



# CKD.QLD: RELATIONSHIP BETWEEN SMOKING AND CHRONIC KIDNEY DISEASE IN THE DARLING DOWNS REGION, QUEENSLAND.

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 and on behalf of the NHMRC CKD.CRE and the CKD.QLD collaborative.

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## Background and Aim

It is well known that chronic kidney disease [CKD] is associated with excessive cardiovascular disease [CVD] risk.

Another strong risk factor for CVD is smoking and it is potentially preventable.

We analysed the associations between smoking and other cardiovascular risk factors in a CKD cohort from the Darling Downs region in Queensland.

## Methods

- Participants  $\geq 18$  years were recruited from the renal clinics in Darling Downs Hospital and Health Service [DDHHS] [Figure 1] into the CKD.QLD Registry between June 2011 and December 2016.
- Smoking status, at time of consent, was reported as current, former or never.
- Smoking status was reviewed in the context of the patient characteristics of gender, body mass index [BMI], age, diabetes and hypertension.
- The associations between smoking status and cardiovascular burden and risk factors and other co-morbid conditions were analysed.
- Stata Version 14 was used for statistical analysis and values were reported as percentages and a p-value  $< 0.05$  was considered significant.

## Results - The DDHHS CKD Cohort profile

- The total number of participants recruited was 1,051, representing  $>95\%$  of prevalent CKD patients in this renal service.
- The patient median age was 67 years.
- Gender distribution was predominantly males at 55.7%.
- Ethnicity was primarily Caucasian at 84.3% with 101 patients [9.5%] of Aboriginal and/or Torres Strait Islander descent.
- The majority [57.1%] of the cohort was either a former [45.9%] or a current [11.2%] smoker [Figure 2].
- The population had a heavy comorbidity burden, including CVD [Figure 3].
- Comparison between smokers and non-smokers are presented in Table 1.

Table 1: DDHHS CKD patients – smokers Vs non-smokers.			*p <0.05
Parameter	Smokers (N)	Non-smokers (N)	p- value
Number	604	447	
Male	378	204	0.00*
Female	226	243	0.65
Ethnicity-A&TSI	26	75	0.00*
Elderly (age $\geq 70$ years)	259	190	0.90
Cardiac disease	278	161	0.00*
Diabetes	286	180	0.02*
Hypertension	550	407	0.99
Coronary artery disease	178	83	0.00*
Cerebrovascular disease	85	46	0.06
Peripheral vascular disease	64	30	0.06
Chronic lung disease	140	18	0.00*
Gout	161	88	0.01*
Obesity (BMI $\geq 30$ )	303	231	0.62
Obstructive sleep apnoea	84	52	0.37
Depression	123	85	0.59
Psychiatric disorders	38	24	0.56
Mortality	123	52	0.00*

## Conclusions

- In patients with CKD, smoking is a significant risk factor for important morbidities. Such morbidities include cardiovascular disease, chronic lung disease, and the ultimate outcome, premature death. Smoking is potentially preventable.
- With over 1 in 10 patients in this cohort currently smoking, there is both opportunity and a priority to support self-management endeavours to cease smoking.
- Lifestyles modification may positively influence cause and course of chronic diseases like CKD and it's related co-morbid conditions.

Fig 1. DDHHS Renal specialist clinics catchment area

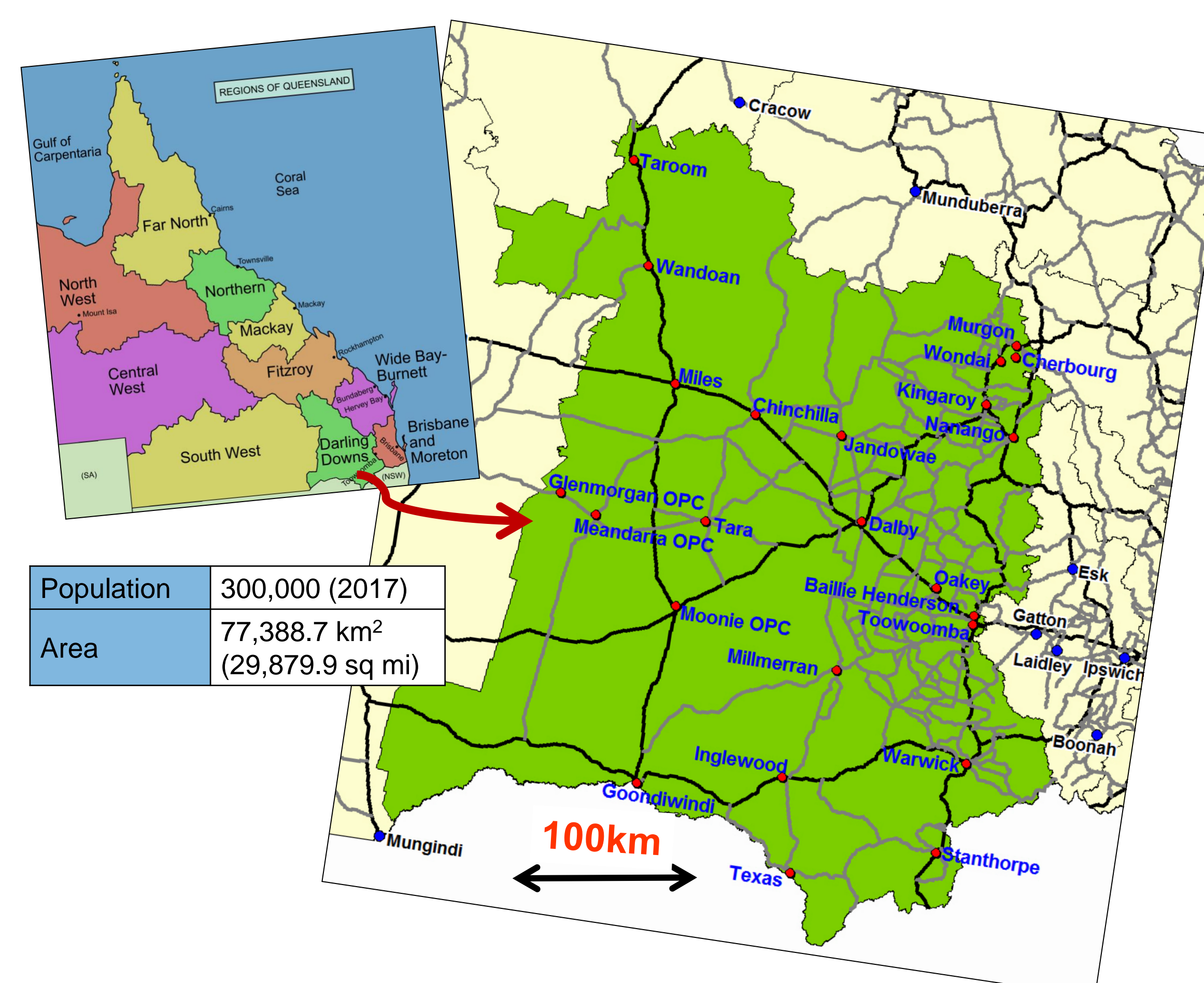


Fig 2. Smoking status at baseline. n=1,051

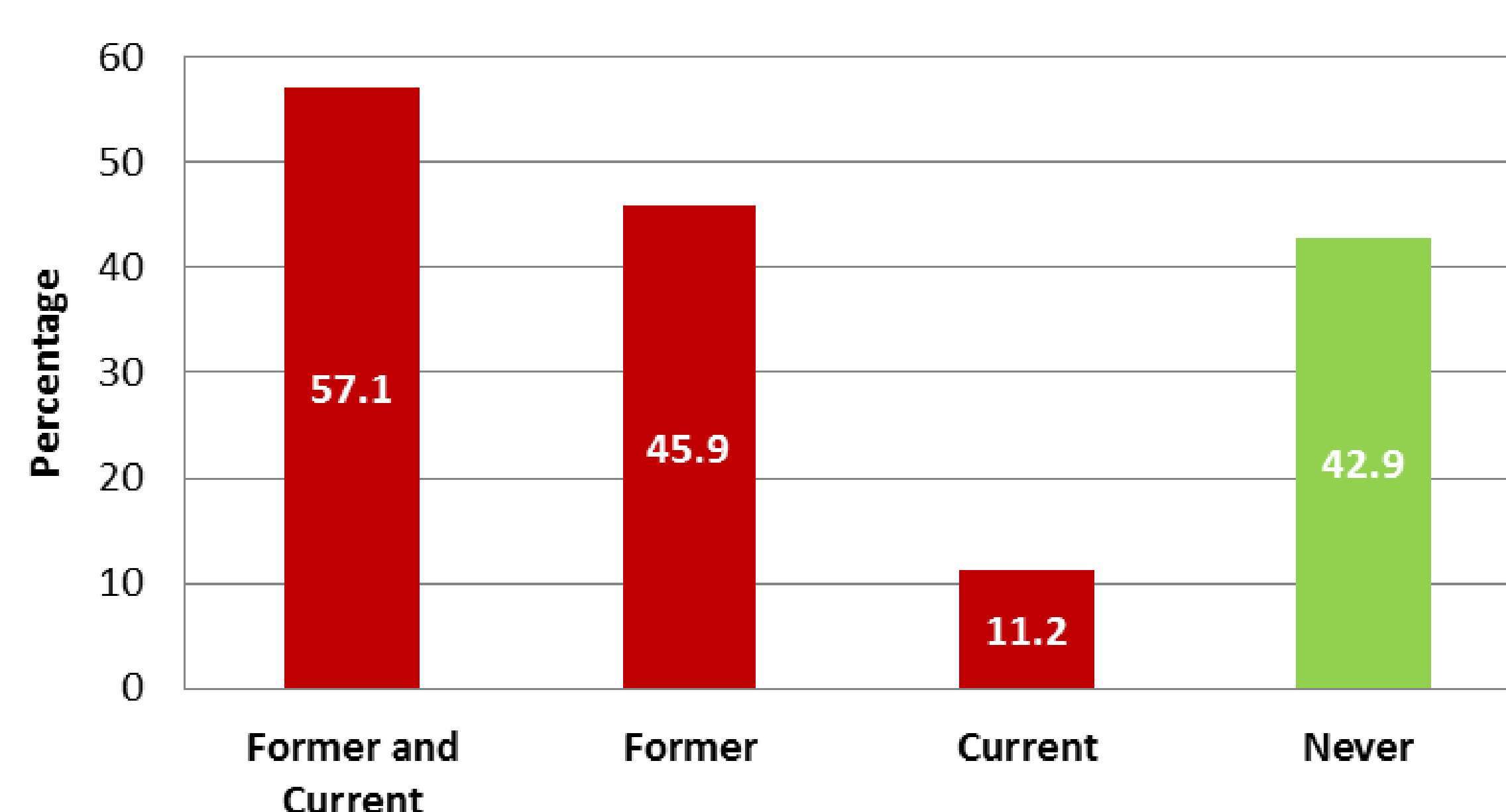
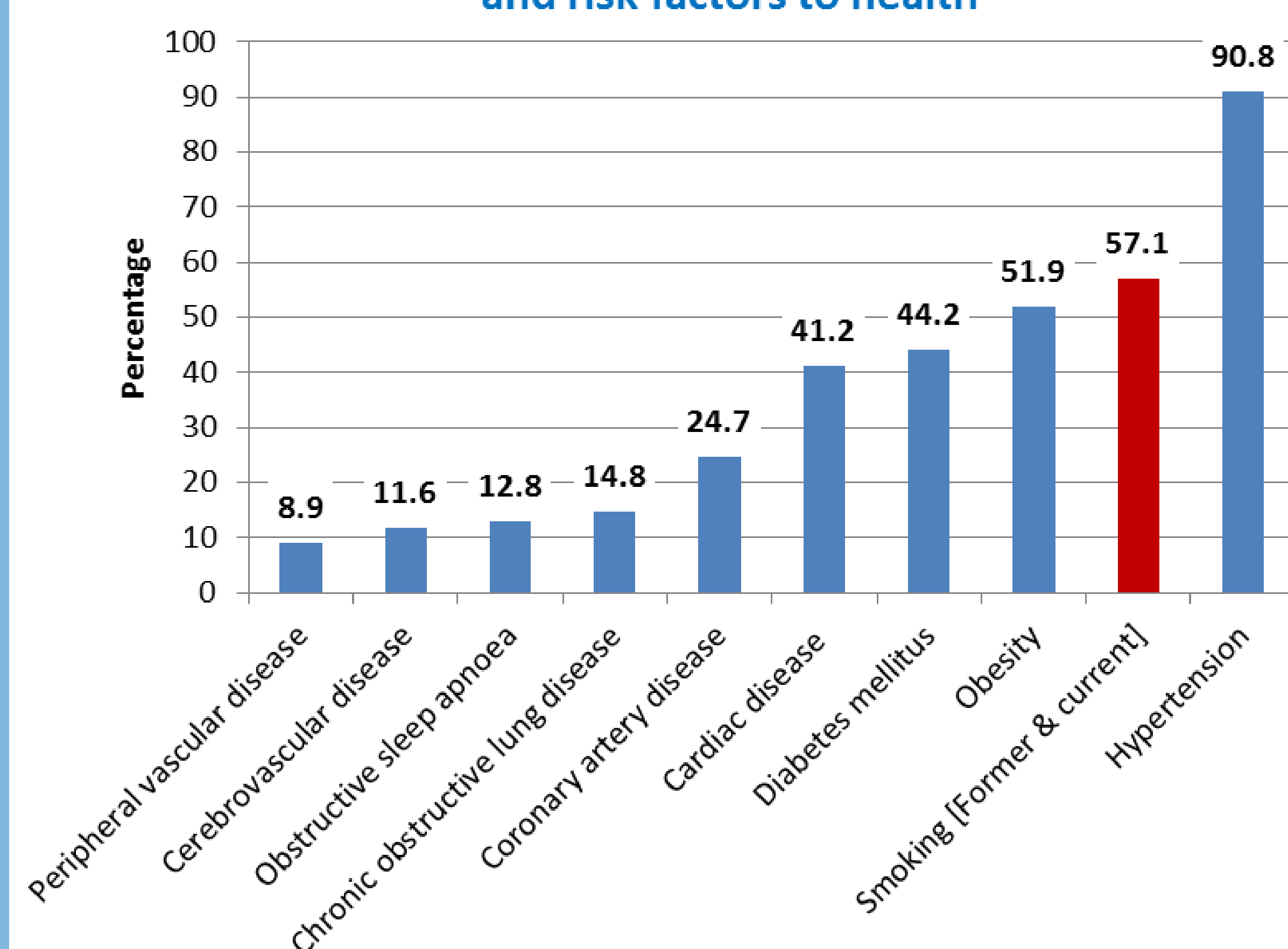


Fig 3. DDHHS CKD cohort - cardiovascular burden and risk factors to health



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## Queries:

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