



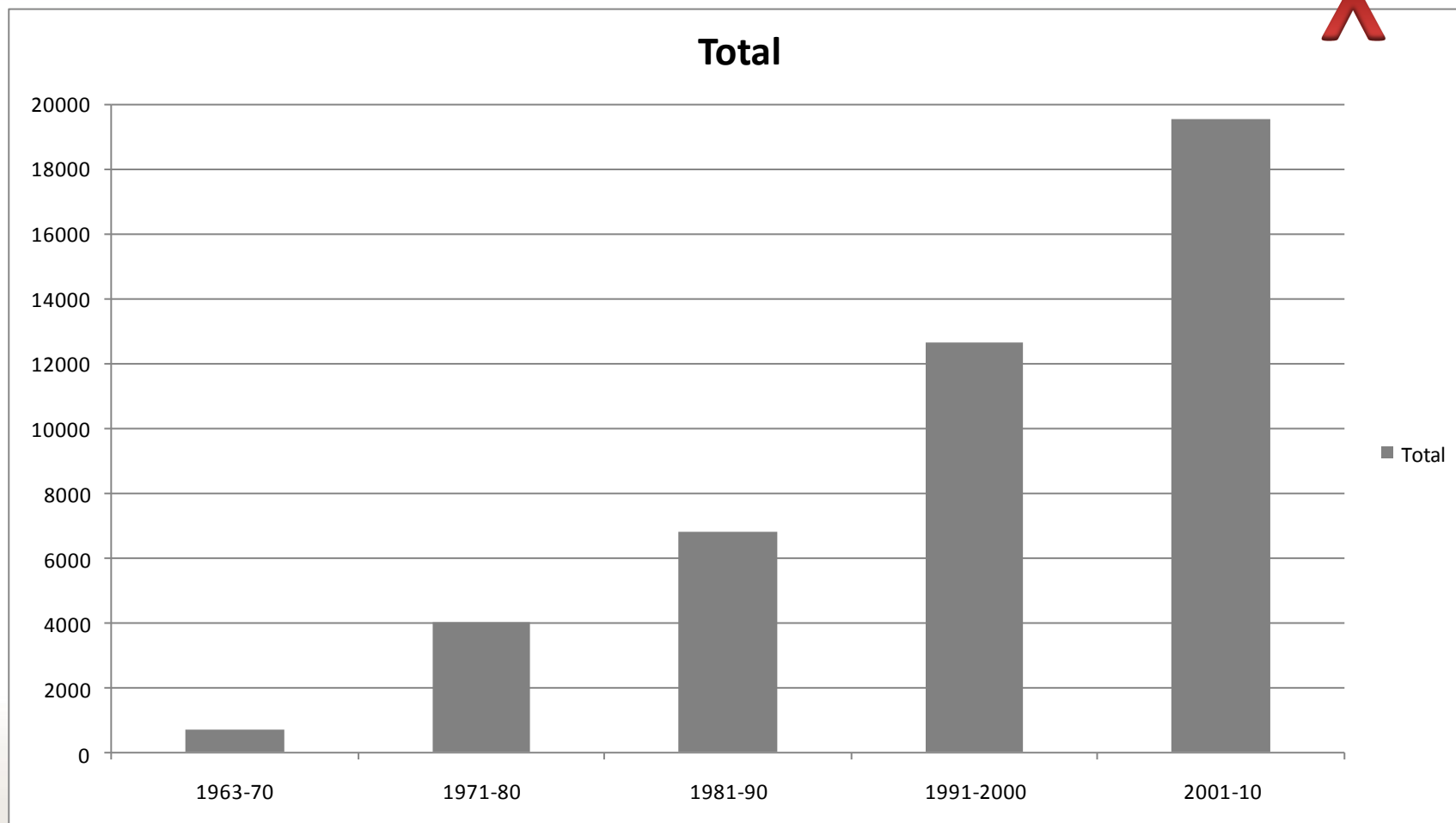
Renal disease across Australia: Advances and Innovation

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discovery for a healthy tomorrow

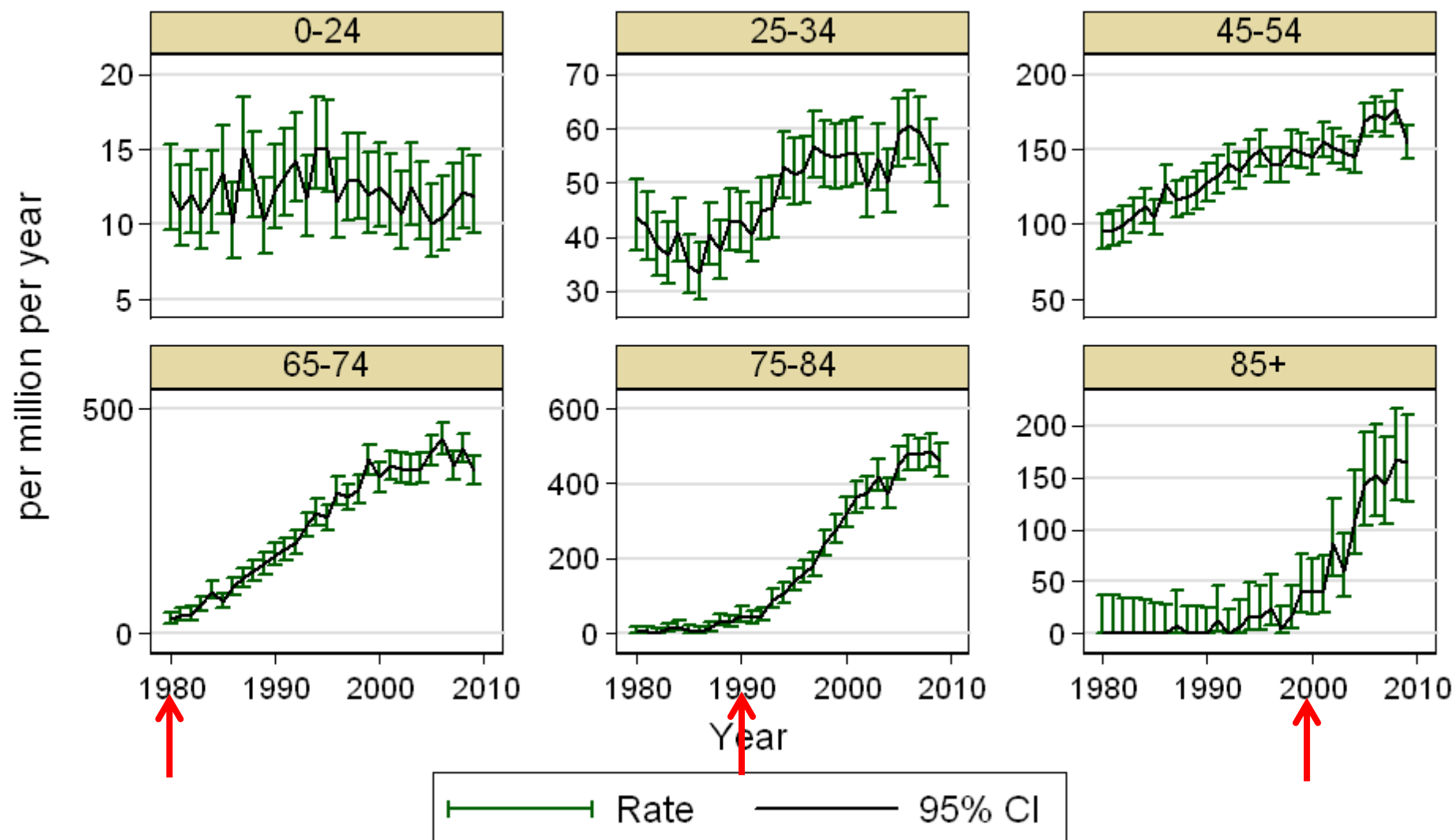
ESKD people treated

X



Age-specific incident RRT rates

Australia



Graphs by age group

Costly treatment (Estimated expenditure NSW 2007-8)

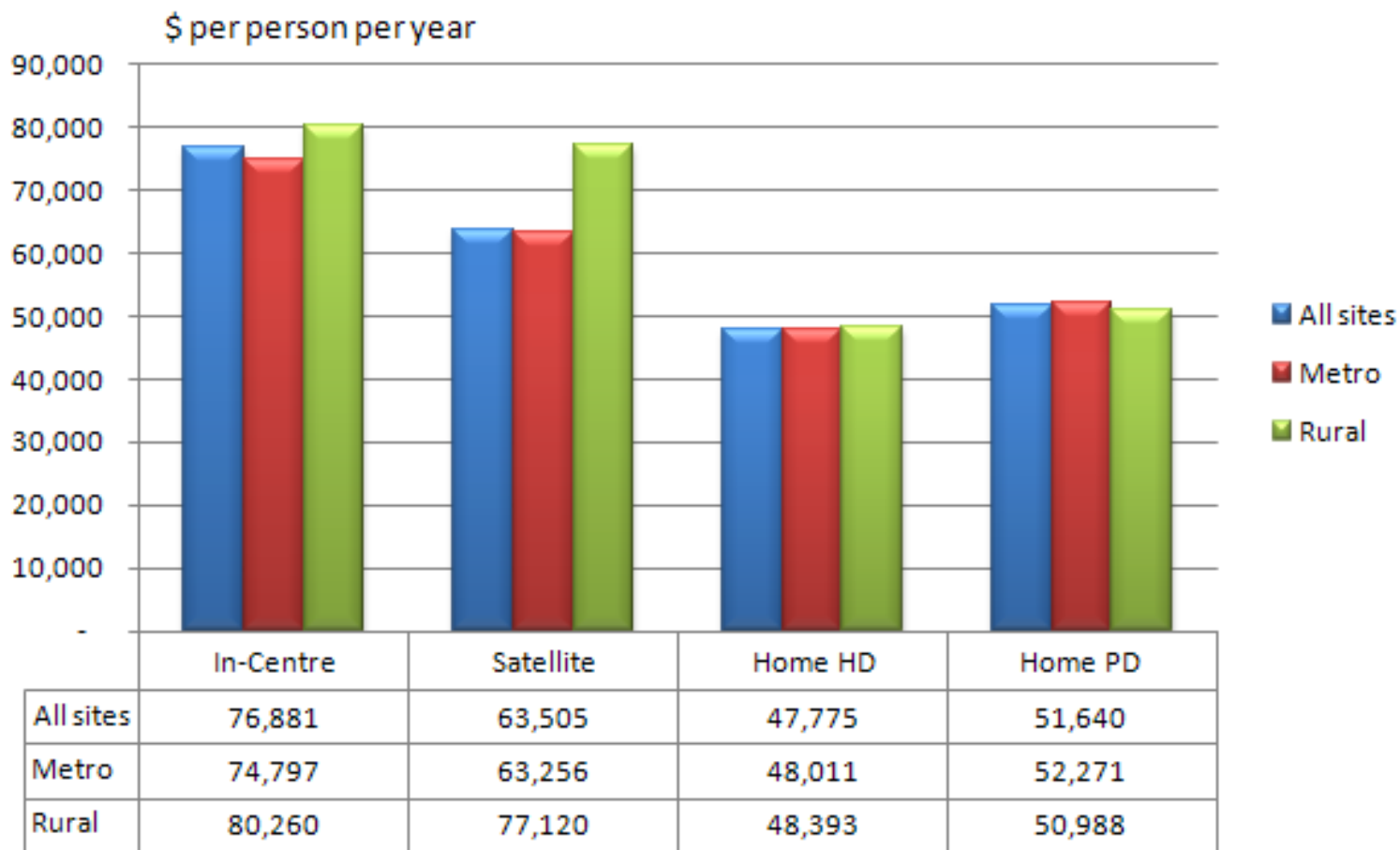
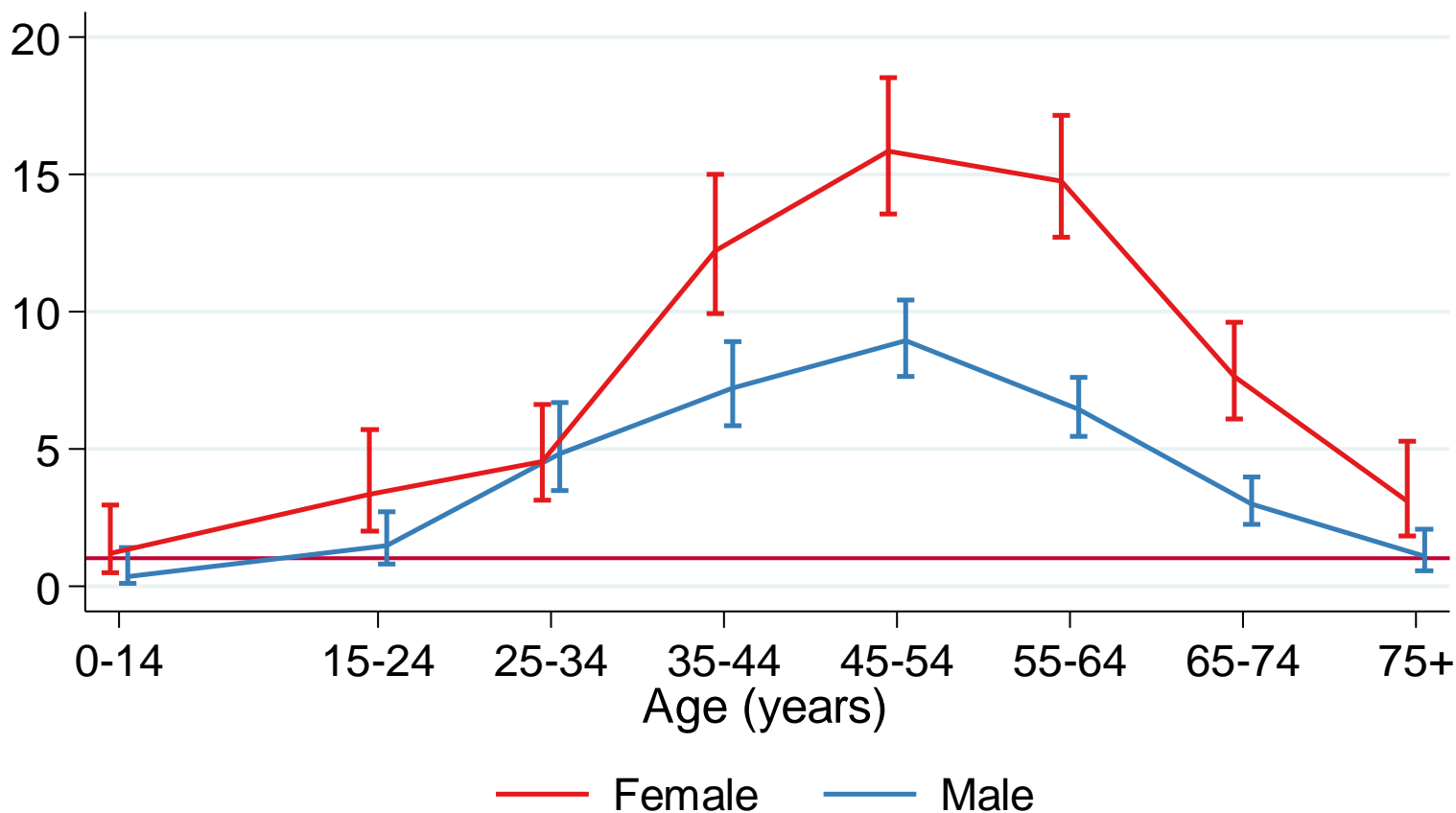


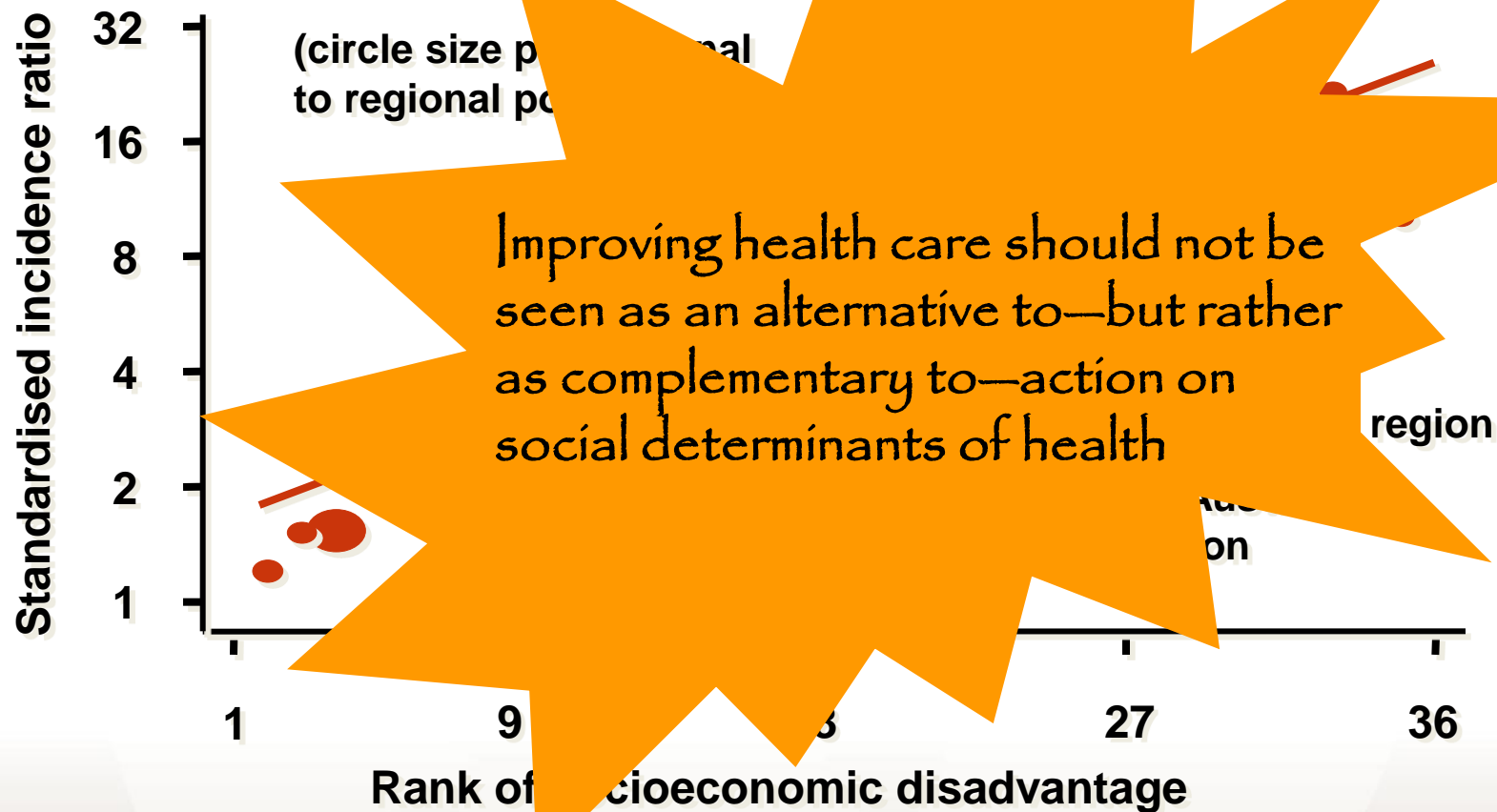
Figure 2 - Total service costs - Per person per year 2007-08 (including direct dialysis provision PLUS medical, pharmaceutical and pathology)

Relative incidence rate indigenous vs non-indigenous Australia 2010-2014



2015 ANZDATA Annual Report, Figure 12.3

What drives the burden of disease



Ethnicity & Disease 2002; 12 (3): 373-8

1. Burden of chronic disease

- **Gap in life expectancy estimated by ABS**
 - 12 years for men and 10 years for women
- **80% of the mortality gap amongst people aged 35 to 74 years due to chronic diseases**
- **Disease rates higher – in 2012-13, among Indigenous adults:**
 - Diabetes 3.5 times higher (18% v 5%)
 - CKD 2.2 times higher (22% v 10%)

Escalating risk of early diabetes

- Recent studies indicate high incidence of diabetes among Indigenous women aged 15-34 yr
 - Darwin, NT (DRUID Study): 14% of young women had diabetes or IGT (*O'Dea et al, DRCP 2008*)
 - Remote Northern Territory communities: 10% of young women have diabetes (*Hoy et al, ANZJPH, 2007*)
 - North Queensland: Incidence of diabetes 29 cases/1000 py, weight gain 1.5 kg/year (*McDermott et al, MJA 2010*)
- Overweight/obesity strongest risk factor for diabetes and young women are gaining weight fast

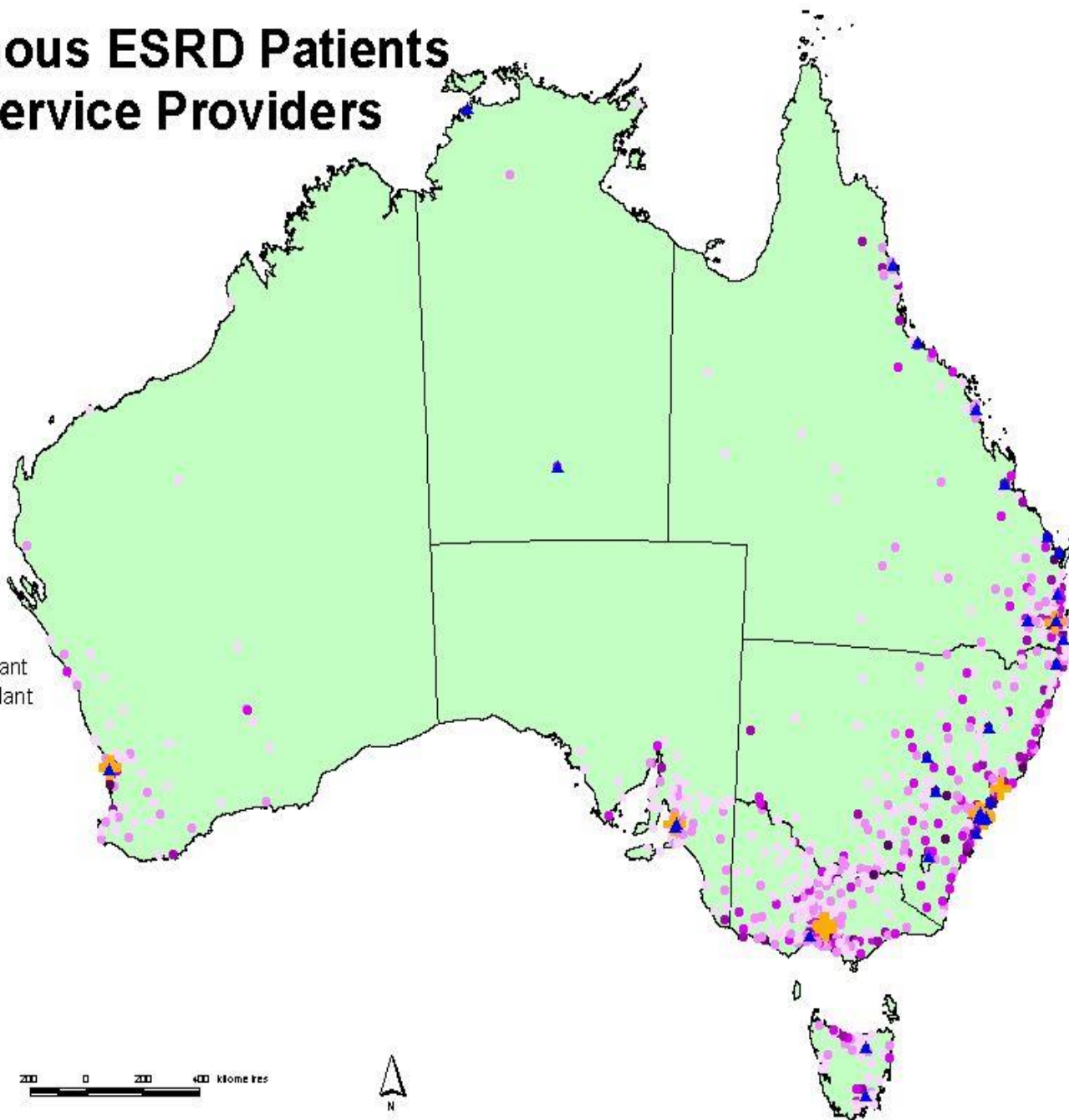
- Pima: 70% of offspring have diabetes age 25-34yr vs <15% in offspring of non-diabetic mothers
- Canadian First Nations: in children of mothers with pre-preg DM (<18yo):
 - at age 10-19 years, 43% DM¹
- Continuing cycle of diabetes and DIP:
 - Offspring have diabetes at younger age than their parents
 - then diabetes pre-conception in mother and father and during mother's pregnancy

2. Geographical distribution

- **Disease rates increase with increasing remoteness**
 - Less well resourced areas
 - High staff turnover
 - Most challenging environments in terms of cross-cultural care, health literacy, disadvantage
 - Dealing with complex chronic diseases far removed from major centres
 - Need for innovative approaches to building, sustaining an appropriately skilled workforce

Non-Indigenous ESRD Patients and Renal Service Providers

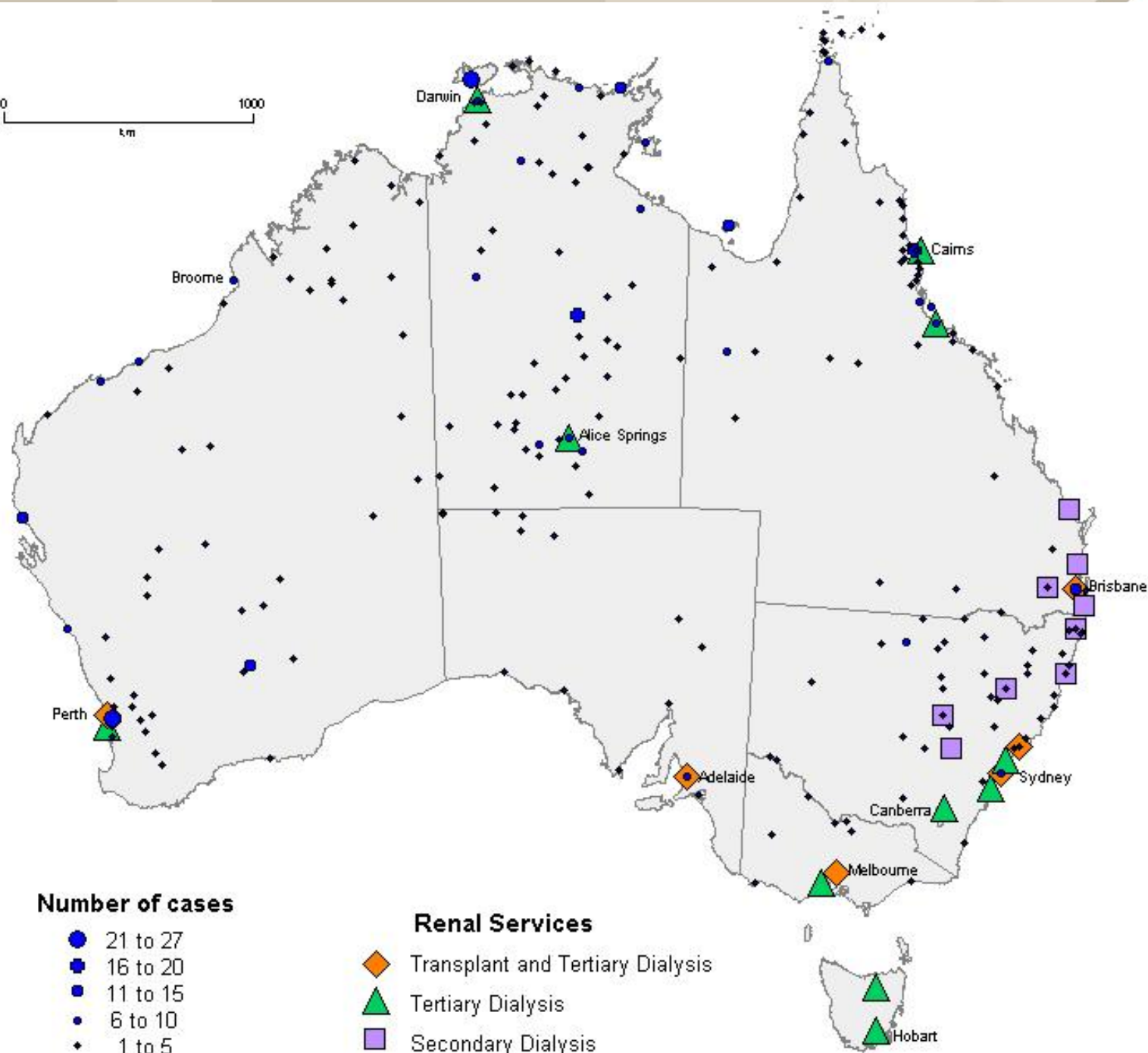
- ▲ dialysis unit w/o transplant
- ✚ dialysis unit with transplant
- number of patients
 - 1
 - 2 - 3
 - 4 - 6
 - 7 - 11
 - 12 - 50



Map prepared by GISCA
Adelaide University
March 2001

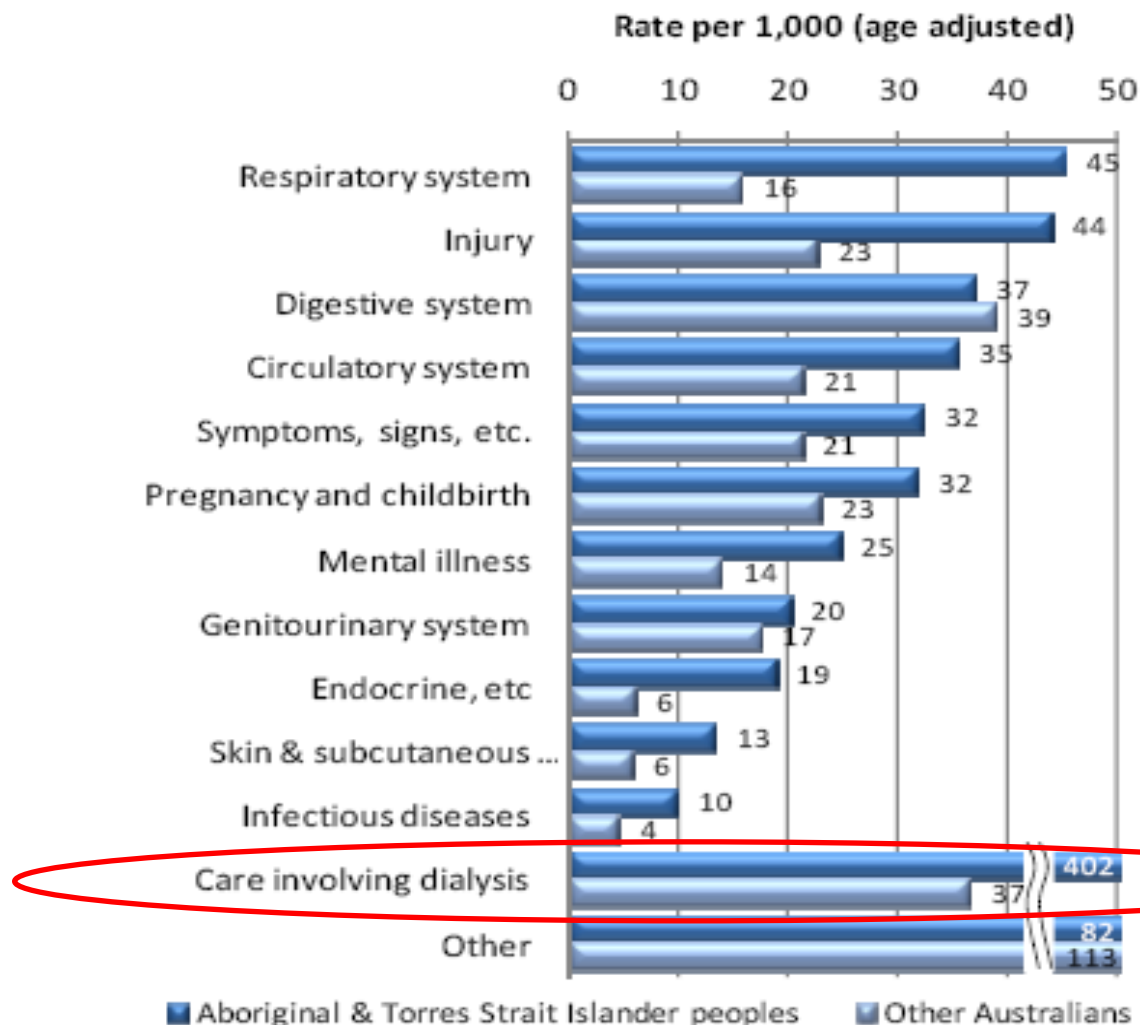


0 1000
km



Hospital Services

Figure 8 – Age-standardised hospitalisation rates by principal diagnosis and Indigenous status, NSW, Vic., Qld, WA, SA and NT, July 2004–June 2006



Hospital Services (Australia's Health 2016)

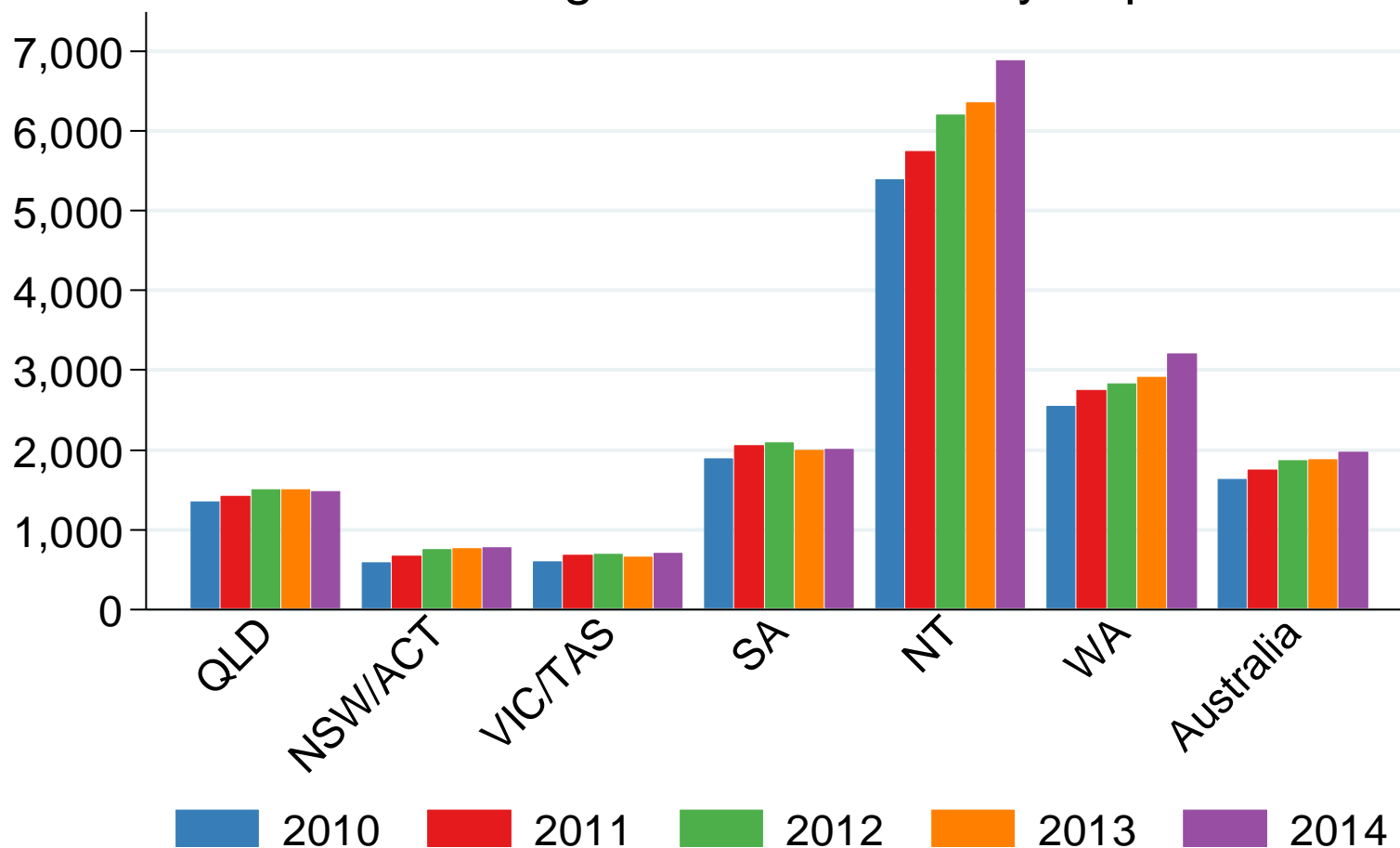
Indigenous Australians are relatively high users of hospital services, the majority of which are accessed via public hospitals.

- In 2013–14, there were about 408,000 hospitalisations reported for Indigenous Australians – 4.2% of all hospitalisations.
- After adjusting for differences in age structure, Indigenous Australians were 2.3 times more likely than other Australians to be hospitalised (896 and 384 per 1,000 population).

Much of this difference (86%) was due to the substantially higher rate of hospitalisation for dialysis among Indigenous Australians.

- Excluding dialysis, Indigenous Australians were hospitalised at 1.2 times the rate of other Australians.

Prevalent Aboriginal/TSI haemodialysis patients



2015 ANZDATA Annual Report, Figure 12.16

3. Complex comorbidity

- **CVD, diabetes and CKD, Indigenous Australians (AIHW)**
 - More likely have at least 2 of 3
 - At a younger age
 - Proportion of hospitalisations and deaths with all three much higher
- **Driver of integrated chronic disease not condition-specific approach**

Chronic disease and depression

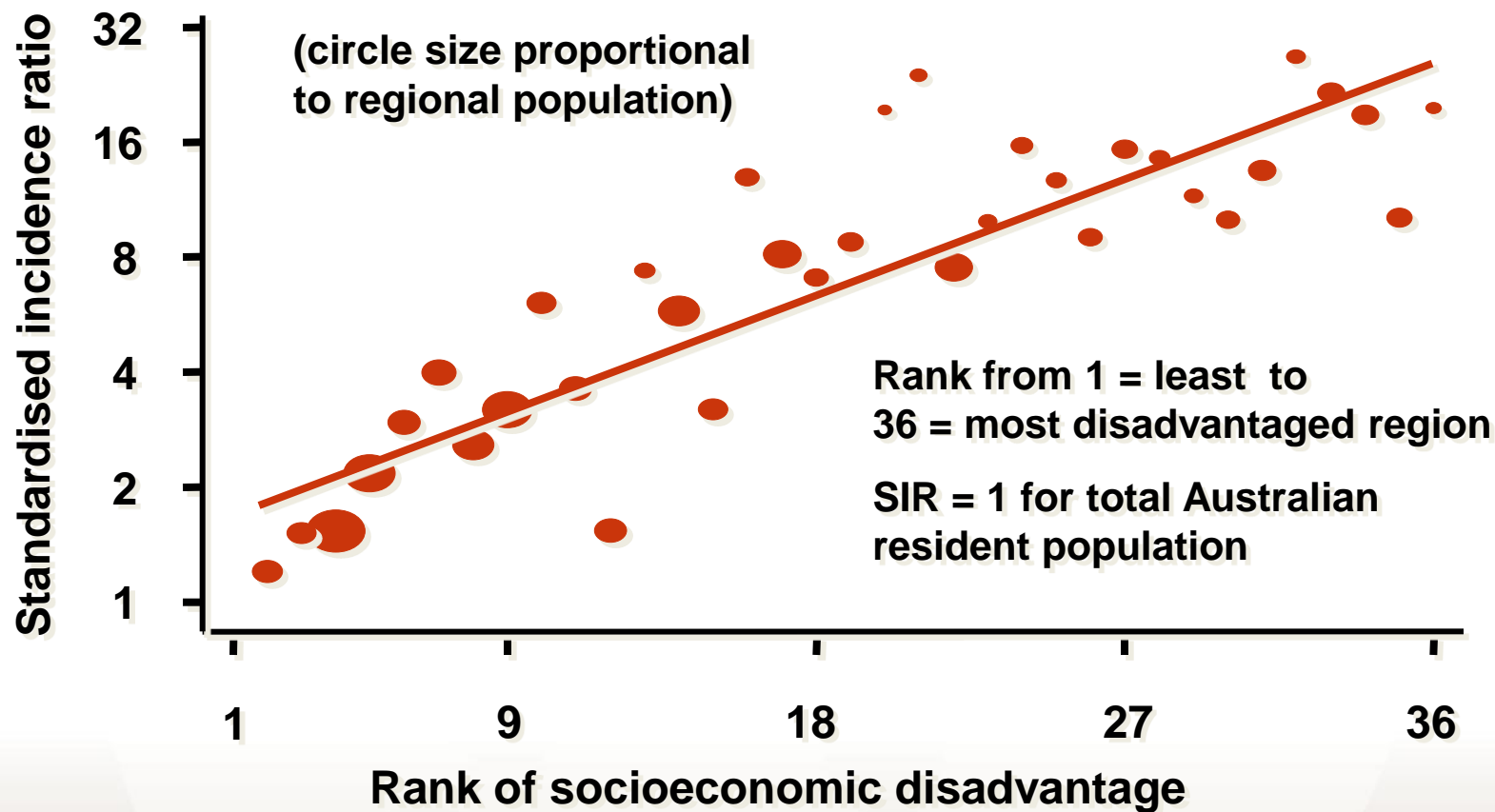
VARIABLE	OR	95%CI	P
Age	1.05	1.01-1.1	0.017
Hypertension ($\geq 140/90$)	2.88	1.1 – 7.8	0.038
Major depression §	9.46	1.8– 50.6	0.009
TOTAL CHOLESTEROL	1.16	0.7 – 1.8	0.529
DIABETES	1.52	0.4 – 6.1	0.554
CURRENT SMOKER	0.69	0.2 – 2.2	0.692
EMPLOYMENT (Y/N)	0.87	0.3 – 2.9	0.825
Education ≥ 16 YRS	1.6	0.5 – 4.9	0.406
INCOME (>\$1000 v \$0-399)	0.58	0.1 – 2.5	0.462

§PHQ-9 scoring for DSM-IV Criteria for Major Depressive Disorder

- Structured mental health intervention using Indigenous specific content and imagery
- Developed in an iPad app format
- Designed to focus on wellbeing
- For use by Aboriginal Health Workers, nurses, GPs, allied health professionals, community workers and others within clinical and community settings

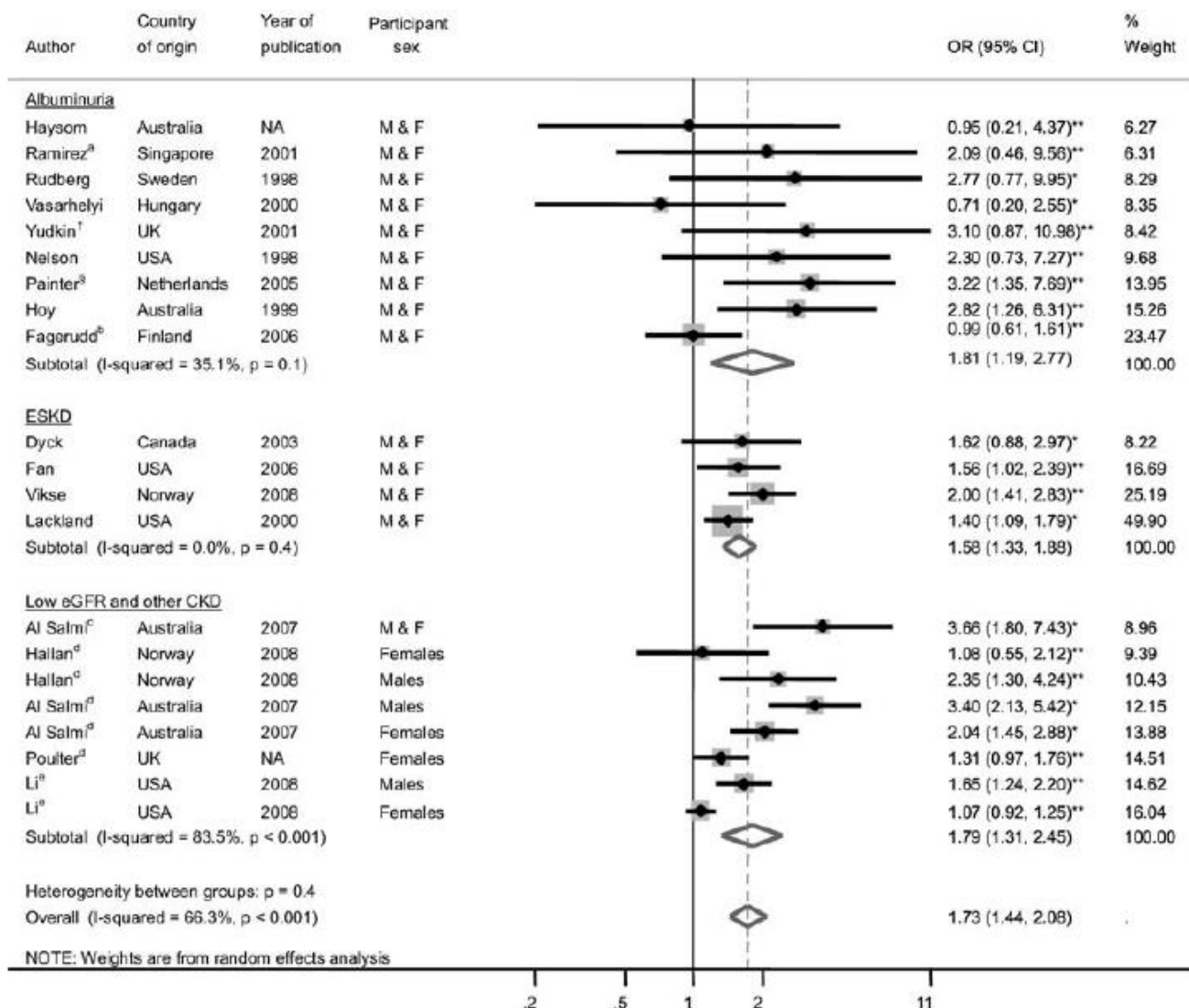


4. Social determinants of CD burden



Ethnicity & Disease 2002; 12 (3): 373-8

LBW and CKD (White et. al. *AJKD* 2009)





SALAD PACK 750g



0 200044 800001

000044
BEST BEFORE
6.50

\$ TOTAL PRICE

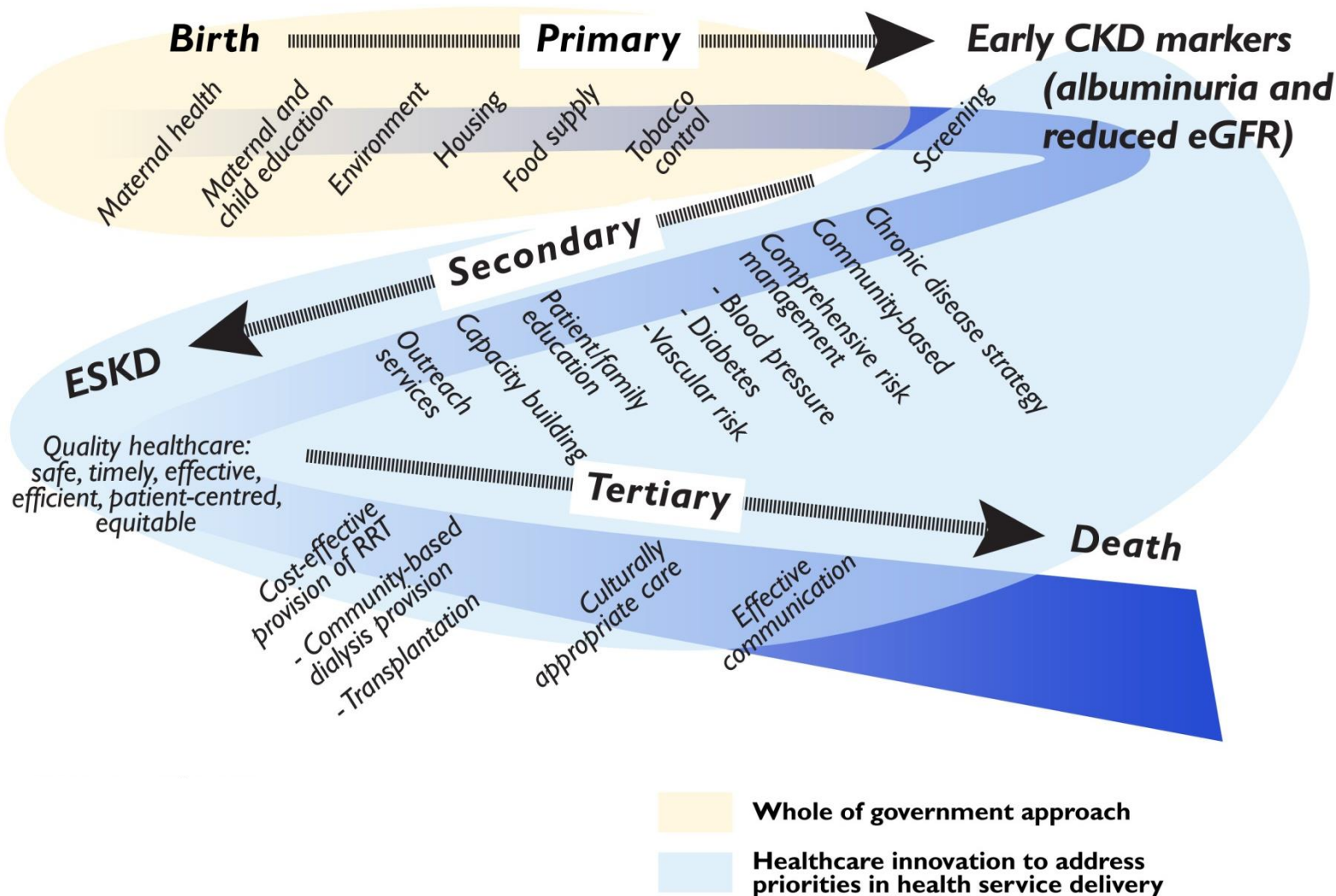
NET WT kg

PRICE/kg

CENTRAL FOODSTORE PTY LTD 25 WILKINSON ST
MATE, PT MABLETT



5. Life-course approach to address CKD burden



Patients with established cardiovascular disease
Patients without CVD who are at high risk
(N=600 Indigenous and non-Indigenous)

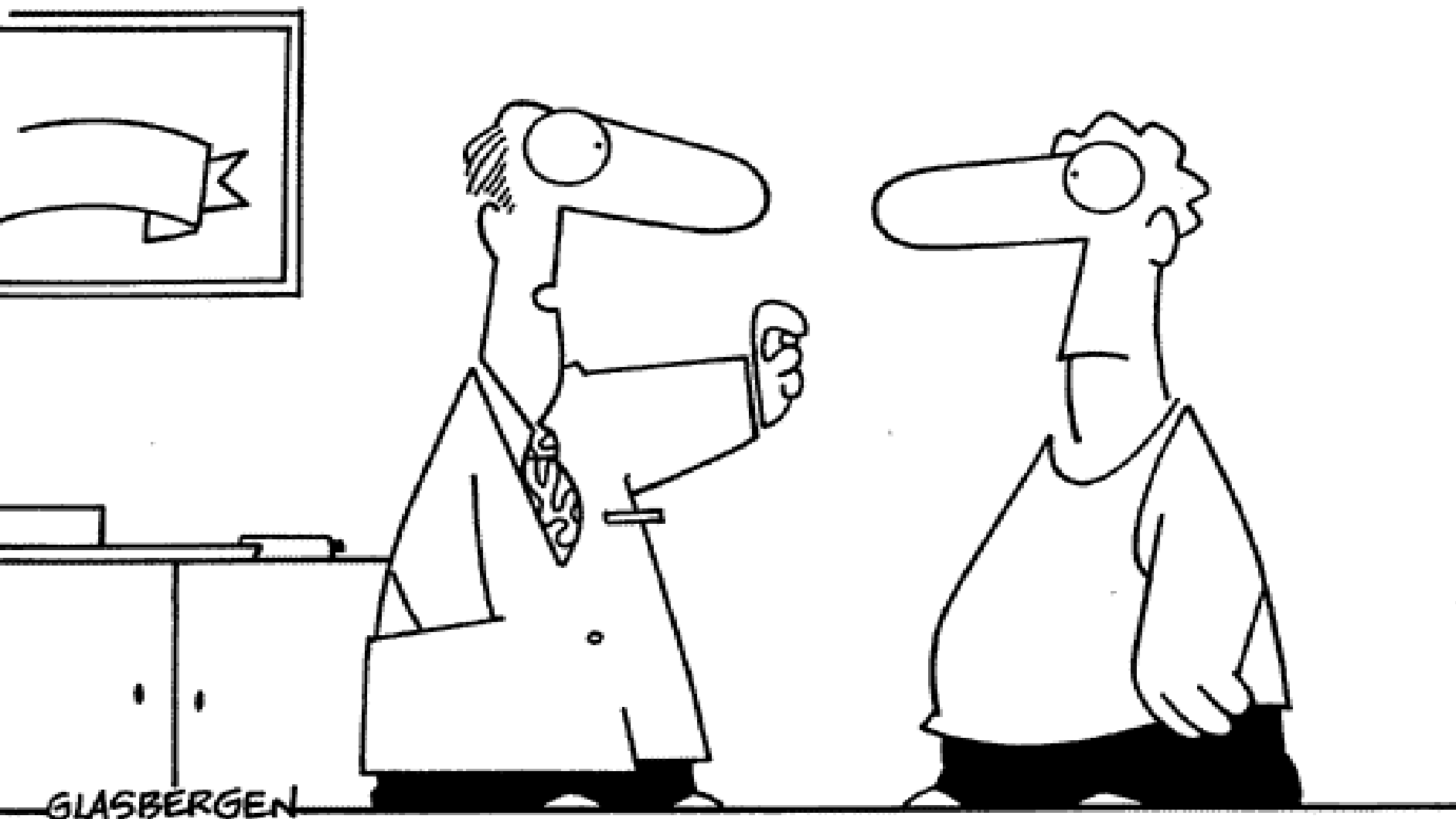
Randomisation

Treatment strategy
based on the polypill
(n=300)

Continued
usual care
(n=300)

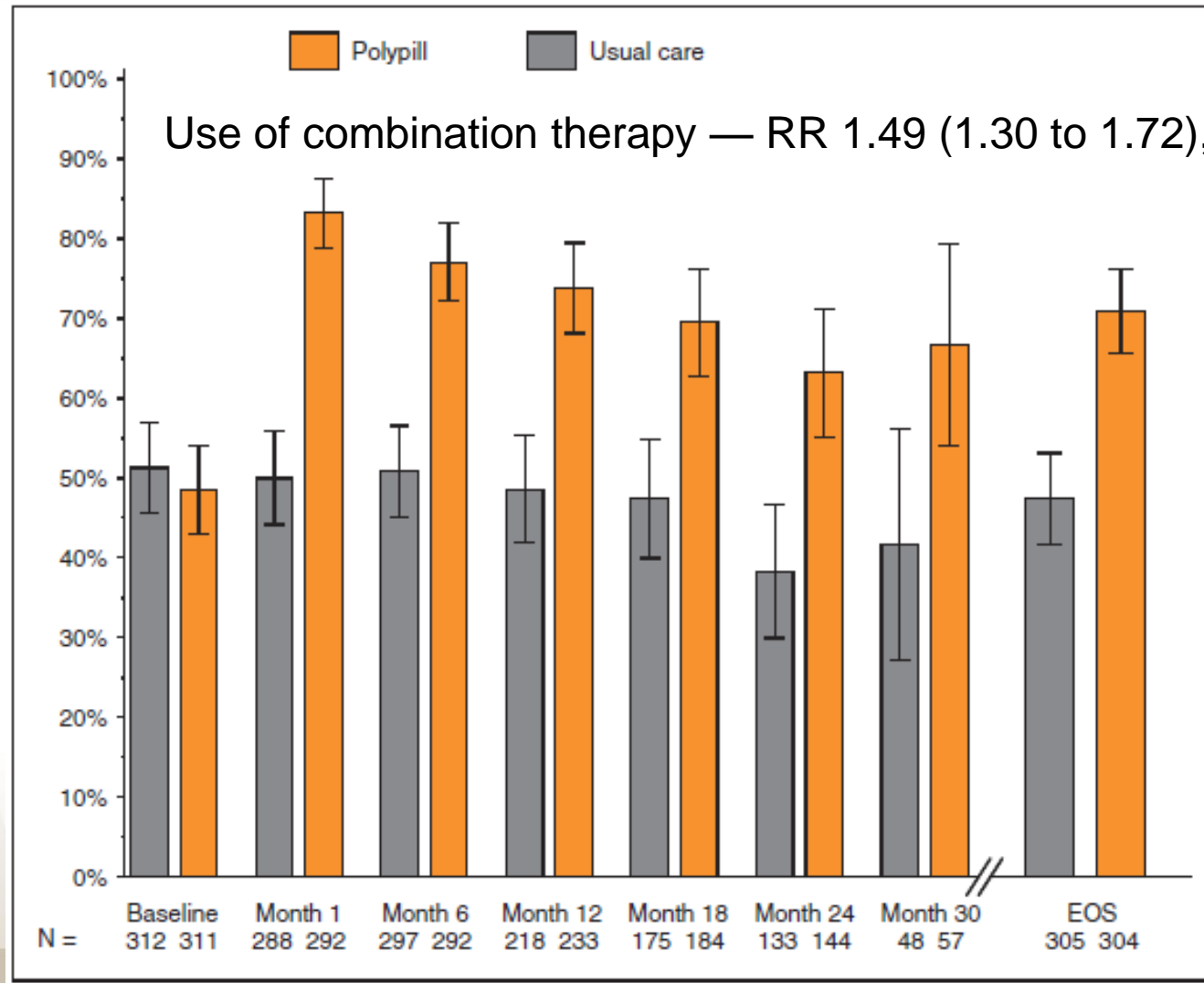
Scheduled end of follow-up
(average 18 months)



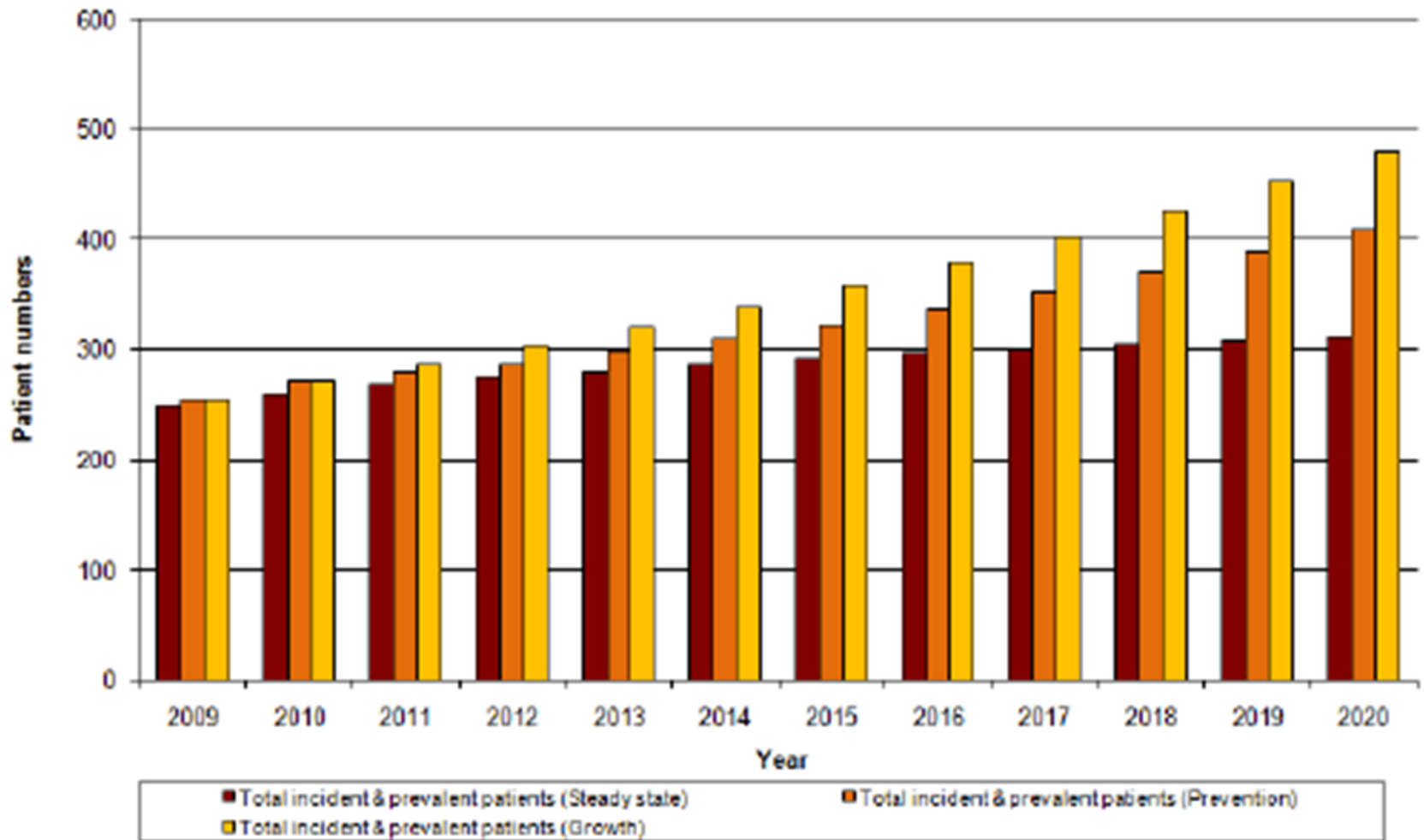


**“To prevent a heart attack, take one aspirin every day.
Take it out for a jog, then take it to the gym,
then take it for a bike ride....”**

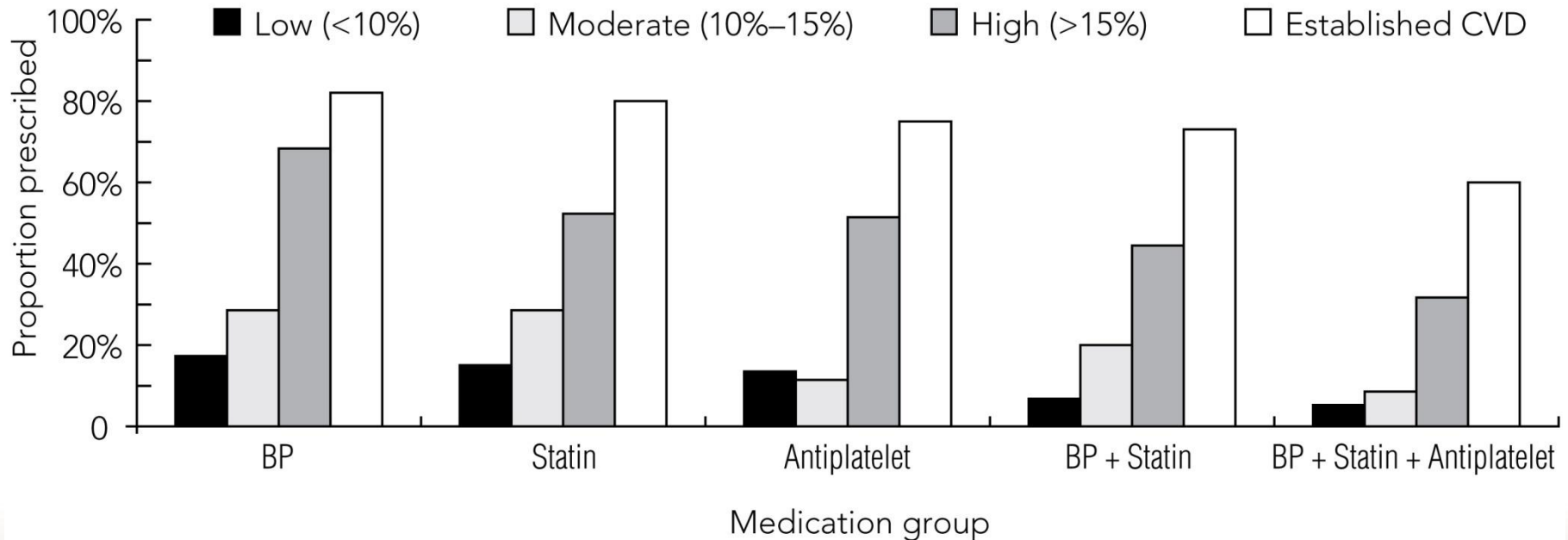
Outcome adherence to treatment



7. Need comprehensive community-based health data

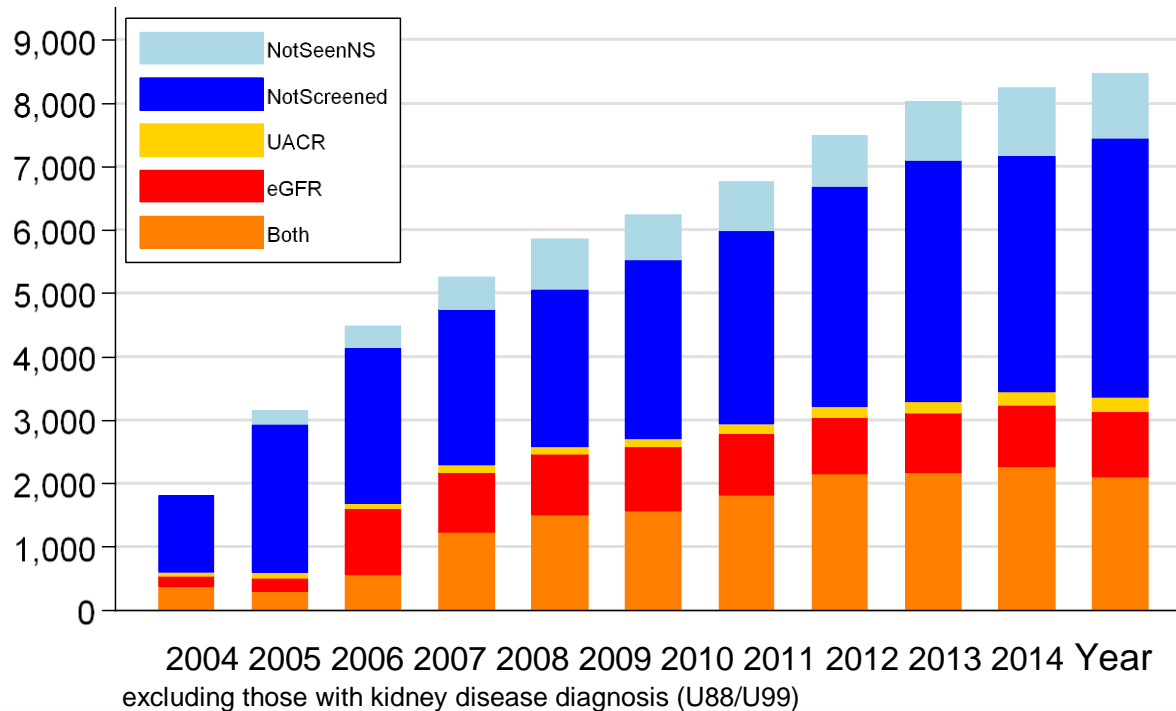


- **Retrospective review of clinical records of a random selection of 1165 regular attendees**



Prescribing of major cardiovascular medication groups by
absolute cardiovascular disease risk category

CKD Screening in people with CD risk factors



3 Month Traffic Light Report (snap shot)

Traffic Light Report

Version 8.2

Community Health Centre

CONFIDENTIAL INFORMATION : Restricted to use in Remote Health Clinics

Total Population : 217
 ATSI Population : 209
 Non-ATSI Population : 8

Data Extract : Aug-15

Program Targets

	Current	Program Goal
PCD Annual Review past year :	86.0%	80%
Cardiovascular Risk Assessment :	78.6%	80%
CVRA High and BP ≤ 130 :	44.8%	80%
CVRA High and Total Chol ≤ 4 :	58.1%	80%
Diabetic and HbA1c ≤ 8% :	34.5%	80%
Diabetic and ACR < 30 :	72.4%	80%
NON Smoker :	61.8%	90%



NT AHKPI's

	Current
KPI 1.7 (Diab/IHD GPMP last 2 years)	91.4%
KPI 1.8* (Diabetics & HbA1c past year)	96.7%
KPI 1.9 (Diabetes, ↑ ACR on ACEorARB)	94.1%
KPI 1.10 (AHC 15-55 years age)	59.6%
KPI 1.11 (AHC 55 years and older)	36.4%



Cardiovascular Risk

ATSI Clients age 20 and over:	117
ATSI Clients with CVRA last 2 years :	92

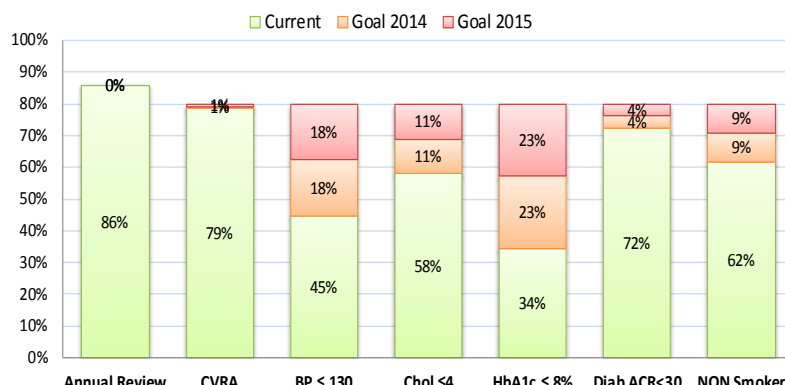
78.6%

Cardiovascular Risk Category	All clients	PCD Clients	Non PCD
HIGH RISK :	31	30	1
MOD RISK :	10	7	3
LOW RISK :	51	7	44
NO CVRA ASSESSMENT :	25	2	23
Total CVRA Assessments :	92	44	48
	78.6%	96%	68%

CVR Management Journey

	PROCESS	INTERVENTION	OUTCOME	The GAP	INERTIA
Cardiovascular Risk - HIGH : 31	Measured	On Rx	To target	>target on Rx	> target no Rx
Systolic BP (target ≤ 130) :	29	31 on BP meds	13	16 out of 16	0 out of 16
Total Cholesterol (target ≤ 4.0) :	31	23 on statin	18	9 out of 13	4 out of 13
Smoking Status :	30	-	23	-	-
Diabetes AND Hi CVRA : 20 patients		15 on aspirin	15	-	5

Program Target Progress



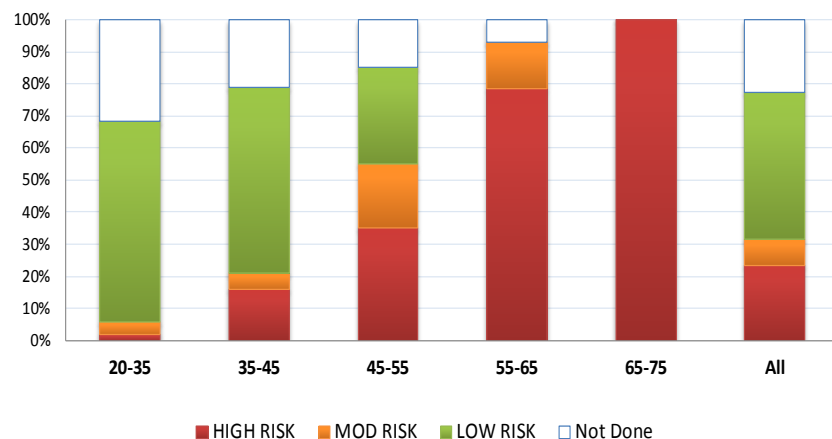
Known Data Issues

- Some Care plans which have "completed" as opposed to being "de-activated" may still appear on list as active.
- A few AHC plans which have been recently de-activated may still appear on list as active. This will be rectified with next Business Objects load

Traffic Light Table

≥ 75%	Green
50% - 74%	Yellow
25% - 49%	Red
< 25%	Black

ATSI Cardiovascular Risk Profile by Age



8. Cultural competence mainstream services

Results: A shared understanding of key concepts was rarely achieved. Miscommunication often went unrecognised. Sources of miscommunication included lack of patient control over the language, timing, content and circumstances of interactions; differing modes of discourse; dominance of biomedical knowledge and marginalisation of Yolngu knowledge; absence of opportunities and resources to construct a body of shared understanding; cultural and linguistic distance; lack of staff training in intercultural communication; and lack of involvement of trained interpreters.

Conclusions: Miscommunication is pervasive. Trained interpreters provide only a partial solution. Fundamental change is required for Aboriginal patients to have significant input into the management of their illness. Educational resources are needed to facilitate a shared understanding, not only of renal physiology, disease and treatment, but also of the cultural, social and economic dimensions of the illness experience of Aboriginal people.

- Reported feeling excluded from information:
 - *There's a whole lot of us who just don't understand what's going on. They know though, the doctors and the nurses know, but they don't tell us.*
 - *I don't know how to talk to the nurse or doctor. He comes down here and just checks out how we're looking after our body. It's not enough time.*
 - *You don't go knocking on their door, [that's the] "danger one". The door is locked. They sit behind closed doors.*



“I was born and bred on these lands. How on earth could I go all the way to the city, away from my family and country, knowing there was no possibility for them to come down and stay with me, no accommodation, no facilities ... There's no way I could think about being so far away ... I'd just be in total despair all the time.”

(Senior community member, September 2010)

1. Emerging trends in burden of chronic disease
2. Greatest CKD burden in remote areas
3. Complex comorbidities including mental health
4. Social determinants and need for
5. Intervention across life-course
6. Extend from narrow focus on cost of health service to broader assessment of impact and cost
7. Integrated systems of measurement, monitoring and reporting to drive change in clinical care and enable best-informed planning
8. Work to improve cultural competence of mainstream services

Patient and Community Voice



(Mother's Day) <https://vimeo.com/178885278>