

**Table 1. Characteristics of included studies**

| Citation                      | Country      | Population                                      | T2D<br>Diagnosis<br>criteria | Hba1c<br>Analyser                        | Hba1c measurement<br>method  | Standard     | Glucose<br>measurement    | Sample<br>size | %<br>Female  | Age of<br>participants    | Cut-off<br>points<br>assessed<br>** | Standard          | T2d<br>prevalence |
|-------------------------------|--------------|---|------------------------------|--|--|--------------|---------------------------|----------------|--------------|---------------------------|-------------------------------------|-------------------|-------------------|
| Zemlin et al. 2011 (45)       | South Africa | Mixed ancestry                                  | WHO 2006                     | Cobas 6000, Roche Diagnostics            | Turbidimetric inhibition immunoassay (Cobas 6000, Roche Diagnostics) | NGSP         | Enzymatic hexokinase      | 946            | 76%          | Median Male 57, Female 53 | 6.1%; 6.5%                          | OGTT              | 18.0              |
| Hird et al. 2016 (23)         | South Africa | Black Africans                                  | WHO 2006                     | Biorad Variant II                        | Ion exchange high performance liquid chromatography                  | NGSP         | Glucose oxidase           | 1190           | 72%          | Median 39 (IQR 38.8-40.7) | 6.0%; 6.1%; 6.5%; 7.0%              | OGTT              | 12.9%             |
| Mayega et al. 2014 (26)       | Uganda       | Black Africans                                  | WHO 2006                     | A1cnow1 (Bayer) point of care            | Rapid Immuno-Assay   | Not reported | Glucometer (On-Call-Plus) | 795            | 52%          | Mean 43.7 (SD 6.9)        | 6.5%                                | Point of care FPG | 4.8%              |
| Rathod et al. 2018 (24)       | Malawi       | Black Africans                                  | WHO 2006                     | Beckman Coulter Chemistry Analyzer AU480 | Turnidmetric immunoinhibition method                                 | NGSP         | Hexokinase                | 3645           | 63%          | Median 33 (IQR 25-44)     | 6.0%, 6.5%, 6.6%, 6.7%, 7.4%, 8.1%  | FPG               | 1.7%              |
| Muchira et al. 2019 (44)      | Uganda       | Black Africans                                  | WHO 2006                     | Point-of-care Siemens assay              | Point of care Siemens assay  | Not reported | Not reported              | 212            | Not reported | Mean 51.7 (SD 7)          | 5.5%, 5.7%, 6.0%, 6.5%              | FPG               | 6.2%              |
| Prakashandra et al. 2018 (10) | South Africa | South African Indian                            | ADA 2015                     | Not reported                             | Not reported   | Not reported | Not reported              | 1076           | 70%          | 75% aged 35-64yrs         | 6.5%                                | OGTT              | 24.4%             |
| Adamu et al. 2011 (41)        | Nigeria      | Black Africans                                  | WHO 2006                     | DCA 2000                                 | Latex immunoagglutination inhibition method                          | Not reported | Oxidase enzyme            | 31             | 77%          | Mean 54.0 (IQR 6.3)       | 6.5%                                | OGTT              | 25.8%             |
| Hare et al. 2013 (42)*        | Mauritius    | Black Africans on Rodrigues and the main island | WHO 1998                     | Tosoh G7                                 | High performance liquid chromatography                               | IFCC (NGSP)  | YSI 2300 STAT PLUS        | 2749           | 52%          | Mean 43 (SQ 13.7)         | 6.0%, 6.1%, 6.5%                    | OGTT              | 10%               |

|                                |              |                                   |          |   |  |              |                       |      |       |                     |               |      |       |
|--------------------------------|--------------|-----------------------------------|----------|---|--|--------------|-----------------------|------|-------|---------------------|---------------|------|-------|
| Jeremiah et al. 2019 (43)      | Tanzania     | Black Africans                    | WHO 2006 | Hemocue hba1c 501                             | Hemocue hba1c 501                      | Not reported | Not reported          | 1947 | 59%   | Mean 41 (SD 12)     | 6.5%          | OGTT | 3.8%  |
| Chivese et al. 2019 (39)*      | South Africa | Women of Black and Mixed ancestry | WHO 2006 | Bio-Rad D10                                   | High-performance liquid chromatography | NGSP         | Hexokinase            | 165  | 100%  | Mean 37 (SD 5.6)    | 6.0%, to 7.0% | OGTT | 47.7% |
| Christiansen et al. 2010 (25)* | Kenya        | Kenya Black Africans >17 years    | WHO 2006 | Nycocard Reader II analyzer (Axis-Shield, US) | Nycocard hba1c reagent kit no 1042184z | DCCT         | Glucose dehydrogenase | 296  | 55.4% | Mean 37.6 (SD 10.6) | 6.0%, to 7.0% | FPG  | 3.4%  |

\*Raw data supplied by the authors

\*\*Conversion to IFCC units; 6.0% = 42mmol/mol, 6.1% = 43mmol/mol, 6.2%=44mmol/mol, 6.3%=45mmol/mol, 6.4%=46mmol/mol, 6.5%=48mmol/mol, 6.6% = 49mmol/mol, 6.7% = 50mmol/mol, 6.8%=51mmol/mol, 6.9%=52mmol/mol, 7.0%=53mmol/mol