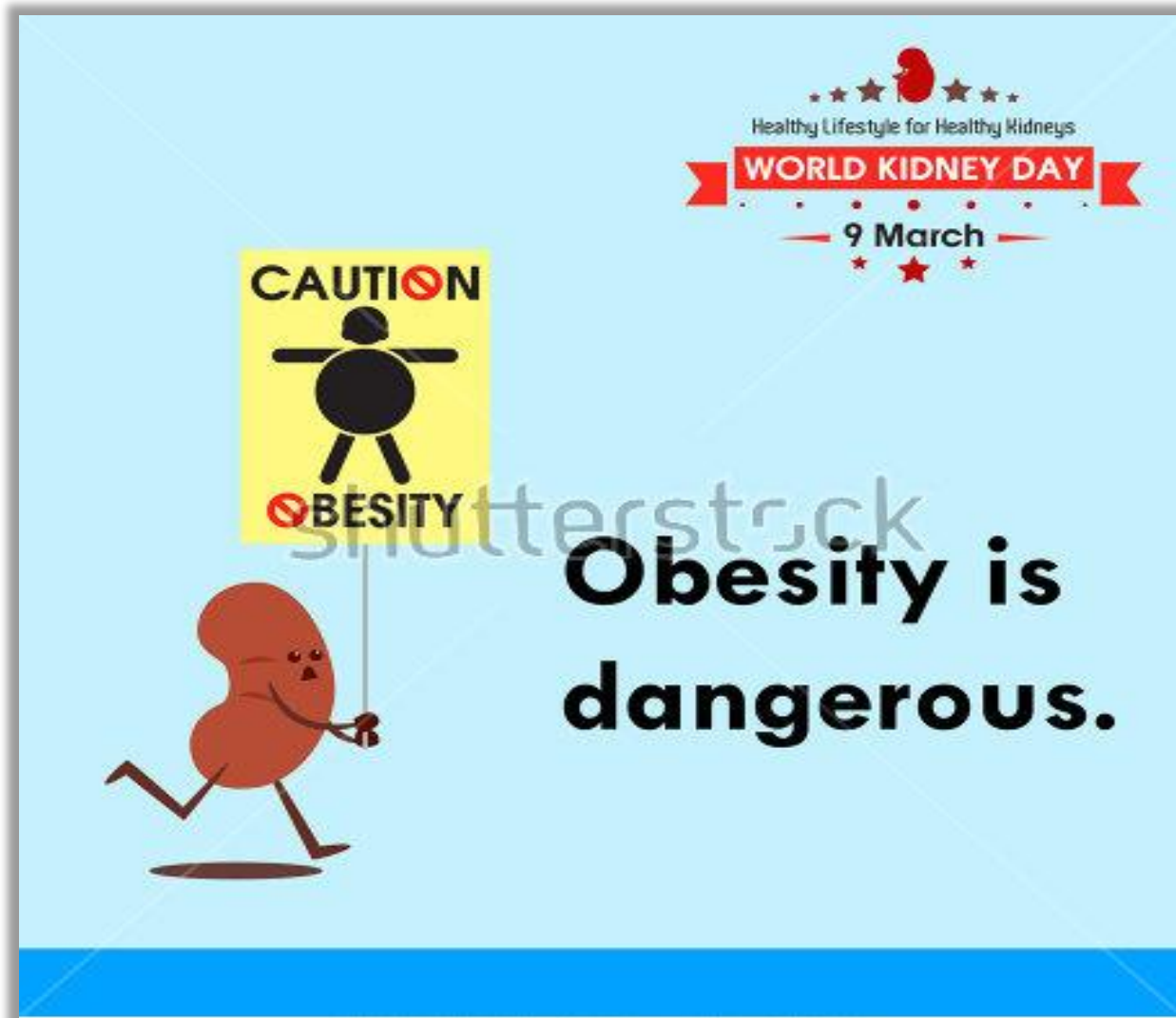
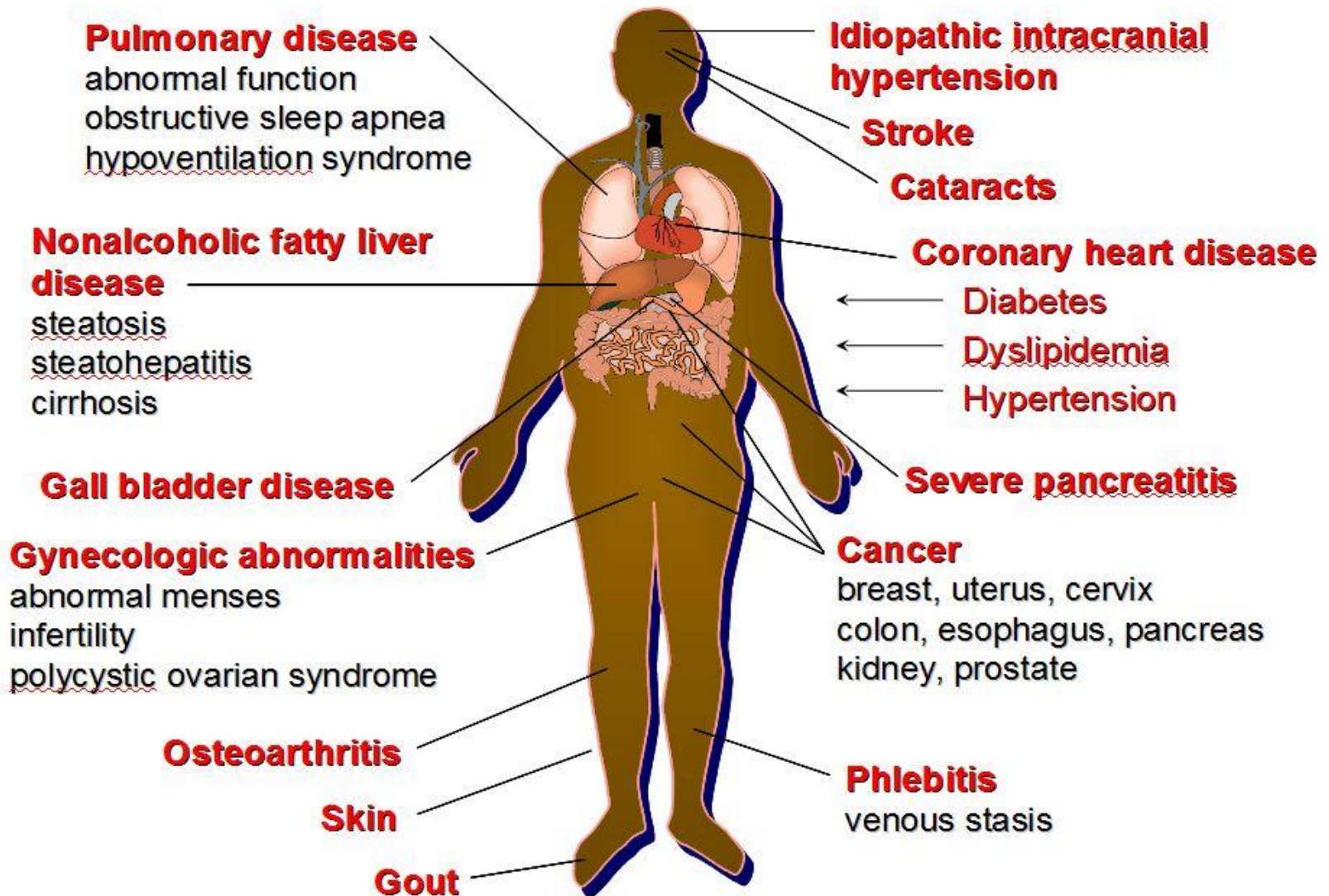


# **BODY MASS INDEX IN AN AUSTRALIAN POPULATION WITH CHRONIC KIDNEY DISEASE**

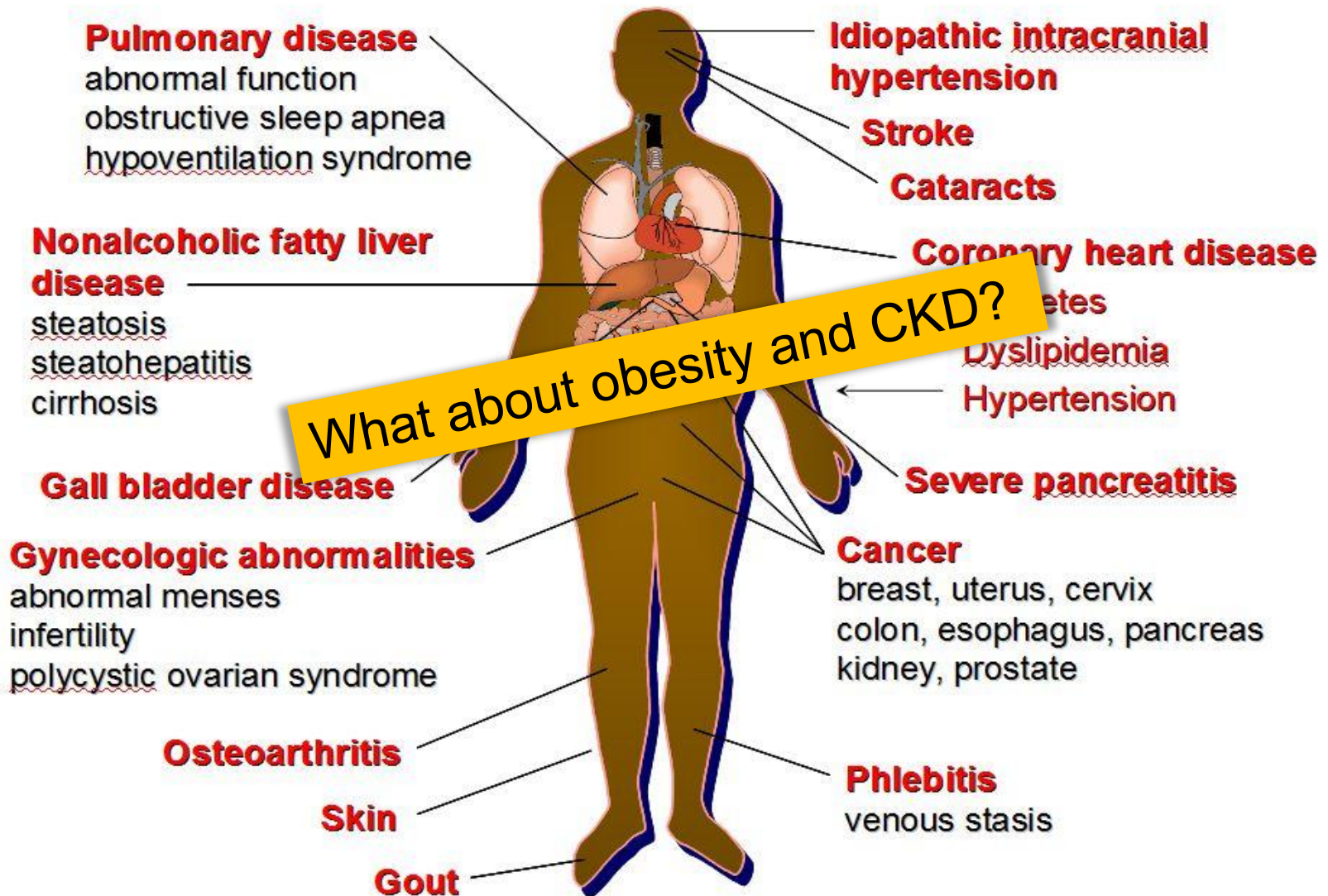
Dr Samuel Chan  
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Kidney Health Service  
Royal Brisbane and Women's Hospital



# Medical Complications of Obesity



# Medical Complications of Obesity



# BODY MASS INDEX

- The AusDiab cohort looked at the health of Australians between 2000 to 2012
- The median BMI was 25.9 kg/m<sup>2</sup>
- Approximately 20% of participants had BMI  $\geq 30$
- Obesity was greater among men compared with women, and increased with age up to age 65 years. (from 39% of those age 18-24 yr to 74% for those age 65-74 yr.)

# AIMS

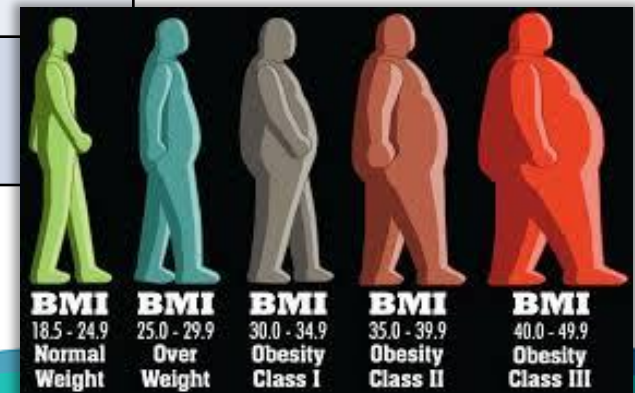
- To compare BMI in CKD.QLD patients with the BMI in the AusDiab cohort.
- To describe BMI in CKD.QLD patients and evaluate its associations with demographic and clinical features of this group.

# METHODOLOGY

- Three major sites:  
RBWH, Toowoomba Hospital and Logan Hospital
- Inclusion criteria
  - Referred to a specialist nephrologist
  - Attended a specialist nephrology clinic in Queensland at least once
  - Ascribed a diagnosis of CKD by a nephrologist
  - Consented to the CKD.QLD registry
- Total sample size was 3,382.

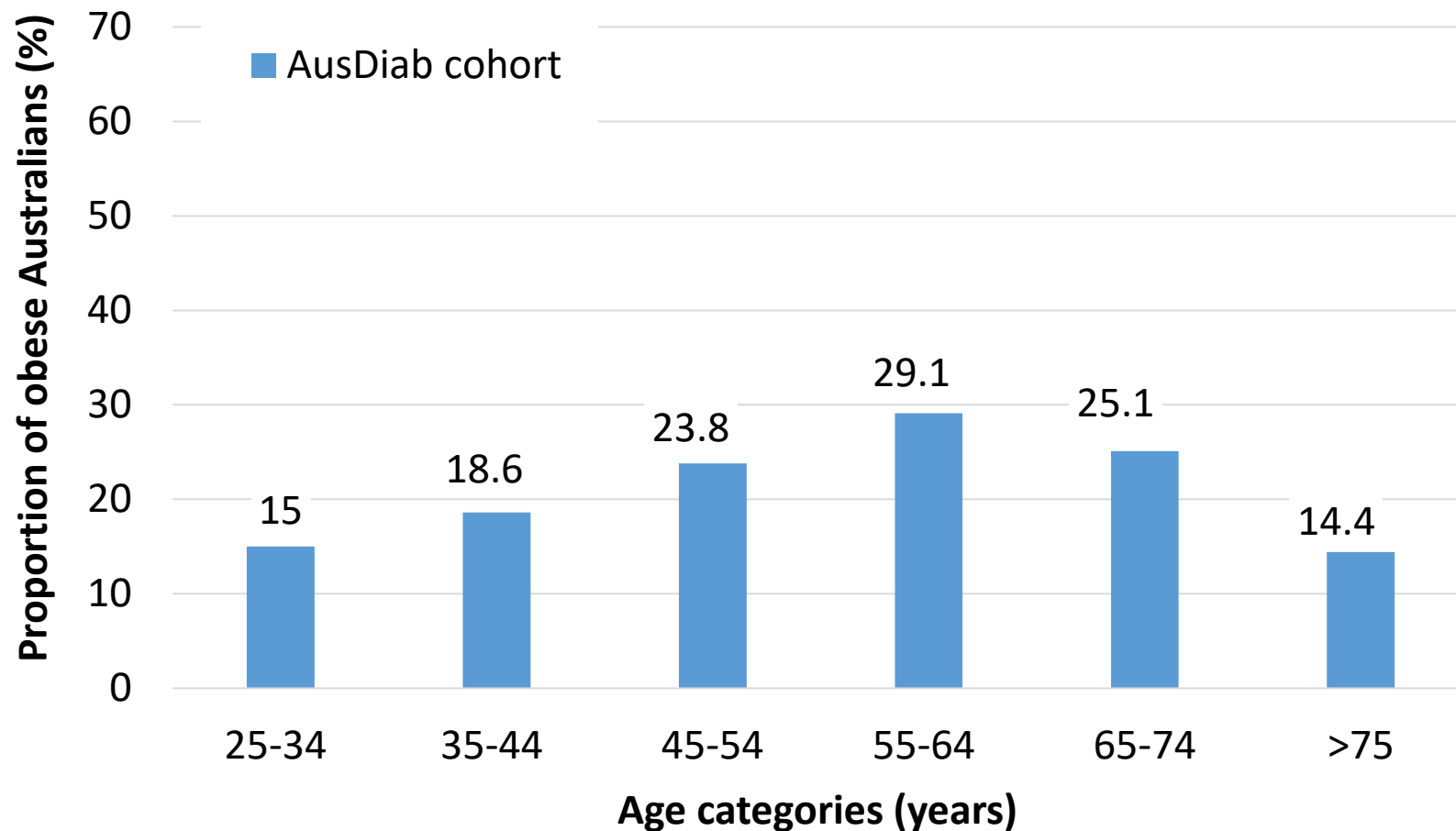
# METHODOLOGY

WHO BMI category	BMI range
Normal	<25
Overweight	25 to <30
Obese	30 to <35
Grossly obese	35 to <40
Morbidly obese	≥40

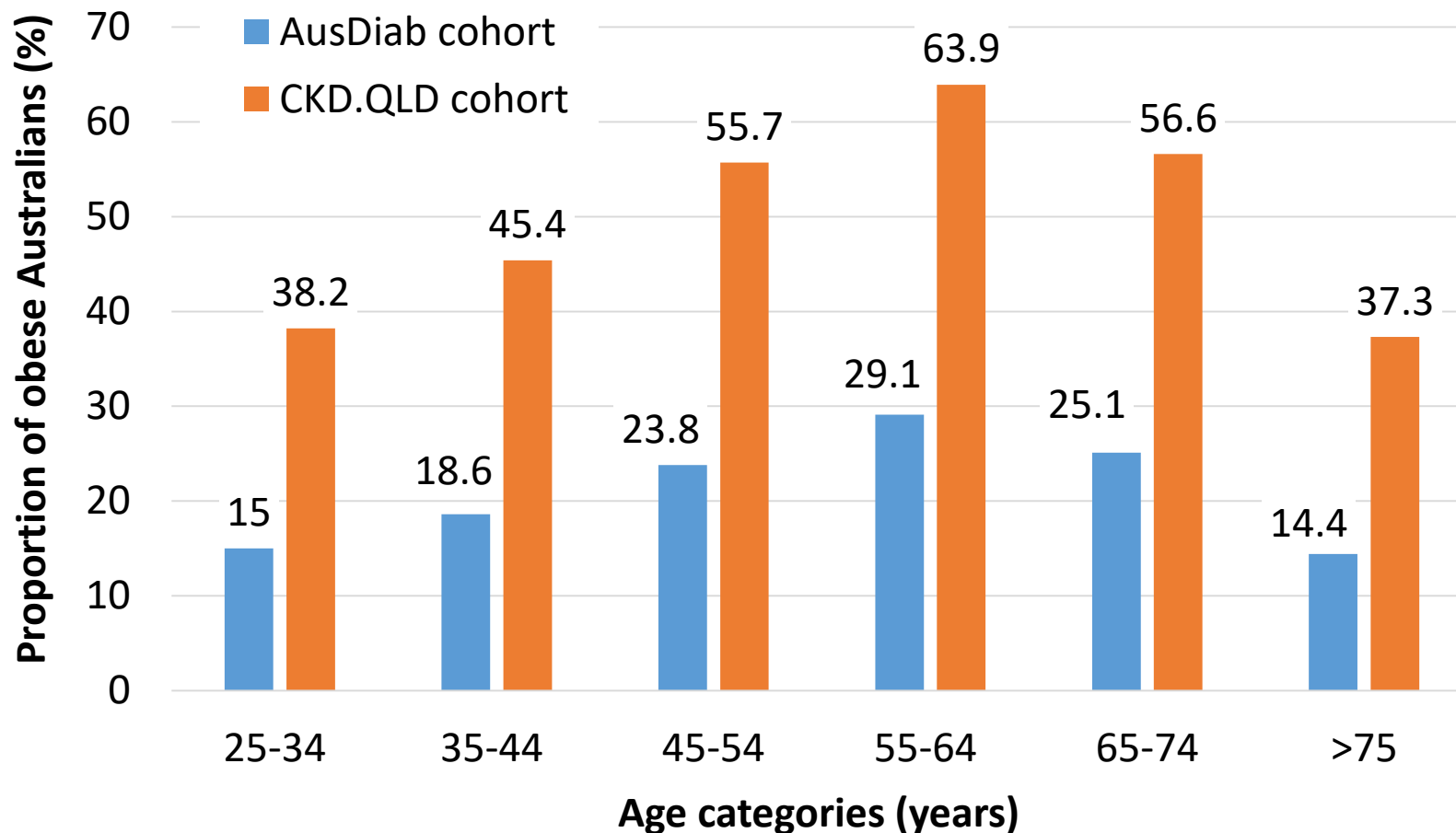




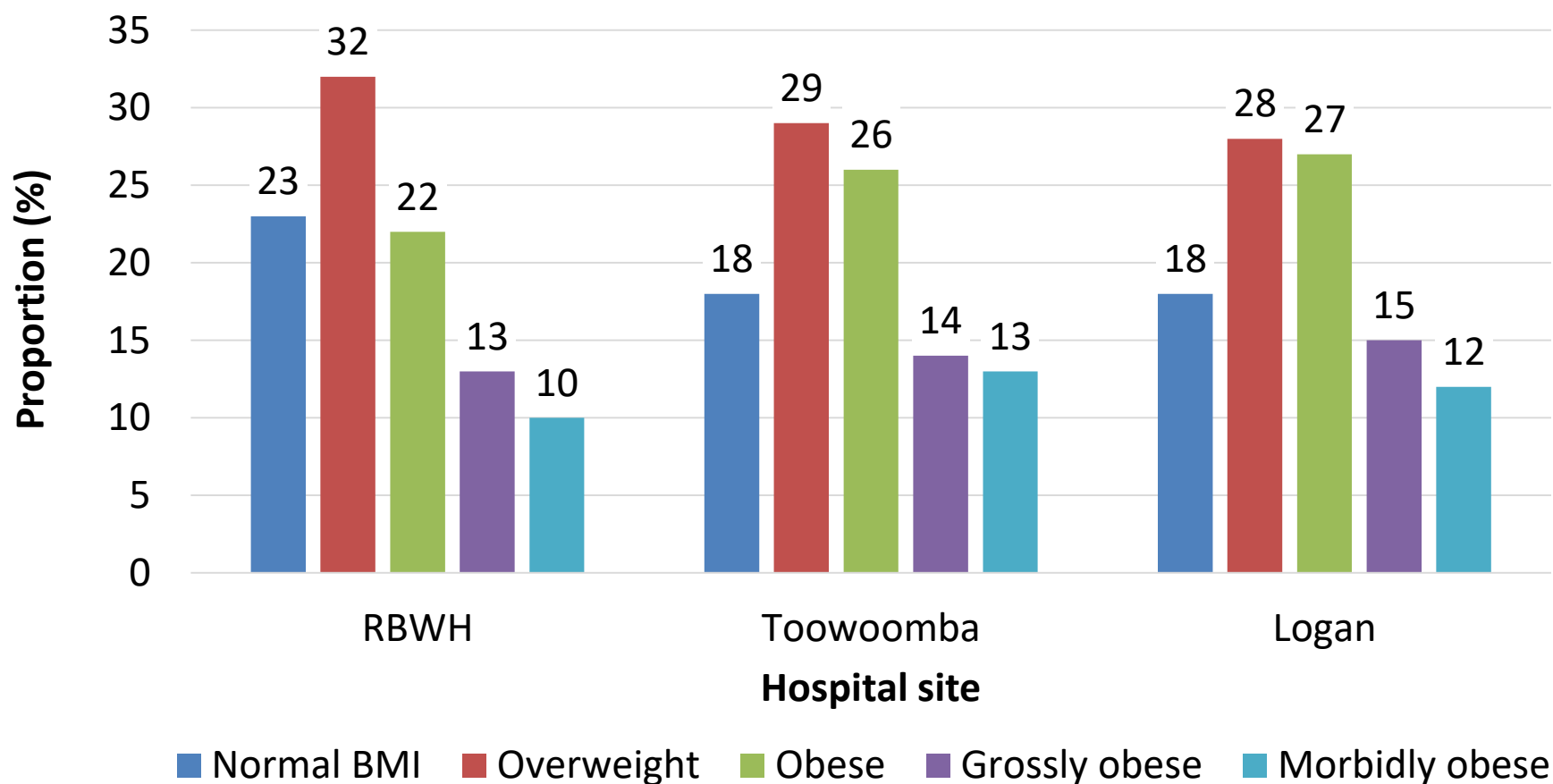
## Proportion of AusDiab participants with BMI $\geq 30$



## Proportion of AusDiab participants with BMI $\geq 30$ versus CKD.QLD patients with BMI $\geq 30$



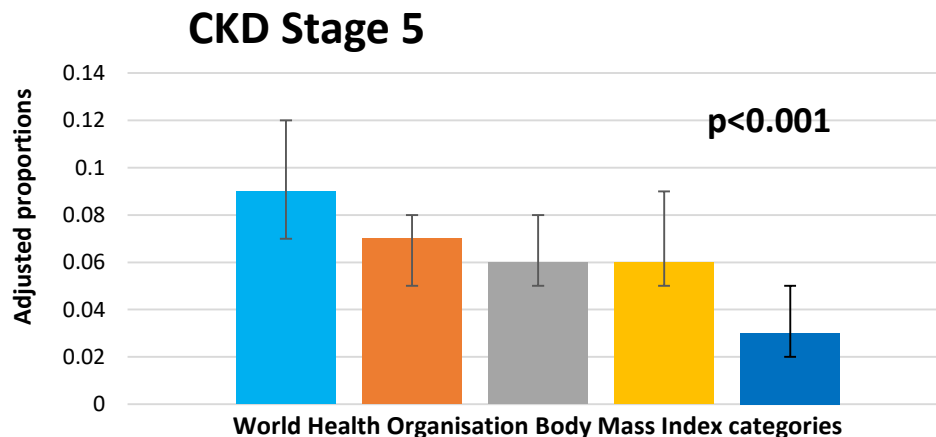
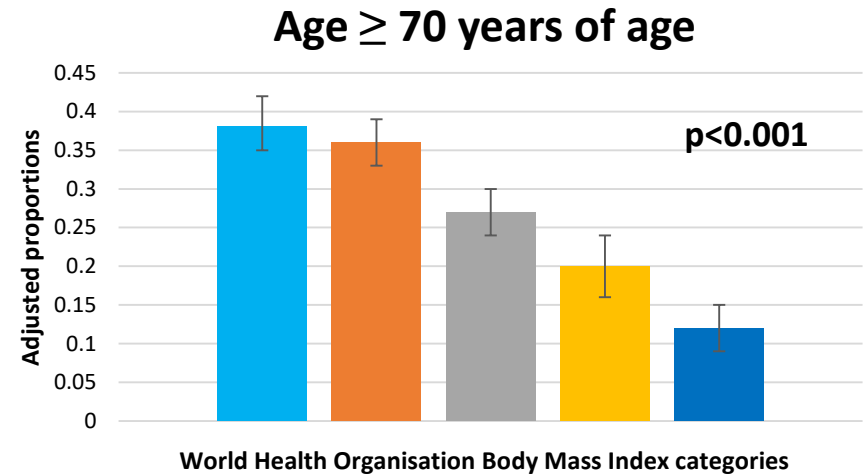
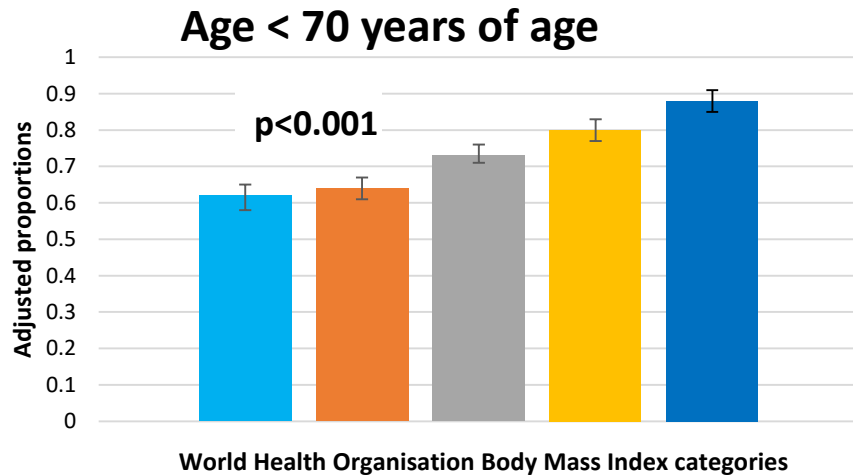
## Distribution of body mass index of CKD patients across hospital sites



## Among patients with CKD:

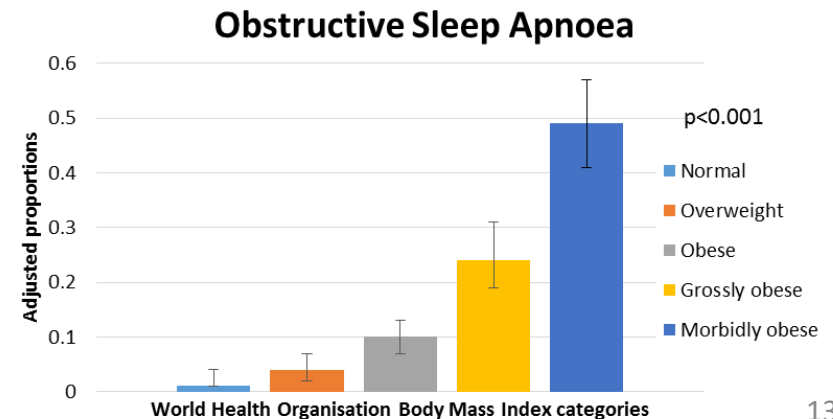
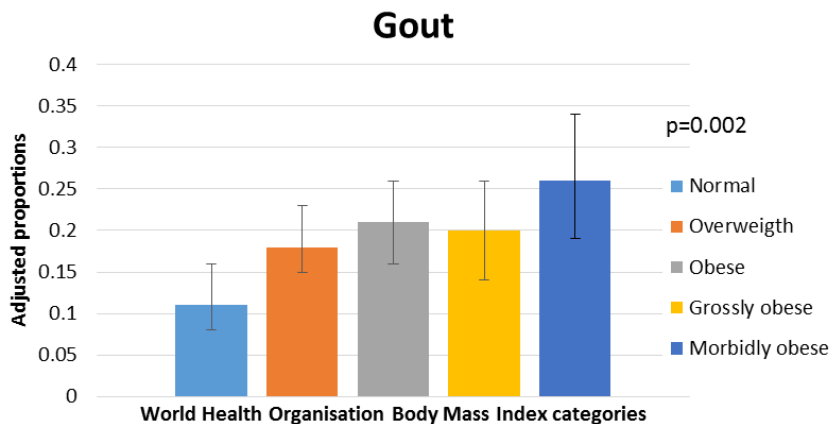
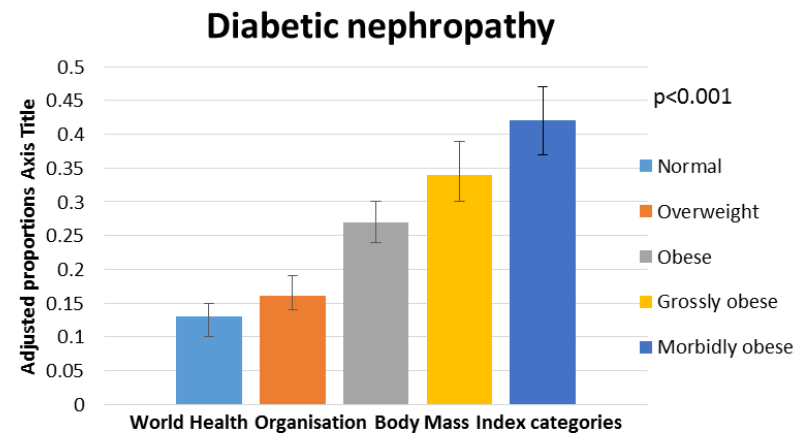
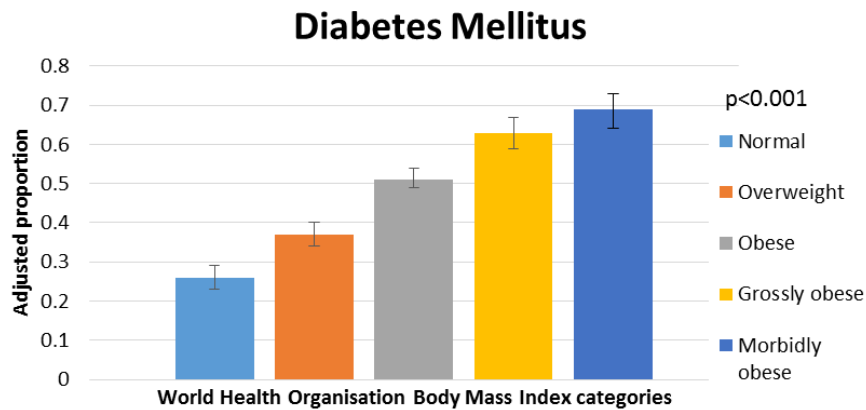
Age <70 years was associated with a higher BMI, whereas

Age  $\geq$  70 years and CKD Stage 5 was associated with a lower BMI



- Normal BMI
- Overweight
- Obese
- Grossly obese
- Morbidly obese

Among patients with CKD,  
a higher BMI is a risk factor for:  
both diabetes and diabetic nephropathy,  
gout, and obstructive sleep apnoea.



# CONCLUSIONS

- Patients with CKD in public renal specialty practices in Queensland are 2.5 times more likely to have BMIs above the obesity threshold than the general Australian population;
- Hence obesity probably predisposes to CKD.
- ***This infers that rates of CKD would be lower if rates of population-based obesity were contained***
- Among patients with CKD, the proportions with serious comorbidities are strongly associated with higher BMIs.
- ***This infers that rates of these serious comorbidities in CKD patients would be lower if rates of obesity were contained.***
- These have major implications for CKD prevention and modification

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