

The characteristics of patients with Chronic Kidney Disease in 3 major public renal services of Queensland, Australia: data from the CKD.QLD Registry

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Background and Aim

We describe the characteristics of patients with CKD from three major renal services in Queensland, an Australian state of 4.6 million people, and an area of 1.85 million km².

Methods

Data were extracted from the registry of CKD.QLD.

CKD.QLD is a program for surveillance, practice improvement and research of patients with CKD that embraces the renal practice network in the adult public health system in Queensland, Australia. Patient enrolment, by informed consent, commenced in May 2011.

The three patient populations described are:

- “Darling Downs”, a regional health service supporting a population of almost 300,000 people and covering a predominantly rural area;
- “Logan”, a major health and multi-ethnic centre, with high levels of socio-economic disadvantage; and
- “Royal”, a tertiary referral service supporting more than one tenth of all public patient services in Queensland.

Results

- 3,451 patients were enrolled across the 3 services, and were followed for a total of 7,483 person years until death, renal replacement therapy [RRT] or censor date.

Darling Downs: 879 patients, followed 1,546 person years

Logan: 1,307 patients, followed 2,963 person years

Royal: 1,265 patients, followed 2,973 person years

- **Figure 1.** Median ages ranged from 66 to 70.1 years. Males constituted from 52% to 56% of patients.

- **Figure 2.** 58.9% of Logan patients were in the lowest two socio-economic quintiles, compared to 47.9% of Darling Downs and 29% of Royal patients.

- All 3 services had a high prevalence of overweight to morbidly obese patients: 82.3% of Logan patients, 81.8% of Darling Downs, and 77.1% of Royal, and in comparison to the Australian average reported as 63%.

- **Figure 3.** The leading primary renal diagnosis was diabetic nephropathy at the Darling Downs service, while it was renal vascular disease at Logan and the Royal.

- Across the 3 services, 25% to 34% of patients had minimal to no proteinuria/albuminuria, 26% to 31% had micro proteinuria/albuminuria [ACR 3.4-33g/mol or PCR 15-49 g/mol], and 40% to 44% had macro proteinuria/albuminuria [ACR ≥34g/mol or PCR >50g/mol].

- **Figure 4.** The percentage of people with advanced stages of CKD [3b, 4 and 5] varied by region, at 66.3% of the Darling Downs population, 55.7% for Logan, and 66.9% for the Royal.

- In all sites, only 25% of persons progressed [eGFR loss of >5ml/min/yr], over one and two years [not shown]. Proportions who progressed were higher with diabetic nephropathy and renovascular disease, higher in older people, and least in those with GN.

- **Figure 5.** 357 people died without receiving RRT. The incidence rates of deaths rose by stage, peaking between 18 and 23 100 person yr for stage 5.

- **Figure 6.** 208 patients commenced RRT. The incidence of RRT for patients with stage 5 CKD at consent varied significantly across the services.

Conclusions

There are major similarities in characteristics and outcomes of patients with CKD at these three services.

There are also substantial differences, specifically in median age, socio-economic status and primary renal diagnosis.

There was a significantly lower rate of RRT for Logan patients who were stage 5 at consent that is not reflected in an elevated rate of death. This phenomenon requires further investigation.

Figure 1. Age and gender distribution

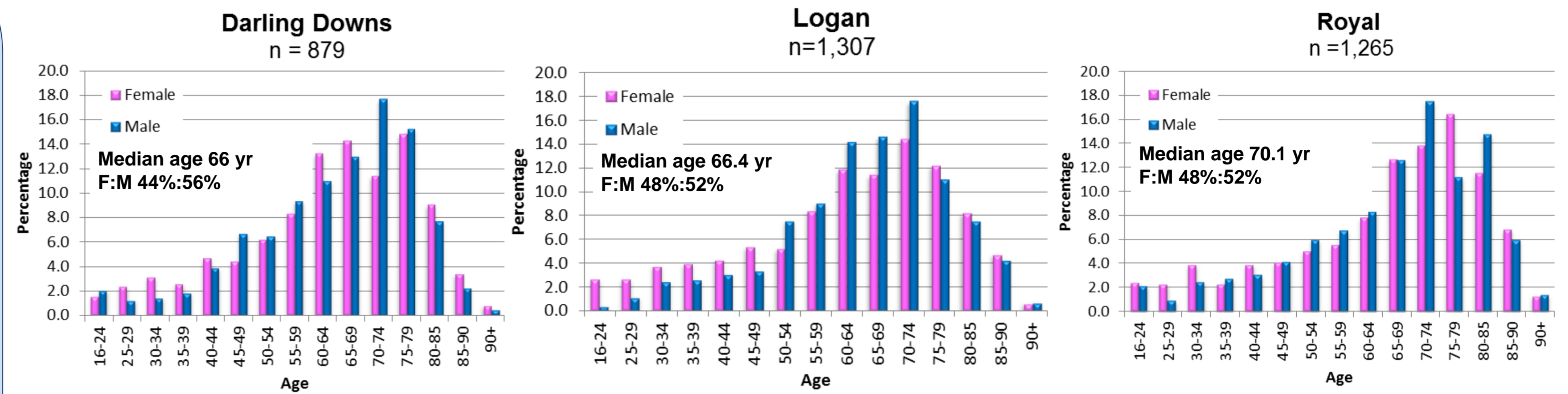


Figure 2. Distribution by IRSD quintile [socioeconomic status]

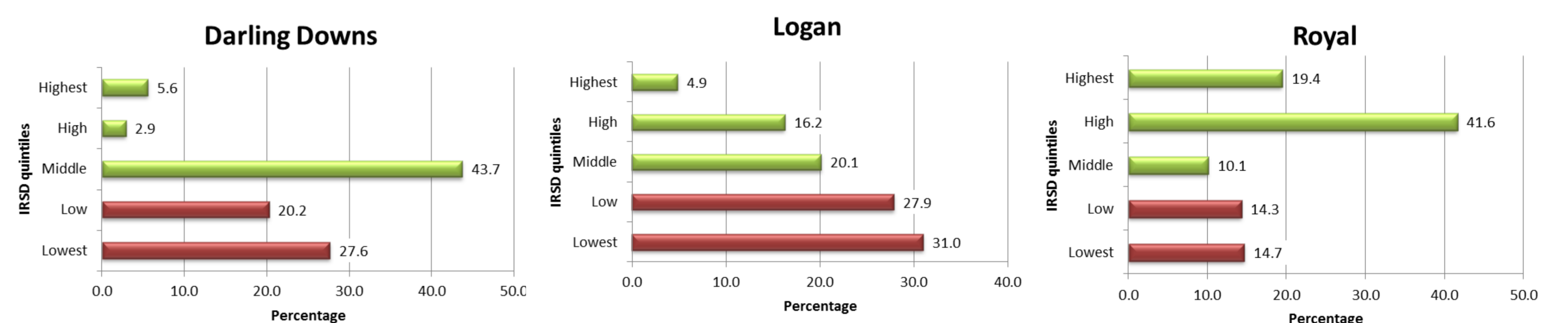


Figure 3. Primary renal diagnosis distribution DN:diabetic nephropathy, GN:glomerulonephritis GRD:genetic renal disease,

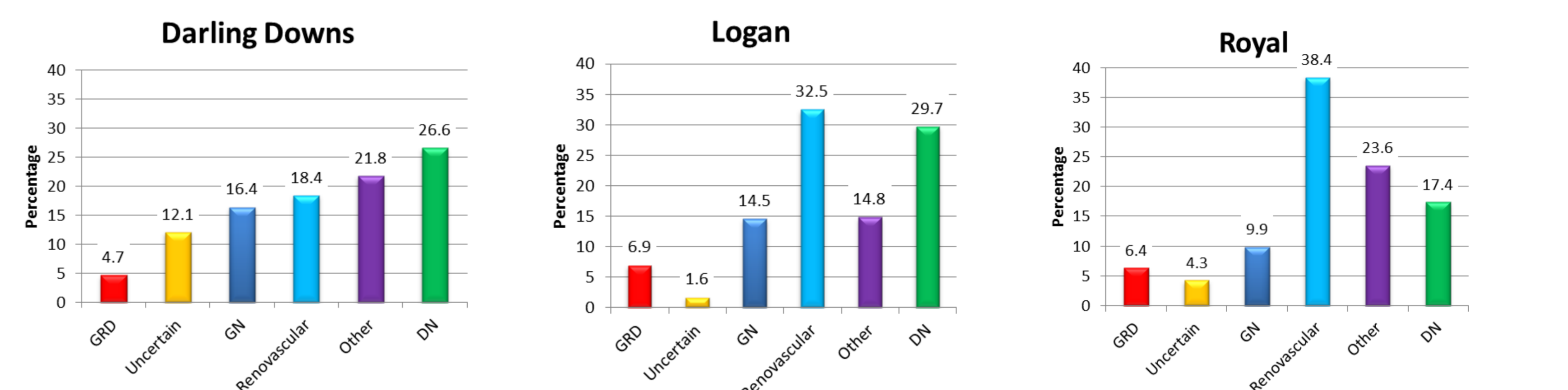


Figure 4. CKD stage distribution by gender

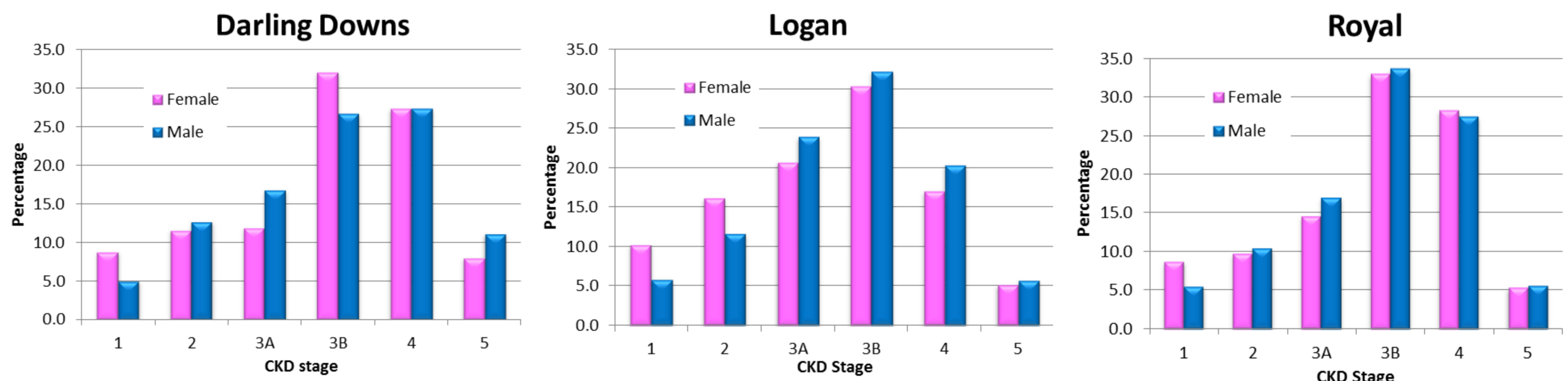


Figure 5. Incidence rates [per 100 person years] of DEATH by CKD stage at consent

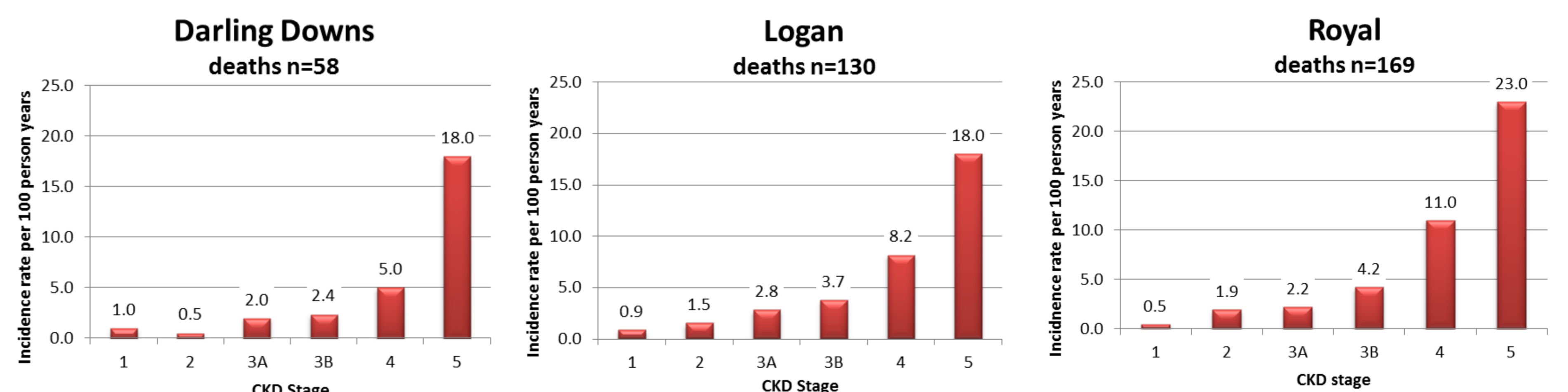
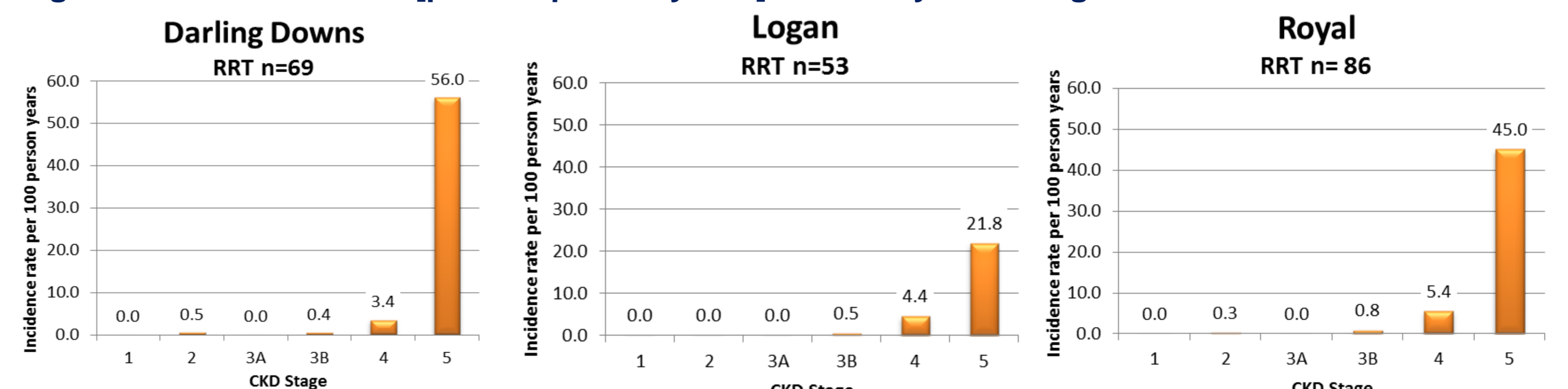


Figure 6. Incidence rates [per 100 person years] of RRT by CKD stage at consent



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