# Dataset Integrity Check for the Chronic Renal Insufficiency Cohort (CRIC) Follow-up Phase 2 Data Files

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# Contents

# 1 Standard Disclaimer

The intent of this DSIC is to provide confidence that the data distributed by the NIDDK repository is a true copy of the study data. Our intent is not to assess the integrity of the statistical analyses reported by study investigators. As with all statistical analyses of complex datasets, complete replication of a set of statistical results should not be expected in secondary analysis. This occurs for a number of reasons including differences in the handling of missing data, restrictions on cases included in samples for a particular analysis, software coding used to define complex variables, etc. Experience suggests that most discrepancies can ordinarily be resolved by consultation with the study data coordinating center (DCC), however this process is labor-intensive for both DCC and Repository staff. It is thus not our policy to resolve every discrepancy that is observed in an integrity check. Specifically, we do not attempt to resolve minor or inconsequential discrepancies with published results or discrepancies that involve complex analyses, unless NIDDK Repository staff suspect that the observed discrepancy suggests that the dataset may have been corrupted in storage, transmission, or processing by repository staff. We do, however, document in footnotes to the integrity check those instances in which our secondary analyses produced results that were not fully consistent with those reported in the target publication.

# 2 Study Background

The Chronic Renal Insufficiency Cohort (CRIC) Study is an observational study that examined risk factors for progression of chronic renal insufficiency (CRI) and cardiovascular disease (CVD) among CRI patients. The study enrolled adults aged 21 to 74 years with a broad spectrum of renal disease severity, half of whom were diagnosed with diabetes mellitus. Subjects underwent extensive clinical evaluation at baseline and at annual clinic visits and via telephone at 6 month intervals. Data on quality of life, dietary assessment, physical activity, health behaviors, depression, cognitive function, health care resource utilization, as well as blood and urine specimens were collected. The primary renal outcome measure was reduction in estimated GFR. Renal events were defined as the need for renal replacement therapy (ESRD), an estimated halving of GFR, and/or a 25 ml/min per 1.73 m2 decline in GFR from baseline.

This data package includes follow-up data through March 31, 2013.

# 3 Archived Datasets

All data files, as provided by the Data Coordinating Center (DCC), are located in the CRIC study data package. For this replication, variables were taken from the derived datasets: "personlevel.sas7bdat", "visitlevel.sas7bdat", "sa_allc.sas7bdat", and "sa_cvd.sas7bdat".

# 4 Statistical Methods

Analyses were performed to duplicate results for the data published by Denker et al. in the Clinical Journal of the American Society of Nephrology, November 2015. To verify the integrity of the datasets, descriptive statistics were computed.

# 5 Results

For Table 1 in the publication [1], Table 1-<u>Baseline patient characteristics by diabetes status</u>, Table A lists the variables that were used in the replication and Table B compares the results calculated from the archived data file to the results published in Table 1. The results of the replication are almost an exact match.

For Table 3 in the publication [1], Table 3-<u>Outcome event rates in Chronic Renal Insufficiency Cohort cohort through March 2013</u>, Table C lists the variables that were used in the replication and Table D compares the results calculated from the archived data file to the results published in Table 3. The results of the replication are almost an exact match.

For Figure 1 in the publication [1], Figure 1-<u>Between-group comparisons of the eGFR slope and proportion of patients free from a primary outcome event in the Chronic Renal Insufficiency Cohort study</u>, Table E lists the variables that were used in the replication and Figure A compares the results calculated from the archived data file to the results published in Figure 1.  The results of the replication are close, with some discrepancies.

Due to the manuscript using an earlier cut-off date than the data available in the data package, there are some discrepancies with the results of Figure 1.  The largest discrepancy is in Year 6.

# 6 Conclusions

The NIDDK repository is confident that the CRIC data files to be distributed are a true copy to the manuscript.

# 7 References

[1] Matthew Denker, Suzanne Boyle, Amanda H. Anderson, Lawrence J. Appel, Jing Chen, Jeffrey C. Fink, John Flack, Alan S. Go, Edward Horwitz, Chi-yuan Hsu, John W. Kusek, James P. Lash, Sankar Navaneethan, Akinlolu O. Ojo, Mahboob Rahman, Susan P. Steigerwalt, Raymond R. Townsend, and Harold I. Feldman for the Chronic Renal Insufficiency Cohort (CRIC) Study Investigators. Chronic Renal Insufficiency Cohort (CRIC): Overview and Summary of Selected Findings. Clinical Journal of the American Society of Nephrology November 2015 10: 2073-2083.

**Table A:** Variables used to replicate Table 1-Baseline patient characteristics by diabetes status

| Characteristic | dataset.variable |
|---|---|
| Diabetes | personlevel.diabetes_at_baseline |
| Age (yr) | visitlevel.age |
| Male | personlevel.sex |
| Race/ethnicity | personlevel.race_ethnicity_cat2 |
| Household Income | personlevel.income_cat_1 |
| Current smoker | visitlevel.smokenow |
| Hypertension | visitlevel.hypertension |
| MI or prior revascularization | visitlevel.mirevasc |
| Congestive heart failure | visitlevel.chf |
| Peripheral vascular disease | visitlevel.pvd |
| Systolic BP (mmHg) | visitlevel.systolic |
| Diastolic BP (mmHg) | visitlevel.diastolic |
| Body mass index (kg/m²) | visitlevel.bmi |
| Body mass index category (kg/m²) | visitlevel.bmi_cat_2 |
| eGFR uring CRIC equation | visitlevel.egfr_cric |
| eGFR category (ml/min per 1.73 m²) | visitlevel.egfr_cric_cat5 |
| 24-h urine protein (g/24 h) | visitlevel.uprotein24h |
| Use of ACEi or ARB | visitlevel.acearb |
| Hemoglobin A1C | visitlevel.hemoglobin_a1c |

**Table B:** Comparison of values computed in integrity check to reference article Table 1 values

| Characteristic | Total Cohort Manuscript (N=3939) | Total Cohort DSIC (N=3939) | Difference (N=0) | Diabetes Manuscript (n=1908) | Diabetes DSIC (n=1908) | Difference (n=0) |
|---|---|---|---|---|---|---|
| Age (yr) | 58.2 ± 11.0 | 58.2 ± 11.0 | 0 ± 0 | 59.4 ± 9.8 | 59.4 ± 9.8 | 0 ± 0 |
| Male | 2161 (55) | 2161 (55) | 0 (0) | 1064 (55.8) | 1064 (55.8) | 0 (0) |
| Race/ethnicity | | | | | | |
| White | 1638 (42) | 1638 (42) | 0 (0) | 649 (34) | 649 (34) | 0 (0) |
| Black | 1650 (42) | 1650 (42) | 0 (0) | 848 (44.4) | 848 (44.4) | 0 (0) |
| Hispanic | 497 (13) | 497 (13) | 0 (0) | 335 (17.6) | 335 (17.6) | 0 (0) |
| Other | 154 (4) | 154 (4) | 0 (0) | 76 (4) | 76 (4) | 0 (0) |
| Household Income | | | | | | |
| <=$20,000 | 1240 (31) | 1240 (31) | 0 (0) | 735 (38.5) | 735 (38.5) | 0 (0) |
| $20,001-$50,000 | 958 (24) | 958 (24) | 0 (0) | 455 (23.8) | 455 (23.9) | 0 (0.1) |

| Characteristic | Total Cohort Manuscript (N=3939) | Total Cohort DSIC (N=3939) | Difference (N=0) | Diabetes Manuscript (n=1908) | Diabetes DSIC (n=1908) | Difference (n=0) |
|---|---|---|---|---|---|---|
| $50,001-$100,000 | 734 (19) | 734 (19) | 0 (0) | 286 (15) | 286 (15) | 0 (0) |
| >$100,000 | 392 (10) | 392 (10) | 0 (0) | 138 (7.2) | 138 (7.2) | 0 (0) |
| Current smoker | 517 (13) | 517 (13) | 0 (0) | 224 (11.7) | 224 (11.7) | 0 (0) |
| Hypertension | 3391 (86) | 3391 (86) | 0 (0) | 1764 (92.5) | 1764 (92.5) | 0 (0) |
| MI or prior revascularization | 862 (22) | 862 (22) | 0 (0) | 534 (28) | 534 (28) | 0 (0) |
| Congestive heart failure | 382 (10) | 382 (10) | 0 (0) | 263 (13.8) | 263 (13.8) | 0 (0) |
| Peripheral vascular disease | 262 (7) | 262 (7) | 0 (0) | 193 (10.1) | 193 (10.1) | 0 (0) |
| Systolic BP (mmHg) | 128.5 ± 22.2 | 128.5 ± 22.2 | 0 ± 0 | 133.6 ± 22.8 | 133.6 ± 22.8 | 0 ± 0 |
| Diastolic BP (mmHg) | 71.6 ± 12.8 | 71.5 ± 12.8 | 0.1 ± 0 | 69.8 ± 12.8 | 69.8 ± 12.8 | 0 ± 0 |
| Body mass index (kg/m²) | 32.1 ± 7.8 | 32.1 ± 7.8 | 0 ± 0 | 34.0 ± 8.1 | 33.9 ± 8.1 | 0.1  0 |
| Body mass index category (kg/m²) | | | | | | |
| <25 (underweight or normal) | 630 (16) | 630 (16) | 0 (0) | 192 (10.1) | 192 (10.1) | 0 (0) |
| 25 to <30 (overweight) | 1125 (29) | 1125 (29) | 0 (0) | 459 (24.1) | 459 (24.2) | 0 (0.1) |
| >=30 (obese) | 2174 (55) | 2174 (55) | 0 (0) | 1250 (65.8) | 1250 (65.8) | 0 (0) |
| eGFR uring CRIC equation | 44.9 ± 16.9 | 44.9 ± 16.8 | 0 ± 0.1 | 41.1 ± 14.8 | 41.1 ± 14.8 | 0 ± 0 |
| eGFR category (ml/min per 1.73 m²) | | | | | | |
| <30 | 807 (20) | 807 (20) | 0 (0) | 479 (25.1) | 479 (25.1) | 0 (0) |
| 30 to <40 | 903 (23) | 903 (23) | 0 (0) | 505 (26.5) | 505 (26.5) | 0 (0) |
| 40 to <50 | 859 (22) | 859 (22) | 0 (0) | 445 (23.3) | 445 (23.3) | 0 (0) |
| 50 to <60 | 668 (17) | 668 (17) | 0 (0) | 279 (14.6) | 279 (14.6) | 0 (0) |
| >=60 | 702 (18) | 702 (18) | 0 (0) | 200 (10.5) | 200 (10.5) | 0 (0) |
| 24-h urine protein (g/24 h) | 0.18 (0.07-0.91) | 0.18 (0.07-0.91) | 0 (0) | 0.38 (0.10-1.74) | 0.38 (0.10-1.74) | 0 (0) |
| Use of ACEi or ARB | 2689 (69) | 2689 (69) | 0 (0) | 1502 (79.3) | 1502 (79.3) | 0 (0) |
| Hemoglobin A1C | 6.7 ± 1.6 | 6.7 ± 1.6 | 0 ± 0 | 7.7 ± 1.7 | 7.7 ± 1.7 | 0 ± 0 |

| Characteristic | No Diabetes Manuscript (n=2031) | No Diabetes DSIC (n=2031) | Difference (n=0) |
|---|---|---|---|
| Age (yr) | 57.0 ± 11.9 | 57.0 ± 11.9 | 0 ± 0 |
| Male | 1097 (54) | 1097 (54) | 0 (0) |
| Race/ethnicity | | | |

| Characteristic | No Diabetes Manuscript (n=2031) | No Diabetes DSIC (n=2031) | Difference (n=0) |
|---|---|---|---|
| White | 989 (48.7) | 989 (48.7) | 0 (0) |
| Black | 802 (39.5) | 802 (39.5) | 0 (0) |
| Hispanic | 162 (8) | 162 (8) | 0 (0) |
| Other | 78 (3.8) | 78 (3.8) | 0 (0) |
| Household Income | | | |
| <=$20,000 | 505 (24.9) | 505 (24.9) | 0 (0) |
| $20,001-$50,000 | 503 (24.8) | 503 (24.8) | 0 (0) |
| $50,001-$100,000 | 448 (22.1) | 448 (22.1) | 0 (0) |
| >$100,000 | 254 (12.5) | 254 (12.5) | 0 (0) |
| Current smoker | 293 (14.4) | 293 (14.4) | 0 (0) |
| Hypertension | 1627 (80.1) | 1627 (80.1) | 0 (0) |
| MI or prior revascularization | 328 (16.1) | 328 (16.2) | 0 (0.1) |
| Congestive heart failure | 119 (5.9) | 119 (5.9) | 0 (0) |
| Peripheral vascular disease | 69 (3.4) | 69 (3.4) | 0 (0) |
| Systolic BP (mmHg) | 123.7 ± 20.4 | 123.7 ± 20.4 | 0 ± 0 |
| Diastolic BP (mmHg) | 73.2 ± 12.6 | 73.2 ± 12.6 | 0 ± 0 |
| Body mass index (kg/m²) | 30.3 ± 7.1 | 30.3 ± 7.1 | 0  0 |
| Body mass index category (kg/m²) | | | |
| <25 (underweight or normal) | 438 (21.6) | 438 (21.6) | 0 (0) |
| 25 to <30 (overweight) | 666 (32.8) | 666 (32.8) | 0 (0) |
| >=30 (obese) | 924 (45.6) | 924 (45.6) | 0 (0) |
| eGFR uring CRIC equation | 48.5 ± 17.9 | 48.5 ± 17.9 | 0 ± 0 |
| eGFR category (ml/min per 1.73 m²) | | | |
| <30 | 328 (16.1) | 328 (16.2) | 0 (0.1) |
| 30 to <40 | 398 (19.6) | 398 (19.6) | 0 (0) |
| 40 to <50 | 414 (20.4) | 414 (20.4) | 0 (0) |
| 50 to <60 | 389 (19.2) | 389 (19.2) | 0 (0) |
| >=60 | 502 (24.7) | 502 (24.7) | 0 (0) |
| 24-h urine protein (g/24 h) | 0.11 (0.06-0.46) | 0.11 (0.06-0.46) | 0 (0) |
| Use of ACEi or ARB | 1187 (58.9) | 1187 (58.9) | 0 (0) |
| Hemoglobin A1C | 5.7 ± 0.5 | 5.7 ± 0.5 | 0 ± 0 |

**Table C:** Variables used to replicate Table 3-Outcome event rates in Chronic Renal Insufficiency Cohort cohort through March 2013

| Characteristic | dataset.variable |
|---|---|
| ESRD or 50% decline in eGFR | sa_allc.sa_allc_cric_renal1, sa_allc.sa_allc_cric_time_renal1 |
| MI | sa_cvd.time_mi_p, sa_cvd.sa_mi_p |
| CVA | sa_cvd.time_cva_p, sa_cvd.sa_cva_p |
| CHF | sa_cvd.time_chf_p, sa_cvd.sa_chf_p |
| Composite of CHF, MI, and stroke | sa_cvd.time_cvdcomp3, sa_cvd.sa_cvdcomp3 |
| Atrial fibrillation | sa_cvd.time_afib, sa_cvd.sa_afib |
| PAD | sa_cvd.time_pad, sa_cvd.sa_pad |
| Death | sa_cvd.time_death, sa_cvd.sa_death |

**Table D:** Comparison of values computed in integrity check to reference Table 3 values

| Outcome Events | Total Cohort Manuscript (N=3939) | Total Cohort DSIC (N=3939) | Difference (N=0) | Diabetes Manuscript (n=1908) | Diabetes DSIC (n=1908) | Difference (n=0) |
|---|---|---|---|---|---|---|
| ESRD or 50% decline in eGFR | 6.2 | 6.2 | 0 | 9.6 | 9.6 | 0 |
| MI | 1.3 | 1.3 | 0 | 1.9 | 1.9 | 0 |
| CVA | 0.6 | 0.6 | 0 | 0.8 | 0.8 | 0 |
| CHF | 2.6 | 2.6 | 0 | 4.3 | 4.3 | 0 |
| Composite of CHF, MI, and stroke | 3.8 | 3.8 | 0 | 5.9 | 6.0 | 0.1 |
| Atrial fibrillation | 1.9 | 1.9 | 0 | 2.1 | 2.1 | 0 |
| PAD | 0.7 | 0.7 | 0 | 1.2 | 1.2 | 0 |
| Death | 3.1 | 3.1 | 0 | 4.4 | 4.4 | 0 |

| Outcome Events | No Diabetes Manuscript (n=2031) | No Diabetes DSIC (n=2031) | Difference (n=0) |
|---|---|---|---|
| ESRD or 50% decline in eGFR | 3.8 | 3.7 | 0.1 |
| MI | 0.8 | 0.8 | 0 |

| Outcome Events | No Diabetes Manuscript (n=2031) | No Diabetes DSIC (n=2031) | Difference (n=0) |
|---|---|---|---|
| CVA | 0.4 | 0.4 | 0 |
| CHF | 1.3 | 1.3 | 0 |
| Composite of CHF, MI, and stroke | 2.1 | 2.1 | 0 |
| Atrial fibrillation | 1.7 | 1.7 | 0 |
| PAD | 0.3 | 0.3 | 0 |
| Death | 2.1 | 2.1 | 0 |

**Table E:** Variables used to replicate Figure 1-Between group comparisons of the eGFR slope and proportion of patients free from a primary renal outcome event in the Chronic Renal Insufficiency Cohort Study

| Characteristic | dataset.variable |
|---|---|
| Diabetes | personlevel.diabetes_at_baseline, personlevel.g_race_ibc |
| APOL1 Alleles | personlevel.apol1_risk_alleles |
| Composite Renal Outcome | sa_allc. sa_allc_cric_renal1 |
| Year | sa_allc.sa_allc_cric_time_renal1 |

**Figure A:** Comparison of values computed in integrity check reference article Figure 1 values
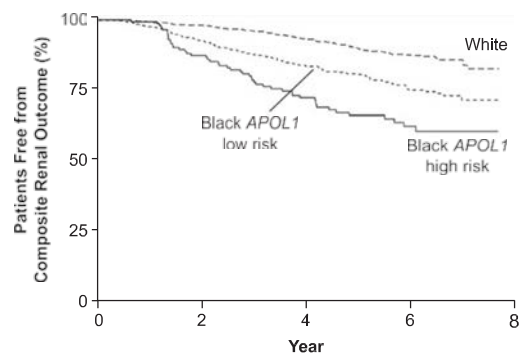
Manuscript:



**C** Patients with Diabetes

**D** Patients without Diabetes
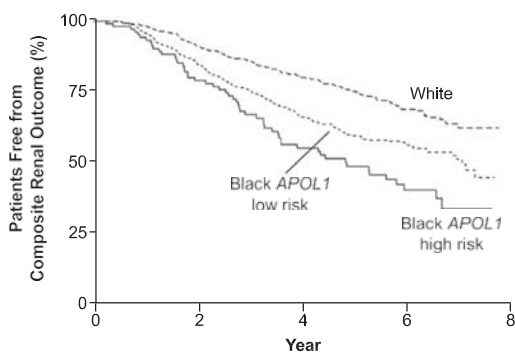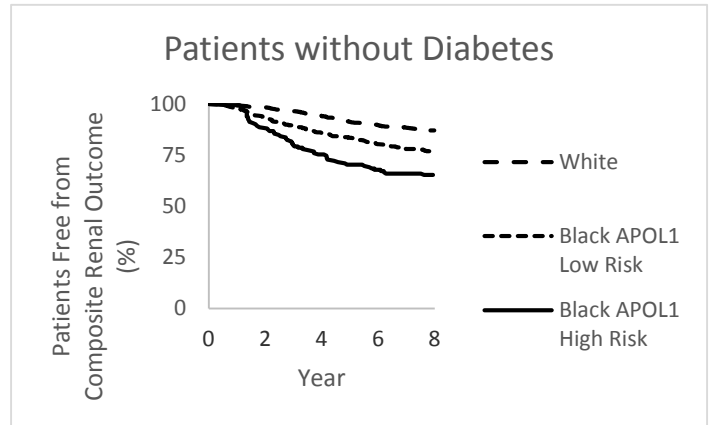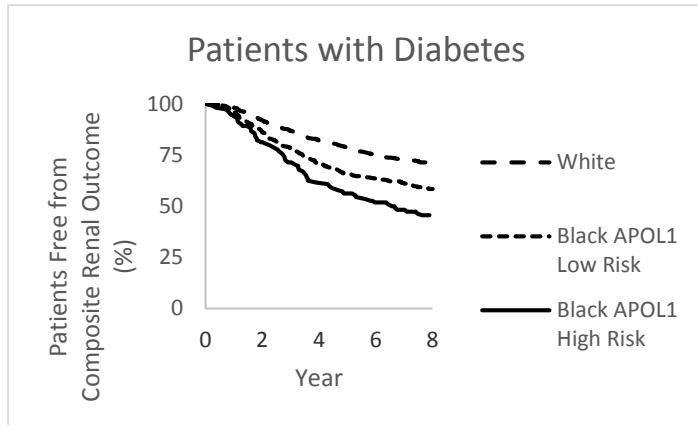
No. at Risk (C):
White 624 496 368 153
Black APOL1, low risk 610 450 305 116
Black APOL1, high risk 112 74 46 21

No. at Risk (D):
White 920 807 681 319
Black APOL1, low risk 531 435 531 164
Black APOL1, high risk 158 124 89 41

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DSIC:



Patients with Diabetes

| No. at Risk | Manuscript Year 0 | DSIC Year 0 | Diff. | Manuscript Year 2 | DSIC Year 2 | Diff. | Manuscript Year 4 | DSIC Year 4 | Diff. | Manuscript Year 6 | DSIC Year 6 | Diff. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| White | 624 | 624 | 0 | 496 | 502 | 6 | 368 | 379 | 11 | 153 | 277 | 124 |
| Black APOL1, low risk | 610 | 610 | 0 | 450 | 453 | 3 | 305 | 310 | 5 | 116 | 216 | 100 |
| Black APOL1, high risk | 112 | 112 | 0 | 74 | 75 | 1 | 46 | 49 | 3 | 21 | 35 | 14 |

Patients without Diabetes

| No. at Risk | Manuscript Year 0 | DSIC Year 0 | Diff. | Manuscript Year 2 | DSIC Year 2 | Diff. | Manuscript Year 4 | DSIC Year 4 | Diff. | Manuscript Year 6 | DSIC Year 6 | Diff. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| White | 920 | 920 | 0 | 807 | 809 | 2 | 681 | 693 | 12 | 319 | 571 | 252 |
| Black APOL1, low risk | 531 | 531 | 0 | 435 | 433 | 2 | 351 | 352 | 1 | 164 | 270 | 106 |
| Black APOL1, high risk | 158 | 158 | 0 | 124 | 127 | 3 | 89 | 96 | 7 | 41 | 72 | 31 |

## Attachment A: SAS Code

```
*** DSIC for CRIC new follow-up data;
***
*** Allyson Mateja
*** February 16, 2016;

title 'CRIC Follow-Up Data DSIC';
title2 ' ';

proc format;
        value sexf 1 = 'Male'
                   2 = 'Female';

        value racef 1 = 'White'
                    2 = 'Black'
                    3 = 'Hispanic'
                    4 = 'Other';

        value incomef 1  = "<=$20,000"
                      2  = "$20,001-$50,000"
                      3  = "$50,001-$100,000"
                      4  = ">$100,000"
                      97 = "Don't wish to answer";

        value bmif 1 = '<25 (underweight or normal)'
                   2 = '25 to <30 (overweight)'
                   3 = '>=30 (obese)';

  value egfrf 1 = '<30'
              2 = '30 to <40'
              3 = '40 to <50'
              4 = '50 to <60'
              5 = '>=60';

options nofmterr;

libname derived '/prj/niddk/ims_analysis/CRIC/private_orig_data/FEB2016_CRIC_NIDDK_DATA/FEB2016_CRIC_NIDDK_DATA/Study_Data/Derived_Data';
libname raw '/prj/niddk/ims_analysis/CRIC/private_orig_data/FEB2016_CRIC_NIDDK_DATA/FEB2016_CRIC_NIDDK_DATA/Study_Data/Raw_Data/';

data visitlevel;
        set derived.visitlevel;

data personlevel;
        set derived.personlevel;

proc contents data=personlevel;

proc sort data=personlevel;
        by pid;

proc contents data=visitlevel;

proc freq data=visitlevel;
```

```
        tables vnum;

data visitlevel_bl;
        set visitlevel;
        if vnum=3;

proc sort data=visitlevel_bl;
        by pid;

data visitlevel_bl;
        merge visitlevel_bl (in=val1)
                personlevel   (in=val2 keep=pid sex diabetes_at_baseline race_ethnicity_cat2 income_cat_1);
   by pid;
   if val1 and val2 then output visitlevel_bl;

*** Table 1;

proc freq data=visitlevel_bl;
        tables diabetes_at_baseline;
        title3 'Diabetes at Baseline';

proc means data=visitlevel_bl n mean std;
        var age;
        title3 'Total Cohort-Age';

proc freq data=visitlevel_bl;
        tables sex;
        format sex sexf.;
        title3 'Total Cohort - Sex';

proc freq data=visitlevel_bl;
        tables race_ethnicity_cat2;
        format race_ethnicity_cat2 racef.;
        title3 'Total Cohort - Race/ethnicity';

proc freq data=visitlevel_bl;
        tables INCOME_CAT_1;
        format INCOME_CAT_1 incomef.;
        title3 'Total Cohort - Household Income';

proc freq data=visitlevel_bl;
        tables smokenow /missing;
        title3 'Total Cohort - Current Smoking';

proc freq data=visitlevel_bl;
        tables hypertension;
        title3 'Total Cohort - Hypertension';

proc freq data=visitlevel_bl;
        tables MIREVASC /missing;
        title3 'Total Cohort - MI or Prior Revascularization';

proc freq data=visitlevel_bl;
        tables chf /missing;
        title3 'Total Cohort - Heart Failure';
```

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```
proc freq data=visitlevel_bl;
      tables pvd /missing;
      title3 'Total Cohort - Peripheral Vascular Disease';

proc means data=visitlevel_bl mean std;
      var systolic;
      title3 'Total Cohort - Systolic BP';

proc means data=visitlevel_bl mean std;
      var diastolic;
      title3 'Total Cohort - Diastolic BP';

proc means data=visitlevel_bl mean std;
      var BMI;
      title3 'Total Cohort - BMI';

proc freq data=visitlevel_bl;
      table bmi_cat_2;
      format bmi_cat_2 bmif.;
      title3 'Total Cohort - BMI Category';

proc means data=visitlevel_bl mean std;
      var egfr_cric;
      title3 'Total Cohort - eGFR using CRIC Equation';

proc freq data=visitlevel_bl;
      table egfr_cric_cat5;
      format egfr_cric_cat5 egfrf.;
      title3 'Total Cohort - eGFR Category';

proc means data=visitlevel_bl median p25 p75;
      var UPROTEIN24H;
      title3 'Total Cohort - 24-h urine protein';

proc freq data=visitlevel_bl;
      table acearb;
      title3 'Total Cohort - Use of ACEi or ARB';

proc means data=visitlevel_bl mean std;
      var hemoglobin_a1c;
      title3 'Total Cohort - Hemoglobin A1c';

data bl_diabetes;
      set visitlevel_bl;
      if diabetes_at_baseline=1;

proc means data=bl_diabetes n mean std;
      var age;
      title3 'Diabetes - Age';

proc freq data=bl_diabetes;
      tables sex;
      format sex sexf.;
      title3 'Diabetes - Sex';

proc freq data=bl_diabetes;
```

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```
        tables race_ethnicity_cat2;
        format race_ethnicity_cat2 racef.;
        title3 'Diabetes - Race/ethnicity';

proc freq data=bl_diabetes;
        tables INCOME_CAT_1;
        format INCOME_CAT_1 incomef.;
        title3 'Diabetes - Household Income';

proc freq data=bl_diabetes;
        tables smokenow /missing;
        title3 'Diabetes - Current Smoking';

proc freq data=bl_diabetes;
        tables hypertension;
        title3 'Diabetes - Hypertension';

proc freq data=bl_diabetes;
        tables MIREVASC /missing;
        title3 'Diabetes - MI or Prior Revascularization';

proc freq data=bl_diabetes;
        tables chf /missing;
        title3 'Diabetes - Heart Failure';

proc freq data=bl_diabetes;
        tables pvd /missing;
        title3 'Diabetes - Peripheral Vascular Disease';

proc means data=bl_diabetes mean std;
        var systolic;
        title3 'Diabetes - Systolic BP';

proc means data=bl_diabetes mean std;
        var diastolic;
        title3 'Diabetes - Diastolic BP';

proc means data=bl_diabetes mean std;
        var BMI;
        title3 'Diabetes - BMI';

proc freq data=bl_diabetes;
        table bmi_cat_2;
        format bmi_cat_2 bmif.;
        title3 'Diabetes - BMI Category';

proc means data=bl_diabetes mean std;
        var egfr_cric;
        title3 'Diabetes - eGFR using CRIC Equation';

proc freq data=bl_diabetes;
        table egfr_cric_cat5;
        format egfr_cric_cat5 egfrf.;
        title3 'Diabetes - eGFR Category';

proc means data=bl_diabetes median p25 p75;
```

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```
        var UPROTEIN24H;
        title3 'Diabetes - 24-h urine protein';


proc freq data=bl_diabetes;
        table acearb;
        title3 'Diabetes - Use of ACEi or ARB';

proc means data=bl_diabetes mean std;
        var hemoglobin_a1c;
        title3 'Diabetes - Hemoglobin A1c';

data bl_no_diabetes;
        set visitlevel_bl;
        if diabetes_at_baseline=0;

proc means data=bl_no_diabetes n mean std;
        var age;
        title3 'No Diabetes - Age';

proc freq data=bl_no_diabetes;
        tables sex;
        format sex sexf.;
        title3 'No Diabetes - Sex';

proc freq data=bl_no_diabetes;
        tables race_ethnicity_cat2;
        format race_ethnicity_cat2 racef.;
        title3 'No Diabetes - Race/ethnicity';

proc freq data=bl_no_diabetes;
        tables INCOME_CAT_1;
        format INCOME_CAT_1 incomef.;
        title3 'No Diabetes - Household Income';

proc freq data=bl_no_diabetes;
        tables smokenow /missing;
        title3 'No Diabetes - Current Smoking';

proc freq data=bl_no_diabetes;
        tables hypertension;
        title3 'No Diabetes - Hypertension';

proc freq data=bl_no_diabetes;
        tables MIREVASC /missing;
        title3 'No Diabetes - MI or Prior Revascularization';

proc freq data=bl_no_diabetes;
        tables chf /missing;
        title3 'No Diabetes - Heart Failure';

proc freq data=bl_no_diabetes;
        tables pvd /missing;
        title3 'No Diabetes - Peripheral Vascular Disease';

proc means data=bl_no_diabetes mean std;
        var systolic;
```

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```
        title3 'No Diabetes - Systolic BP';

proc means data=bl_no_diabetes mean std;
        var diastolic;
        title3 'No Diabetes - Diastolic BP';

proc means data=bl_no_diabetes mean std;
        var BMI;
        title3 'No Diabetes - BMI';

proc freq data=bl_no_diabetes;
        table bmi_cat_2;
        format bmi_cat_2 bmif.;
        title3 'No Diabetes - BMI Category';

proc means data=bl_no_diabetes mean std;
        var egfr_cric;
        title3 'No Diabetes - eGFR using CRIC Equation';

proc freq data=bl_no_diabetes;
        table egfr_cric_cat5;
        format egfr_cric_cat5 egfrf.;
        title3 'No Diabetes - eGFR Category';

proc means data=bl_no_diabetes median p25 p75;
        var UPROTEIN24H;
        title3 'No Diabetes - 24-h urine protein';

proc freq data=bl_no_diabetes;
        table acearb;
        title3 'No Diabetes - Use of ACEi or ARB';

proc means data=bl_no_diabetes mean std;
        var hemoglobin_a1c;
        title3 'No Diabetes - Hemoglobin A1c';


*** Table 3;

data sa_cvd;
        set derived.sa_cvd;

data sa_allc;
        set derived.sa_allc;

proc means data=sa_allc sum noprint;
        var sa_allc_cric_time_renal1;
        output out = sa_allc_sums sum=sum;

proc freq data=sa_allc noprint;
        tables sa_allc_cric_renal1 /out = sa_allc_freq;
        where sa_allc_cric_renal1 = 1;

data frequencies;
        merge sa_allc_freq
                sa_allc_sums;
```

```
        event_rate = 100 * (count/sum);

proc print data=frequencies;
        var event_rate;
        title3 'Total Cohort - ESRD or 50% decline in eGFR Event Rate per 100 person years';

proc means data=sa_cvd sum noprint;
        var time_mi_p;
        output out = mi_sum sum=sum;

proc freq data=sa_cvd noprint;
        tables sa_mi_p /out = mi_freq;
        where sa_mi_p = 1;

data frequencies;
        merge mi_sum
              mi_freq;
        event_rate = 100 * (count/sum);

proc print data=frequencies;
        var event_rate;
        title3 'Total Cohort - MI Event Rate per 100 Person Years';

proc means data=sa_cvd sum noprint;
        var time_cva_p ;
        output out = cva_sum sum=sum;

proc freq data=sa_cvd noprint;
        tables sa_cva_p /out = cva_freq;
        where sa_cva_p = 1;

data frequencies;
        merge cva_sum
              cva_freq;
        event_rate = 100 * (count/sum);

proc print data=frequencies;
        var event_rate;
        title3 'Total Cohort - CVA Event Rate per 100 person years';

proc means data=sa_cvd sum noprint;
        var time_chf_p;
        output out = chf_sum sum=sum;

proc freq data=sa_cvd noprint;
        tables sa_chf_p /out =chf_freq;
        where sa_chf_p=1;

data frequencies;
        merge chf_sum
              chf_freq;
        event_rate = 100 * (count/sum);

proc print data=frequencies;
        var event_rate;
        title3 'Total Cohort - CHF Event Rate per 100 person years';
```

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```
proc means data=sa_cvd sum noprint;
      var time_cvdcomp3;
      output out = comp_sum sum=sum;

proc freq data=sa_cvd noprint;
      tables sa_cvdcomp3 /out=comp_freq;
      where sa_cvdcomp3 = 1;

data frequencies;
      merge comp_sum
            comp_freq;
      event_rate = 100 * (count/sum);

proc print data=frequencies;
      var event_rate;
      title3 'Total Cohort - Composite of CHF, MI, and Stroke Event Rate per 100 person years';

proc means data=sa_cvd sum noprint;
      var time_afib;
      output out = afib_sum sum=sum;

proc freq data=sa_cvd noprint;
      tables sa_afib /out = afib_freq;
      where sa_afib=1;

data frequencies;
      merge afib_sum
            afib_freq;
      event_rate = 100 * (count/sum);

proc print data=frequencies;
      var event_rate;
      title3 'Total Cohort - Atrial Fibrillation Event Rate per 100 person years';

proc means data=sa_cvd sum noprint;
      var time_pad;
      output out = pad_sum sum=sum;

proc freq data=sa_cvd noprint;
      tables sa_pad /out = pad_freq;
      where sa_pad=1;

data frequencies;
      merge pad_sum
            pad_freq;
      event_rate = 100 * (count/sum);

proc print data=frequencies;
      var event_rate;
      title3 'Total Cohort - PAD Event Rate per 100 person years';

proc means data=sa_cvd sum noprint;
      var time_death;
      output out = death_sum sum=sum;
```

```
proc freq data=sa_cvd noprint;
      tables sa_death /out = death_freq;
      where sa_death = 1;

data frequencies;
      merge death_sum
            death_freq;
      event_rate = 100 * (count/sum);

proc print data=frequencies;
      var event_rate;
      title3 'Total Cohort - Death Event Rate per 100 person years';

proc sort data=sa_cvd;
      by pid;

proc sort data=sa_allc;
      by pid;

proc sort data=personlevel;
      by pid;

data event_outcomes;
      merge sa_cvd      (in=val1)
            sa_allc     (in=val2)
            personlevel (in=val3);
      by pid;
      if val1 and val2 and val3 then output event_outcomes;

proc means data=event_outcomes sum noprint;
      var sa_allc_cric_time_renal1;
      where diabetes_at_baseline = 1;
      output out = sa_allc_sums sum=sum;

proc freq data=event_outcomes noprint;
      tables sa_allc_cric_renal1 /out = sa_allc_freq;
      where sa_allc_cric_renal1 = 1 and diabetes_at_baseline=1;

data frequencies;
      merge sa_allc_freq
            sa_allc_sums;
      event_rate = 100 * (count/sum);

proc print data=frequencies;
      var event_rate;
      title3 'Diabetes - ESRD or 50% decline in eGFR Event Rate per 100 person years';

proc means data=event_outcomes sum noprint;
      var time_mi_p;
      where diabetes_at_baseline = 1;
      output out = mi_sum sum=sum;

proc freq data=event_outcomes noprint;
      tables sa_mi_p /out = mi_freq;
      where sa_mi_p = 1 and diabetes_at_baseline = 1;
```

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```
data frequencies;
      merge mi_sum
            mi_freq;
      event_rate = 100 * (count/sum);

proc print data=frequencies;
      var event_rate;
      title3 'Diabetes - MI Event Rate per 100 Person Years';

proc means data=event_outcomes sum noprint;
      var time_cva_p ;
      where diabetes_at_baseline=1;
      output out = cva_sum sum=sum;

proc freq data=event_outcomes noprint;
      tables sa_cva_p /out = cva_freq;
      where sa_cva_p = 1 and diabetes_at_baseline=1;

data frequencies;
      merge cva_sum
            cva_freq;
      event_rate = 100 * (count/sum);

proc print data=frequencies;
      var event_rate;
      title3 'Diabetes - CVA Event Rate per 100 person years';

proc means data=event_outcomes sum noprint;
      var time_chf_p;
      where diabetes_at_baseline=1;
      output out = chf_sum sum=sum;

proc freq data=event_outcomes noprint;
      tables sa_chf_p /out =chf_freq;
      where sa_chf_p=1 and diabetes_at_baseline=1;

data frequencies;
      merge chf_sum
            chf_freq;
      event_rate = 100 * (count/sum);

proc print data=frequencies;
      var event_rate;
      title3 'Diabetes - CHF Event Rate per 100 person years';

proc means data=event_outcomes sum noprint;
      var time_cvdcomp3;
      where diabetes_at_baseline=1;
      output out = comp_sum sum=sum;

proc freq data=event_outcomes noprint;
      tables sa_cvdcomp3 /out=comp_freq;
      where sa_cvdcomp3 = 1 and diabetes_at_baseline=1;

data frequencies;
      merge comp_sum
```

```
            comp_freq;
      event_rate = 100 * (count/sum);

proc print data=frequencies;
      var event_rate;
      title3 'Diabetes - Composite of CHF, MI, and Stroke Event Rate per 100 person years';

proc means data=event_outcomes sum noprint;
      var time_afib;
      where diabetes_at_baseline = 1;
      output out = afib_sum sum=sum;

proc freq data=event_outcomes noprint;
      tables sa_afib /out = afib_freq;
      where sa_afib=1 and diabetes_at_baseline=1;

data frequencies;
      merge afib_sum
            afib_freq;
      event_rate = 100 * (count/sum);

proc print data=frequencies;
      var event_rate;
      title3 'Diabetes - Atrial Fibrillation Event Rate per 100 person years';

proc means data=event_outcomes sum noprint;
      var time_pad;
      where diabetes_at_baseline=1;
      output out = pad_sum sum=sum;

proc freq data=event_outcomes noprint;
      tables sa_pad /out = pad_freq;
      where sa_pad=1 and diabetes_at_baseline=1;

data frequencies;
      merge pad_sum
            pad_freq;
      event_rate = 100 * (count/sum);

proc print data=frequencies;
      var event_rate;
      title3 'Diabetes - PAD Event Rate per 100 person years';

proc means data=event_outcomes sum noprint;
      var time_death;
      where diabetes_at_baseline=1;
      output out = death_sum sum=sum;

proc freq data=event_outcomes noprint;
      tables sa_death /out = death_freq;
      where sa_death = 1 and diabetes_at_baseline=1;

data frequencies;
      merge death_sum
            death_freq;
      event_rate = 100 * (count/sum);
```

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```
proc print data=frequencies;
      var event_rate;
      title3 'Diabetes - Death Event Rate per 100 person years';

proc means data=event_outcomes sum noprint;
      var sa_allc_cric_time_renal1;
      where diabetes_at_baseline = 0;
      output out = sa_allc_sums sum=sum;

proc freq data=event_outcomes noprint;
      tables sa_allc_cric_renal1 /out = sa_allc_freq;
      where sa_allc_cric_renal1 = 1 and diabetes_at_baseline=0;

data frequencies;
      merge sa_allc_freq
            sa_allc_sums;
      event_rate = 100 * (count/sum);

proc print data=frequencies;
      var event_rate;
      title3 'No Diabetes - ESRD or 50% decline in eGFR Event Rate per 100 person years';

proc means data=event_outcomes sum noprint;
      var time_mi_p;
      where diabetes_at_baseline = 0;
      output out = mi_sum sum=sum;

proc freq data=event_outcomes noprint;
      tables sa_mi_p /out = mi_freq;
      where sa_mi_p = 1 and diabetes_at_baseline = 0;

data frequencies;
      merge mi_sum
            mi_freq;
      event_rate = 100 * (count/sum);

proc print data=frequencies;
      var event_rate;
      title3 'No Diabetes - MI Event Rate per 100 Person Years';

proc means data=event_outcomes sum noprint;
      var time_cva_p ;
      where diabetes_at_baseline=0;
      output out = cva_sum sum=sum;

proc freq data=event_outcomes noprint;
      tables sa_cva_p /out = cva_freq;
      where sa_cva_p = 1 and diabetes_at_baseline=0;

data frequencies;
      merge cva_sum
            cva_freq;
      event_rate = 100 * (count/sum);

proc print data=frequencies;
```

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```
        var event_rate;
        title3 'No Diabetes - CVA Event Rate per 100 person years';

proc means data=event_outcomes sum noprint;
        var time_chf_p;
        where diabetes_at_baseline=0;
        output out = chf_sum sum=sum;

proc freq data=event_outcomes noprint;
        tables sa_chf_p /out =chf_freq;
        where sa_chf_p=1 and diabetes_at_baseline=0;

data frequencies;
        merge chf_sum
              chf_freq;
        event_rate = 100 * (count/sum);

proc print data=frequencies;
        var event_rate;
        title3 'No Diabetes - CHF Event Rate per 100 person years';

proc means data=event_outcomes sum noprint;
        var time_cvdcomp3;
        where diabetes_at_baseline=0;
        output out = comp_sum sum=sum;

proc freq data=event_outcomes noprint;
        tables sa_cvdcomp3 /out=comp_freq;
        where sa_cvdcomp3 = 1 and diabetes_at_baseline=0;

data frequencies;
        merge comp_sum
              comp_freq;
        event_rate = 100 * (count/sum);

proc print data=frequencies;
        var event_rate;
        title3 'No Diabetes - Composite of CHF, MI, and Stroke Event Rate per 100 person years';

proc means data=event_outcomes sum noprint;
        var time_afib;
        where diabetes_at_baseline = 0;
        output out = afib_sum sum=sum;

proc freq data=event_outcomes noprint;
        tables sa_afib /out = afib_freq;
        where sa_afib=1 and diabetes_at_baseline=0;

data frequencies;
        merge afib_sum
              afib_freq;
        event_rate = 100 * (count/sum);

proc print data=frequencies;
        var event_rate;
        title3 'No Diabetes - Atrial Fibrillation Event Rate per 100 person years';
```

```
proc means data=event_outcomes sum noprint;
      var time_pad;
      where diabetes_at_baseline=0;
      output out = pad_sum sum=sum;

proc freq data=event_outcomes noprint;
      tables sa_pad /out = pad_freq;
      where sa_pad=1 and diabetes_at_baseline=0;

data frequencies;
      merge pad_sum
            pad_freq;
      event_rate = 100 * (count/sum);

proc print data=frequencies;
      var event_rate;
      title3 'No Diabetes - PAD Event Rate per 100 person years';

proc means data=event_outcomes sum noprint;
      var time_death;
      where diabetes_at_baseline=0;
      output out = death_sum sum=sum;

proc freq data=event_outcomes noprint;
      tables sa_death /out = death_freq;
      where sa_death = 1 and diabetes_at_baseline=0;

data frequencies;
      merge death_sum
            death_freq;
      event_rate = 100 * (count/sum);

proc print data=frequencies;
      var event_rate;
      title3 'No Diabetes - Death Event Rate per 100 person years';

*** Figure 1;

proc freq data=event_outcomes;
      tables apol1_risk_alleles*g_race_ibc*diabetes_at_baseline /list;
      where g_race_ibc in (1,2);

proc sort data=event_outcomes;
      by sa_allc_cric_time_renal1;

data has_diabetes no_diabetes;
      set event_outcomes;
      if g_race_ibc in (1,2) then do;
            if diabetes_at_baseline = 1 then output has_diabetes;
            else output no_diabetes;
      end;

data diab_apol_low diab_apol_high diab_white;
      set has_diabetes;
      if apol1_risk_alleles = 0 then output diab_white;
```

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```
        else if apol1_risk_alleles = 1 then output diab_apol_low;
        else if apol1_risk_alleles = 2 then output diab_apol_high;

data percentages_diab_white;
        set diab_white;
        by sa_allc_cric_time_renal1;
        retain people_with_outcome 0;
        if first.sa_allc_cric_time_renal1 then do;
          people_with_outcome = 0;
        end;
        if sa_allc_cric_renal1 = 1 then people_with_outcome = people_with_outcome + 1;
        if last.sa_allc_cric_time_renal1 then output percentages_diab_white;

data percentages_diab_white;
        set percentages_diab_white;
        retain total_people 0;
        total_people = total_people+people_with_outcome;
        percentage = 100 * ((624-total_people)/624);

ODS SELECT PRODUCTLIMITESTIMATES ;
ODS OUTPUT PRODUCTLIMITESTIMATES =DT_N;
PROC LIFETEST DATA=diab_white OUTSURV=OUTSURV PLOTS=(S) MAXTIME=6 TIMELIST=(2,4,6);
TIME  SA_ALLC_CRIC_TIME_RENAL1 * SA_ALLC_CRIC_RENAL1 (0 2 9);
RUN;

ODS SELECT PRODUCTLIMITESTIMATES ;
ODS OUTPUT PRODUCTLIMITESTIMATES =DT_N;
PROC LIFETEST DATA=diab_apol_low OUTSURV=OUTSURV PLOTS=(S) MAXTIME=6 TIMELIST=(2,4,6);
TIME  SA_ALLC_CRIC_TIME_RENAL1 * SA_ALLC_CRIC_RENAL1 (0 2 9);
RUN;

ODS SELECT PRODUCTLIMITESTIMATES ;
ODS OUTPUT PRODUCTLIMITESTIMATES =DT_N;
PROC LIFETEST DATA=diab_apol_high OUTSURV=OUTSURV PLOTS=(S) MAXTIME=6 TIMELIST=(2,4,6);
TIME  SA_ALLC_CRIC_TIME_RENAL1 * SA_ALLC_CRIC_RENAL1 (0 2 9);
RUN;

proc print data=percentages_diab_white;
        var sa_allc_cric_time_renal1 percentage;
        title3 'Figure 1 - White patients with diabetes';

data percentages_diab_apol_low;
        set diab_apol_low;
        by sa_allc_cric_time_renal1;
        retain people_with_outcome 0;
        if first.sa_allc_cric_time_renal1 then do;
          people_with_outcome = 0;
        end;
        if sa_allc_cric_renal1 = 1 then people_with_outcome = people_with_outcome + 1;
        if last.sa_allc_cric_time_renal1 then output percentages_diab_apol_low;

data percentages_diab_apol_low;
        set percentages_diab_apol_low;
        retain total_people 0;
        total_people = total_people+people_with_outcome;
        percentage = 100 * ((610-total_people)/610);
```

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```
proc print data=percentages_diab_apol_low;
      var sa_allc_cric_time_renal1 percentage ;
      title3 'Figure 1 - Black APOL1 low risk with diabetes';

data percentages_diab_apol_high;
      set diab_apol_high;
      by sa_allc_cric_time_renal1;
      retain people_with_outcome 0;
      if first.sa_allc_cric_time_renal1 then do;
        people_with_outcome = 0;
      end;
      if sa_allc_cric_renal1 = 1 then people_with_outcome = people_with_outcome + 1;
      if last.sa_allc_cric_time_renal1 then output percentages_diab_apol_high;

data percentages_diab_apol_high;
      set percentages_diab_apol_high;
      retain total_people  0;
      total_people = total_people+people_with_outcome;
      percentage = 100 * ((112-total_people)/112);

proc print data=percentages_diab_apol_high;
      var sa_allc_cric_time_renal1 percentage;
      title3 'Figure 1 - Black APOL1 High Ridk with diabetes';

data no_diab_apol_low no_diab_apol_high no_diab_white;
      set no_diabetes;
      if apol1_risk_alleles = 0 then output no_diab_white;
      else if apol1_risk_alleles = 1 then output no_diab_apol_low;
      else if apol1_risk_alleles = 2 then output no_diab_apol_high;

ODS SELECT PRODUCTLIMITESTIMATES ;
ODS OUTPUT PRODUCTLIMITESTIMATES =DT_N;
PROC LIFETEST DATA=no_diab_white OUTSURV=OUTSURV PLOTS=(S) MAXTIME=6 TIMELIST=(2,4,6);
TIME  SA_ALLC_CRIC_TIME_RENAL1 * SA_ALLC_CRIC_RENAL1 (0 2 9);
RUN;

ODS SELECT PRODUCTLIMITESTIMATES ;
ODS OUTPUT PRODUCTLIMITESTIMATES =DT_N;
PROC LIFETEST DATA=no_diab_apol_low OUTSURV=OUTSURV PLOTS=(S) MAXTIME=6 TIMELIST=(2,4,6);
TIME  SA_ALLC_CRIC_TIME_RENAL1 * SA_ALLC_CRIC_RENAL1 (0 2 9);
RUN;

ODS SELECT PRODUCTLIMITESTIMATES ;
ODS OUTPUT PRODUCTLIMITESTIMATES =DT_N;
PROC LIFETEST DATA=no_diab_apol_high OUTSURV=OUTSURV PLOTS=(S) MAXTIME=6 TIMELIST=(2,4,6);
TIME  SA_ALLC_CRIC_TIME_RENAL1 * SA_ALLC_CRIC_RENAL1 (0 2 9);
RUN;

data percentages_no_diab_white;
      set no_diab_white;
      by sa_allc_cric_time_renal1;
      retain people_with_outcome 0;
      if first.sa_allc_cric_time_renal1 then do;
        people_with_outcome = 0;
      end;
```

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```
        if sa_allc_cric_renal1 = 1 then people_with_outcome = people_with_outcome + 1;
        if last.sa_allc_cric_time_renal1 then output percentages_no_diab_white;

data percentages_no_diab_white;
        set percentages_no_diab_white;
        retain total_people 0;
        total_people = total_people+people_with_outcome;
        percentage = 100 * ((920-total_people)/920);

proc print data=percentages_no_diab_white;
        var sa_allc_cric_time_renal1 percentage;
        title3 'Figure 1 - White patients without diabetes';

data percentages_no_diab_apol_low;
        set no_diab_apol_low;
        by sa_allc_cric_time_renal1;
        retain people_with_outcome 0;
        if first.sa_allc_cric_time_renal1 then do;
          people_with_outcome = 0;
        end;
        if sa_allc_cric_renal1 = 1 then people_with_outcome = people_with_outcome + 1;
        if last.sa_allc_cric_time_renal1 then output percentages_no_diab_apol_low;

data percentages_no_diab_apol_low;
        set percentages_no_diab_apol_low;
        retain total_people 0;
        total_people = total_people+people_with_outcome;
        percentage = 100 * ((531-total_people)/531);

proc print data=percentages_no_diab_apol_low;
        var sa_allc_cric_time_renal1 percentage;
        title3 'Figure 1 - Black APOL1 low risk without diabetes';

data percentages_no_diab_apol_high;
        set no_diab_apol_high;
        by sa_allc_cric_time_renal1;
        retain people_with_outcome 0;
        retain people_with_outcome 0;
        if first.sa_allc_cric_time_renal1 then do;
          people_with_outcome = 0;
        end;
        if sa_allc_cric_renal1 = 1 then people_with_outcome = people_with_outcome + 1;
        if last.sa_allc_cric_time_renal1 then output percentages_no_diab_apol_high;

data percentages_no_diab_apol_high;
        set percentages_no_diab_apol_high;
        retain total_people  0;
        total_people = total_people+people_with_outcome;
        percentage = 100 * ((158-total_people)/158);

proc print data=percentages_no_diab_apol_high;
        var sa_allc_cric_time_renal1 percentage ;
        title3 'Figure 1 - Black APOL1 High Ridk without diabetes';
```

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