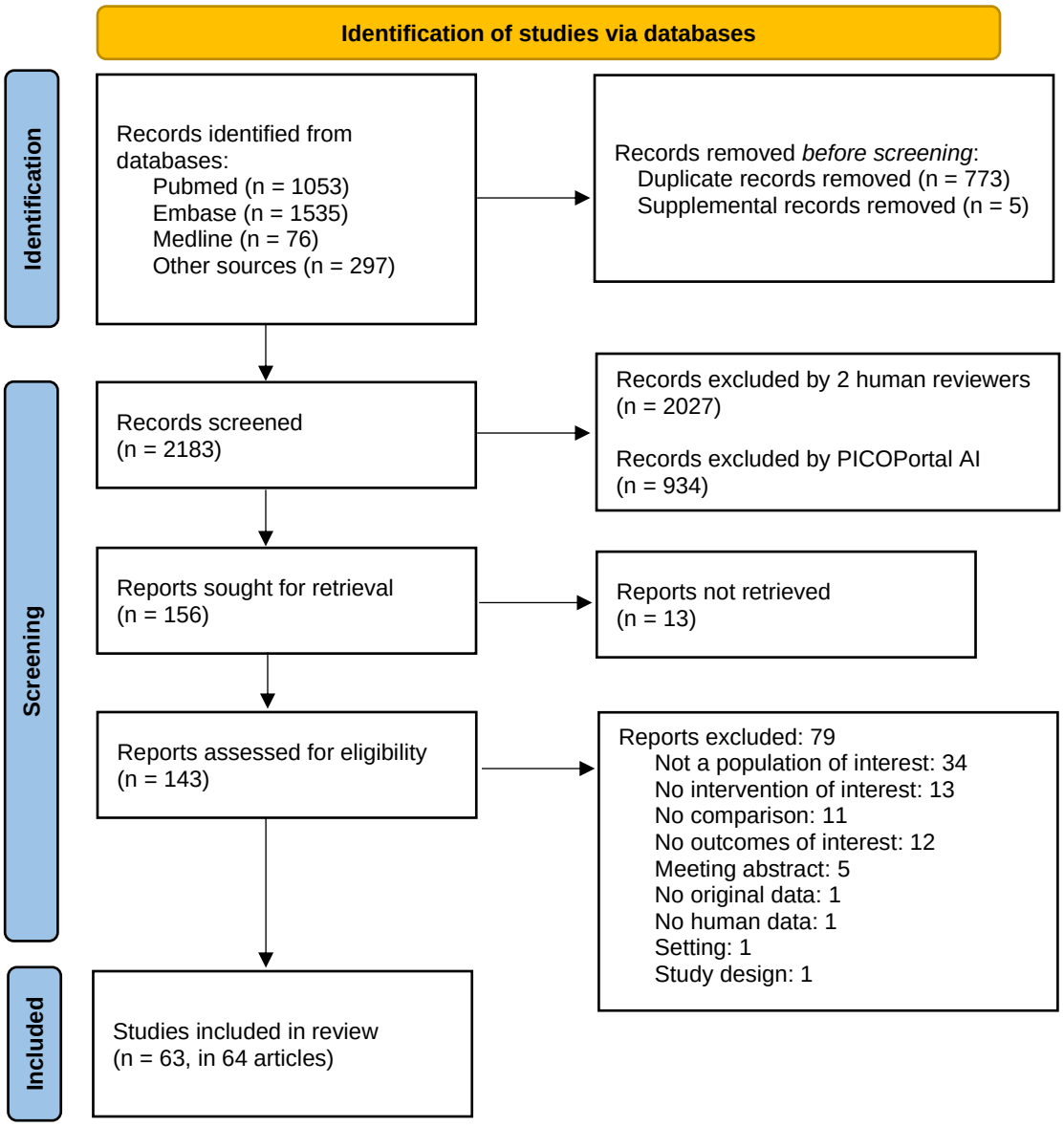


**Figure S6. PRISMA diagram for the clinical question "What is the effect of SGLT2i compared with placebo, usual care, or an active comparator among people with CKD in terms of mortality, progression of CKD, complications of CKD, and adverse events?"**
NDPH 2022: September 2022; KDIGO 2022: December 2021

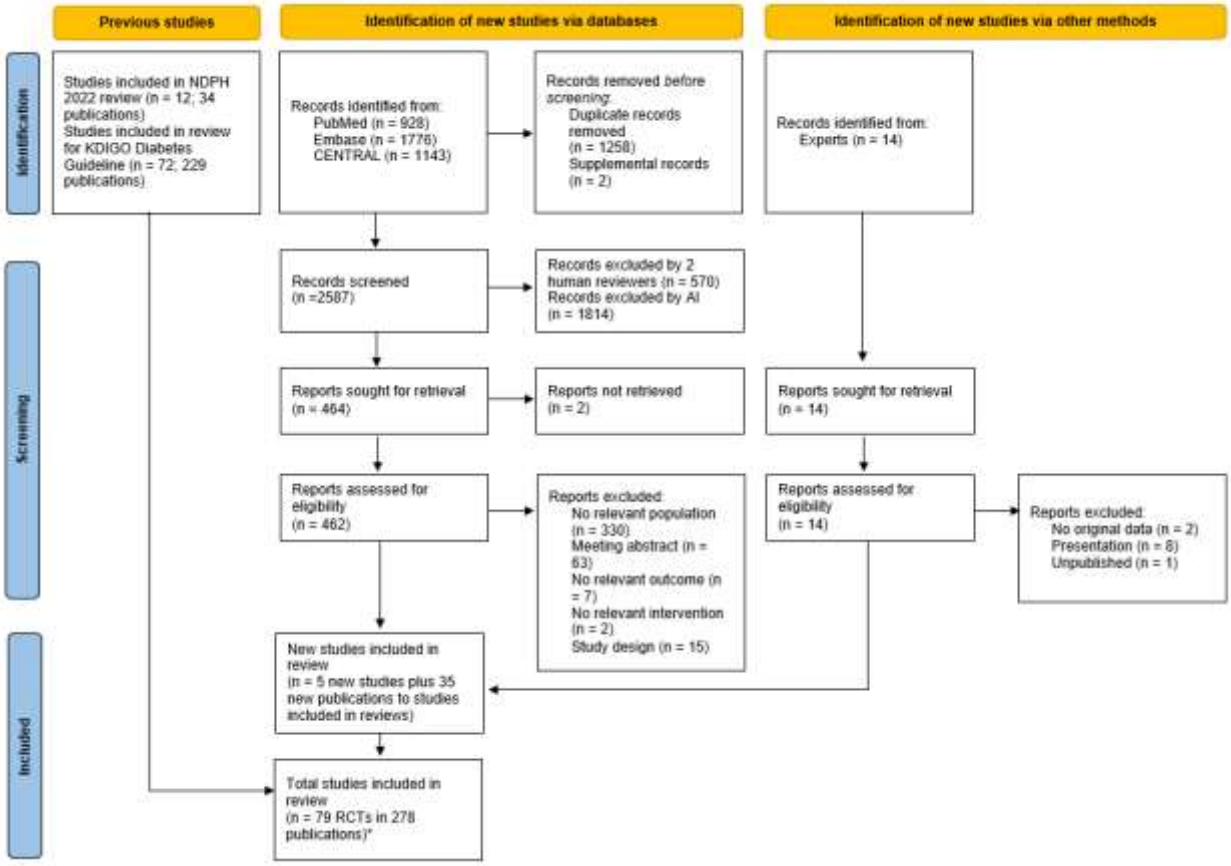


**Figure S7. PRISMA diagram for the clinical question "What is the effect of MRAs compared with placebo, usual care, or an active comparator among people with CKD but not type 2 diabetes in terms of mortality, progression of CKD, complications of CKD, and adverse events?"**

Chung, 2020, January 2020

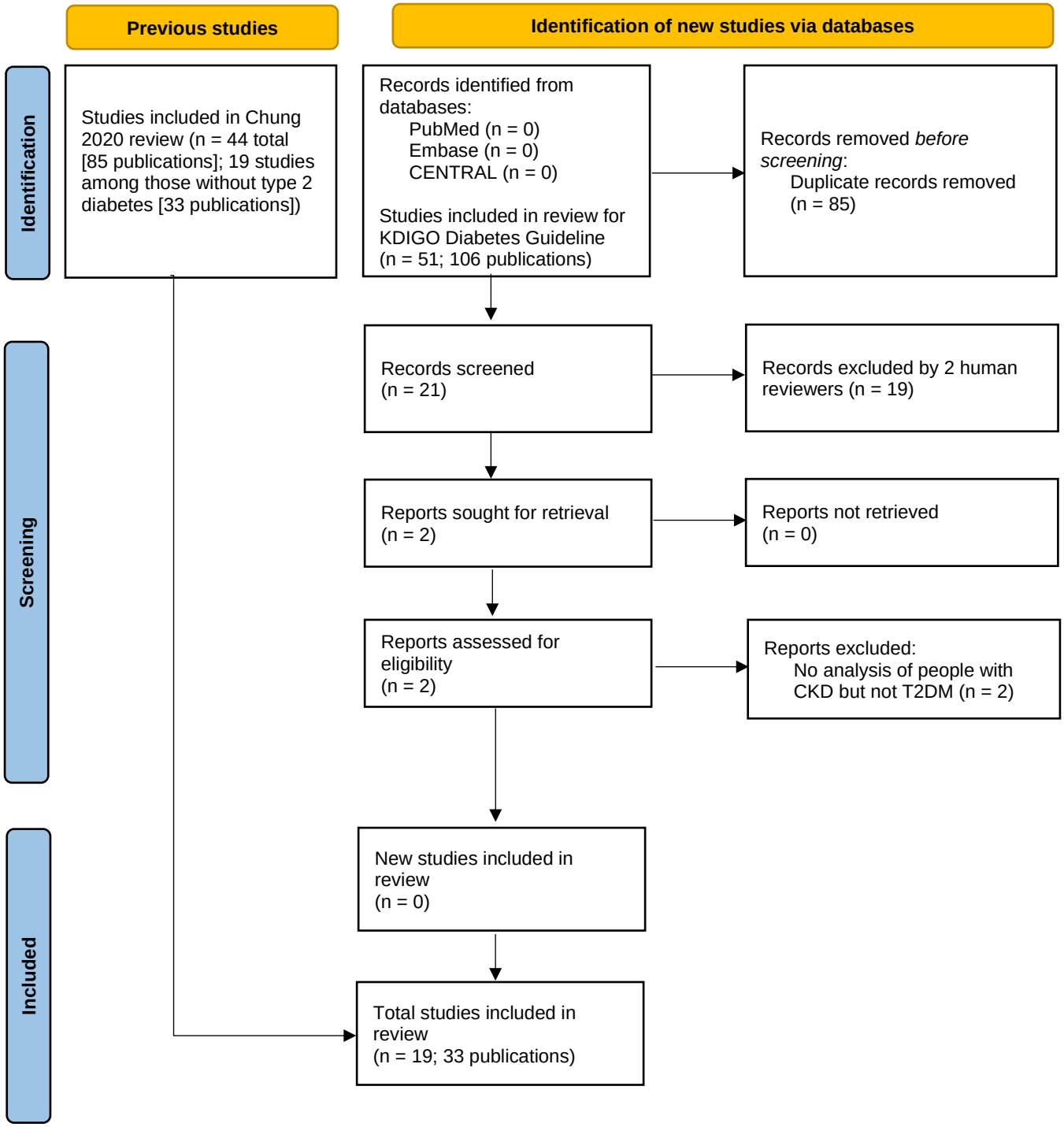


**Figure S8. PRISMA diagram for the clinical question "What is the effect of glucagon-like peptide-1 (GLP-1) receptor agonists compared with placebo, usual care, or an active comparator among people with CKD but not type 2 diabetes in terms of mortality, progression of CKD, complications of CKD, and adverse events?"**
Kamdar 2021: March 2021; KDIGO 2022: December 2021

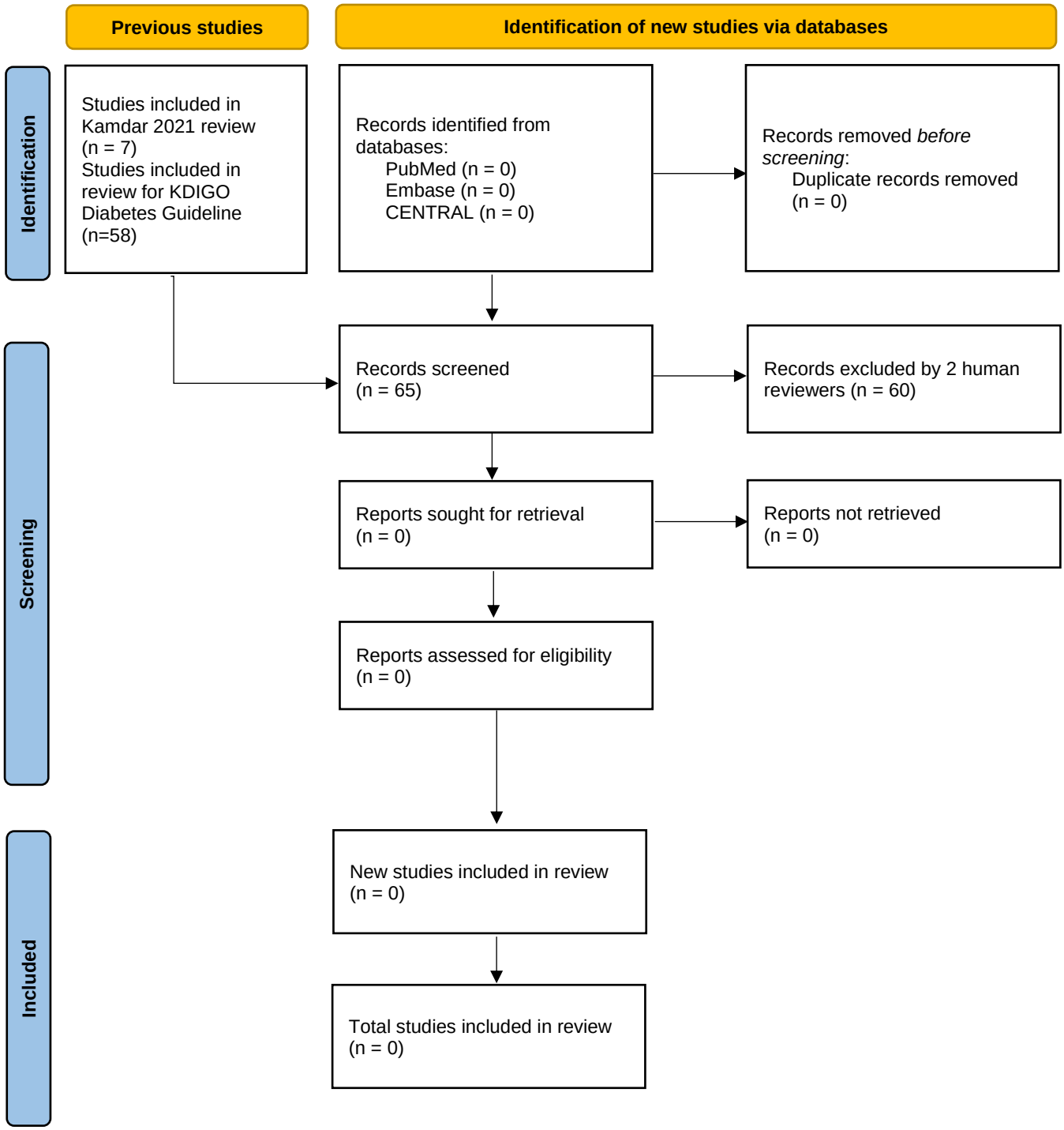


**Figure S9. PRISMA diagram for the clinical question "What is the effect of uric acid-lowering therapy compared with placebo, usual care, or an active comparator among people with CKD and hyperuricemia in terms of mortality, progression of CKD, complications of CKD, and adverse events?"**

Sampson, 2017; July 2017; Yu, 2022, December 2020

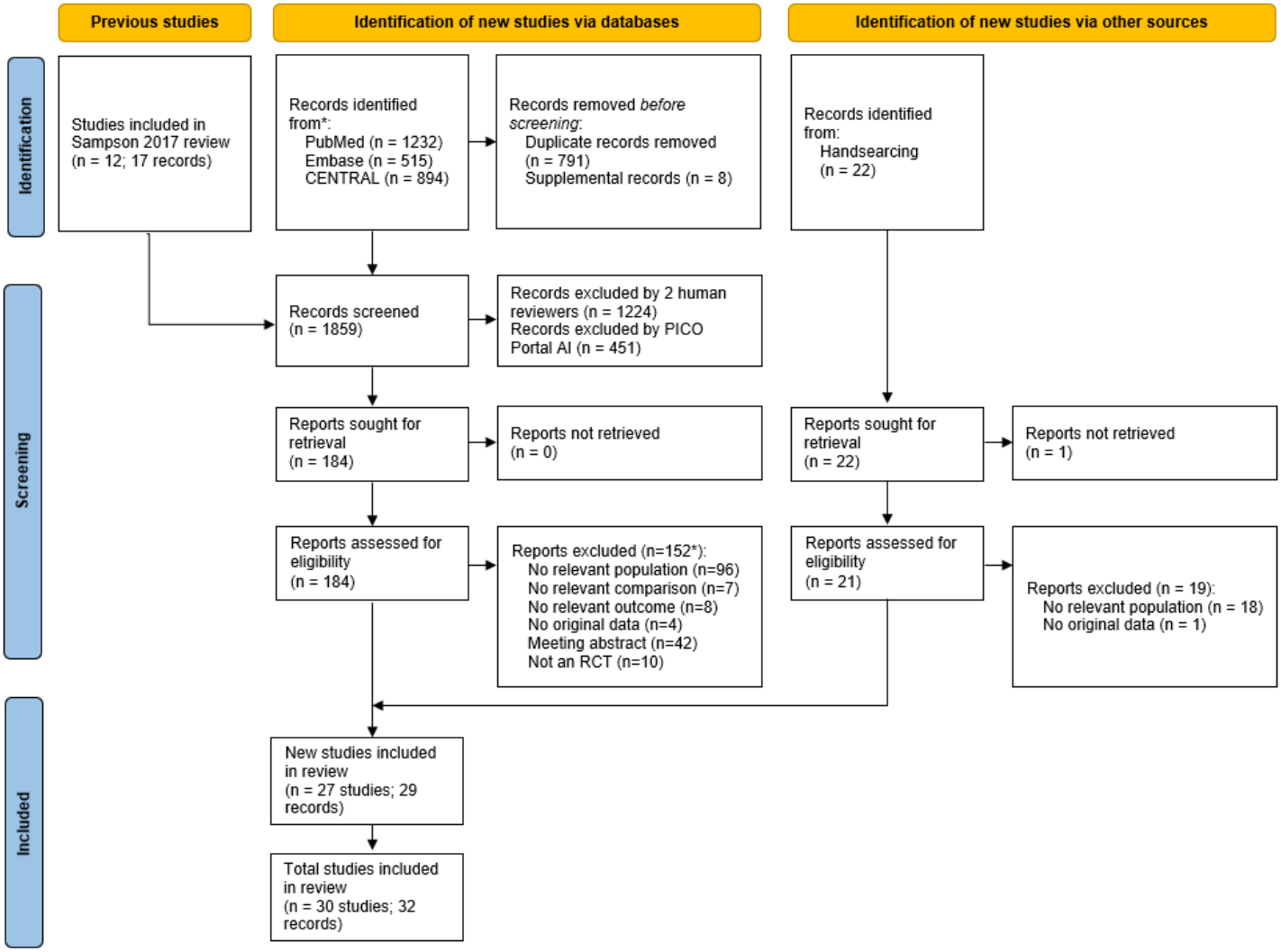


**Figure S10. PRISMA diagram for the clinical question "What is the effect of aspirin compared to placebo in terms of the primary prevention of cardiovascular disease (CVD) and safety among people with CKD?"**
Pallikadavath, 2022, September 2020

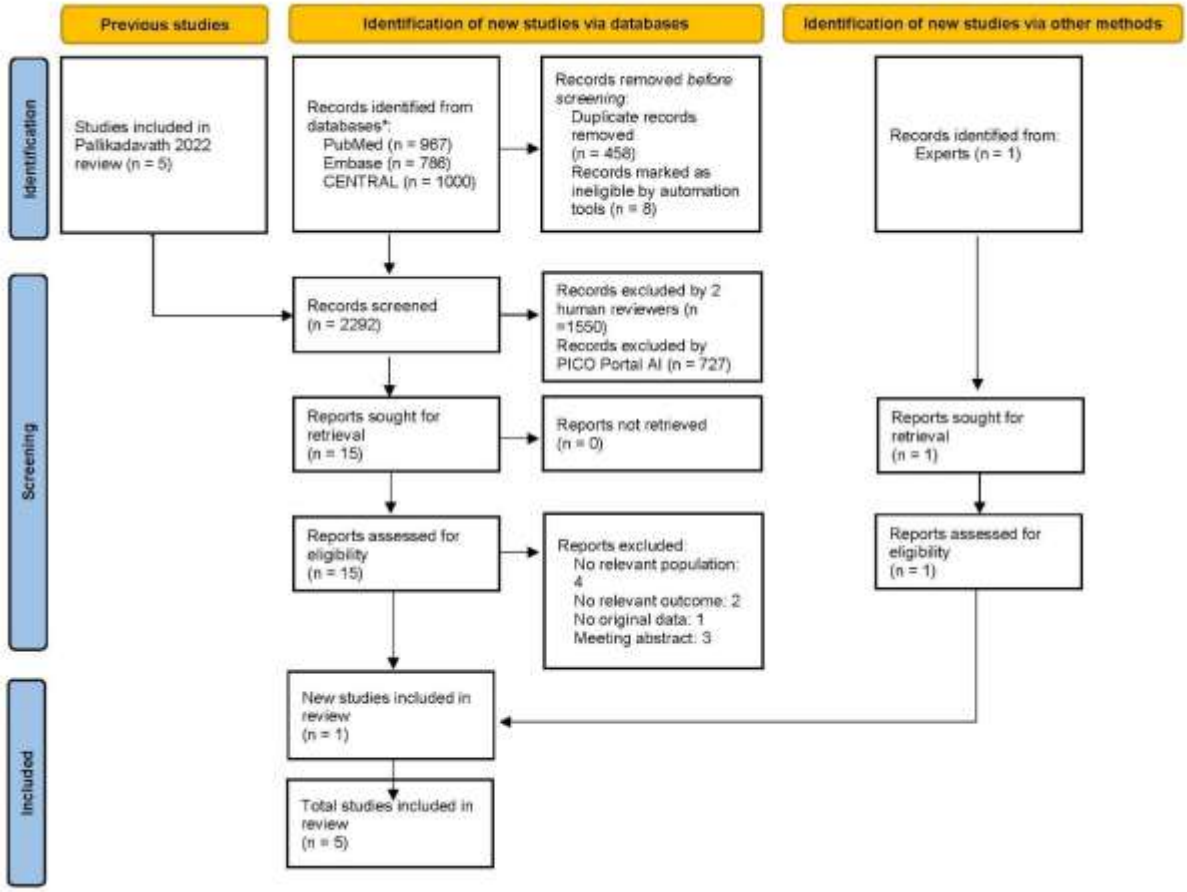


**Figure S11. PRISMA diagram for the clinical question "What are the effects of angiography or coronary revascularization compared to medical treatment among people with CKD and ischemic heart disease in terms of mortality, CVD events, kidney failure, and acute kidney injury (AKI)?"**

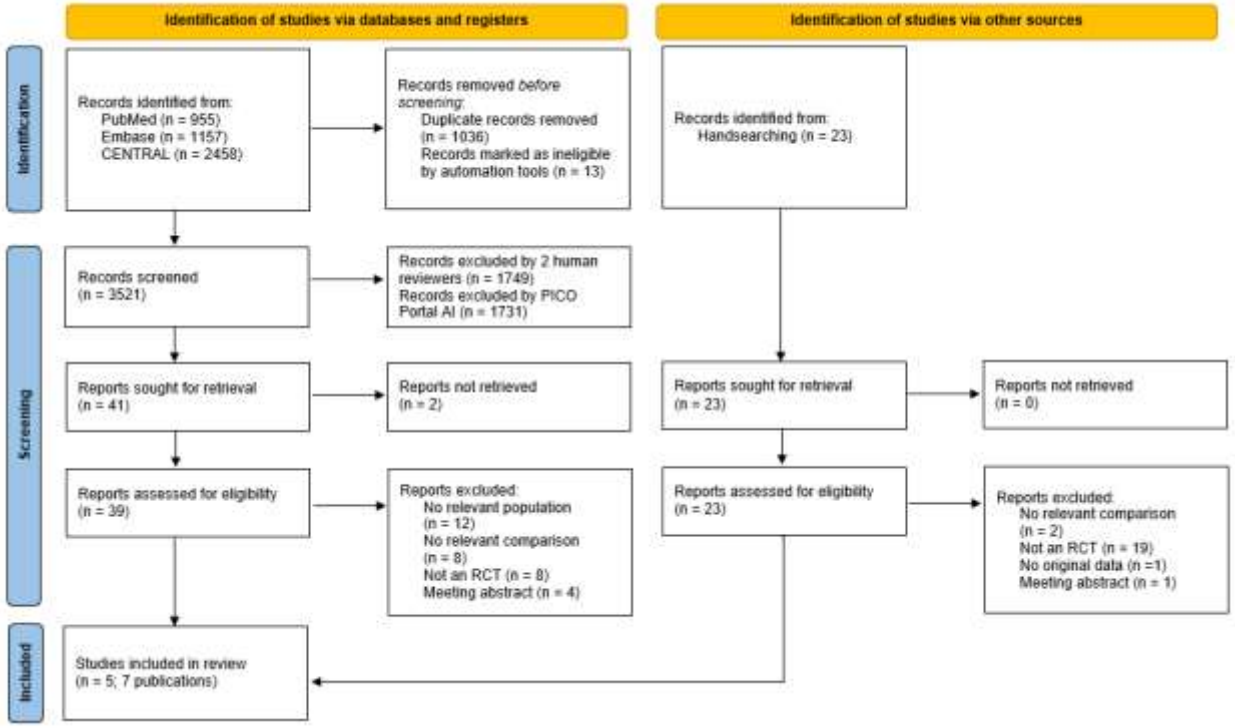
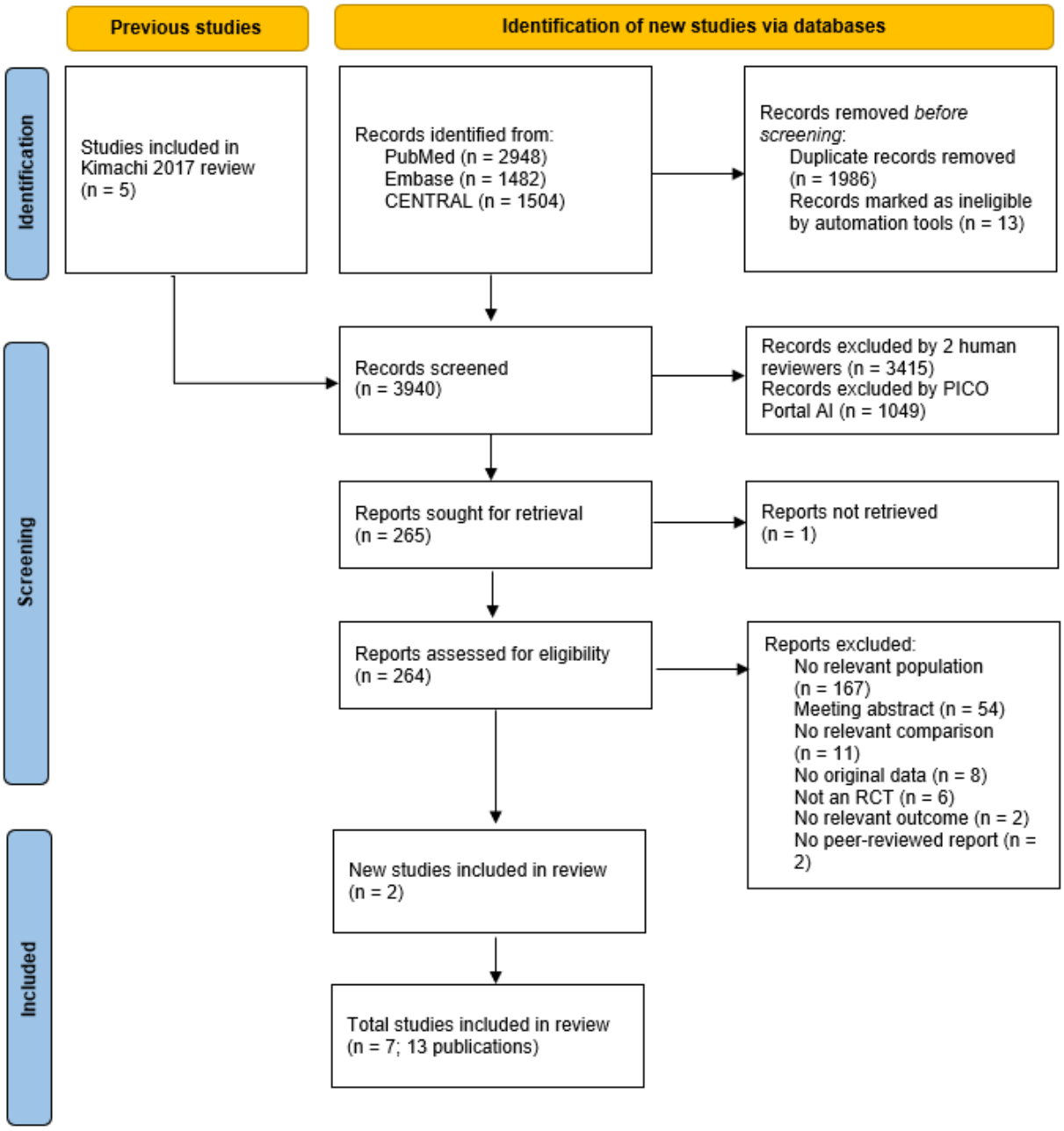


**Figure S12. PRISMA diagram for the clinical question "What are the effects of NOACs with or without warfarin compared to placebo or warfarin alone among people with CKD and atrial fibrillation in terms of stroke and bleeding risks?**
Kimachi, 2017, August 2017



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