

Patients Admitted to ICU with Treatment Limitations

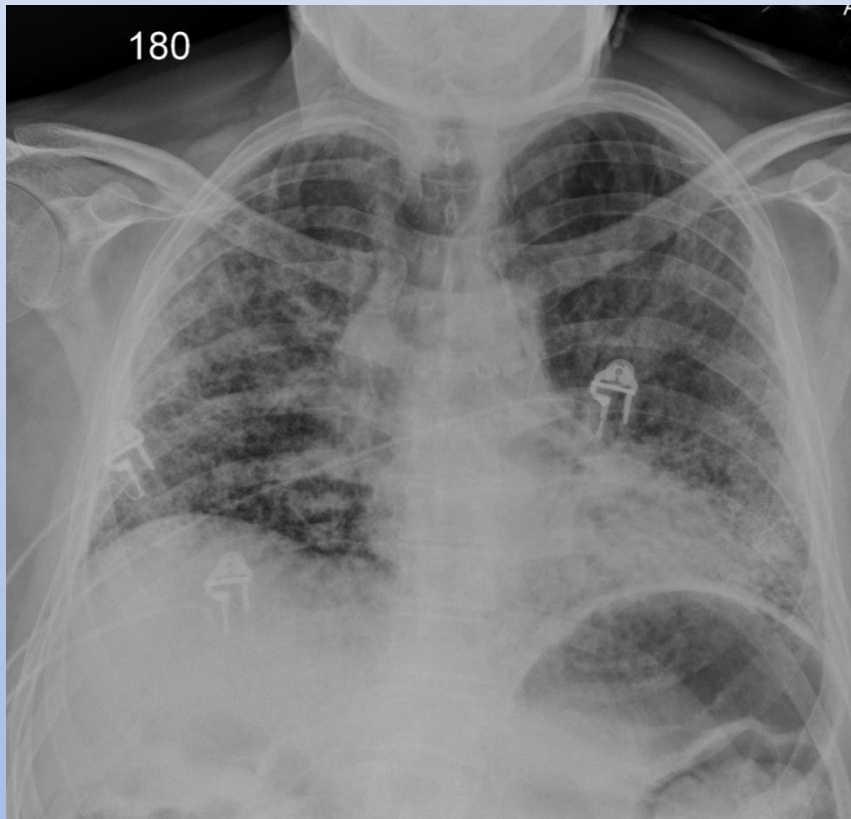
Prevalence, Outcomes and Resource Use

David Pilcher

George Godfrey

Michael Bailey, Carol Hodgson, Andrew Hilton, Rinaldo Bellomo

A True Case



Wayne

49 year old
Pulmonary Fibrosis 2 years
Acute Deterioration 4 weeks

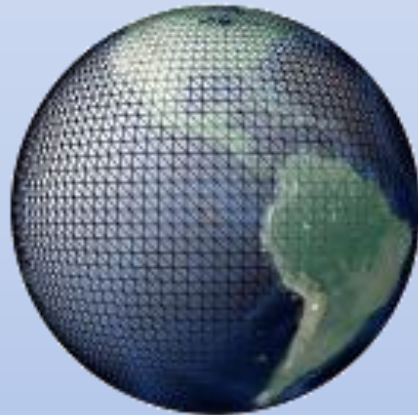
“Will you admit him to the ICU?”

A True Response?

- “Who wants this...”
- “This is waste of my time....”
- “This will block a bed for forever....”
- “Who’s going to benefit from this....”
- “Why waste my bed on this patient.....”
- “Patients with limitations all die anyway....”

Background

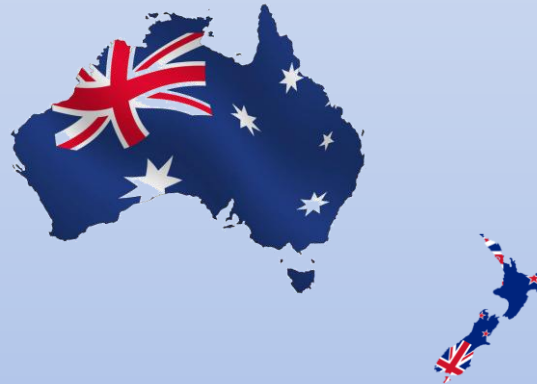
Treatment limitations applied in ICU = high mortality



Treatment limitations on admission to ICU

?

 **ANZICS** Adult
Patient
Database



Treatment limitations on admission to ICU

?



ANZICS

Adult
Patient
Database

100,000 Patients per Year

 **ANZICS** Adult
Patient
Database

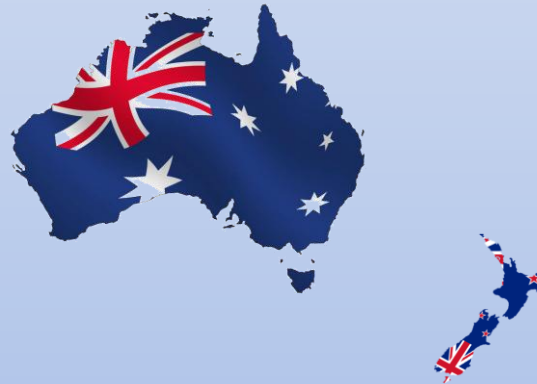


Mortality & Length of Stay



 **ANZICS** Adult
Patient
Database

Since 2007 all ICU admissions.....



Treatment Goals on Admission to ICU

- Full Active Treatment
- Treatment Limitations
- Palliative Care of the Dying Patient
- Assessment for Organ Donation

 **ANZICS** Adult
Patient
Database

Aims of the study.....



Treatment Limits on Admission to ICU

Prevalence

Outcomes

Resource use

Factors associated with good outcome



Methods & Statistics.....



Case note review of 100 patients

Treatment Limits on Admission to ICU

144 ICUs in Australia & New Zealand submitting to ANZICS APD

Retrospective cohort study

Readmissions excluded

Univariate & multivariate statistics

P values < 0.05

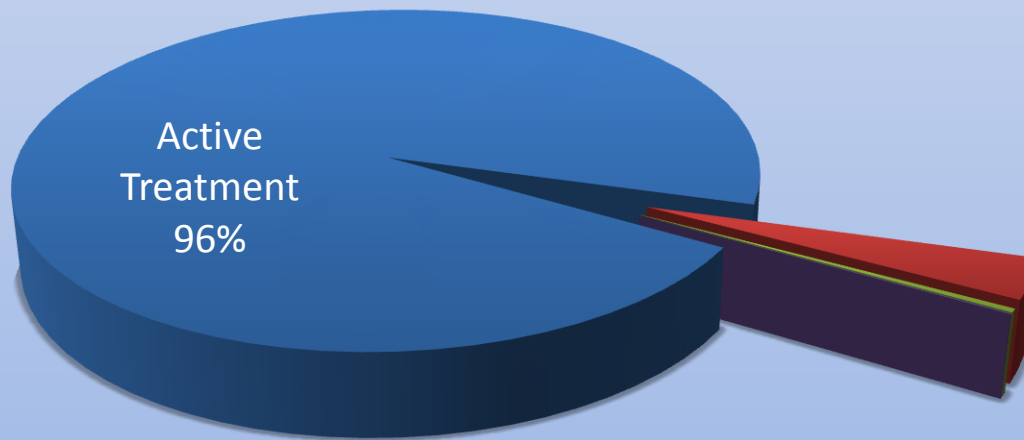
 **ANZICS** Adult
Patient
Database

Results.....

2007 – 2010

413,229 ICU Admissions

330,410 Goals Recorded



Treatment Limitations

11,516

3.6%

Palliative Care

1078

0.3%

Organ Donation Assessment

259

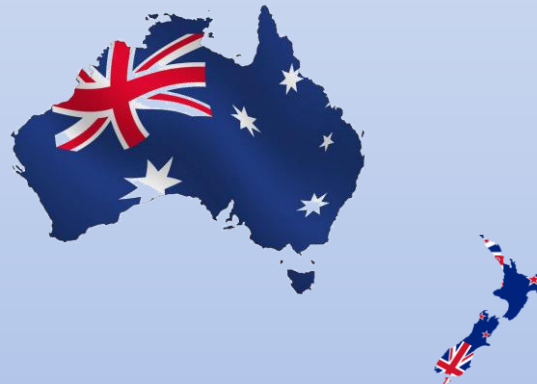
0.1%

Patient Demographics

	Active Treatment	Treatment Limitations
Age ⁺	61 (\pm 19)	73 (\pm 15)
Elective admission	45%	12%
APACHE III risk of death **	4% (1 - 14)	30% (13 - 62)
Intubated	42%	34%
Acute renal failure	6%	19%
Chronic co-morbid condition	25%	51%
Immuno-suppressed	4%	9%
Cancer	4%	13%
*Mean (\pm SD), **Median (IQR)		

 **ANZICS** Adult
Patient
Database

Aims of the study.....



Treatment Goals on Admission to ICU

Prevalence

Outcomes

Resource use

Factors associated with good outcome



Aims of the study.....



TheAlfred

Who limited treatment?

Why was treatment limited?

What treatment was limited?

Treatment Goals on Admission to ICU

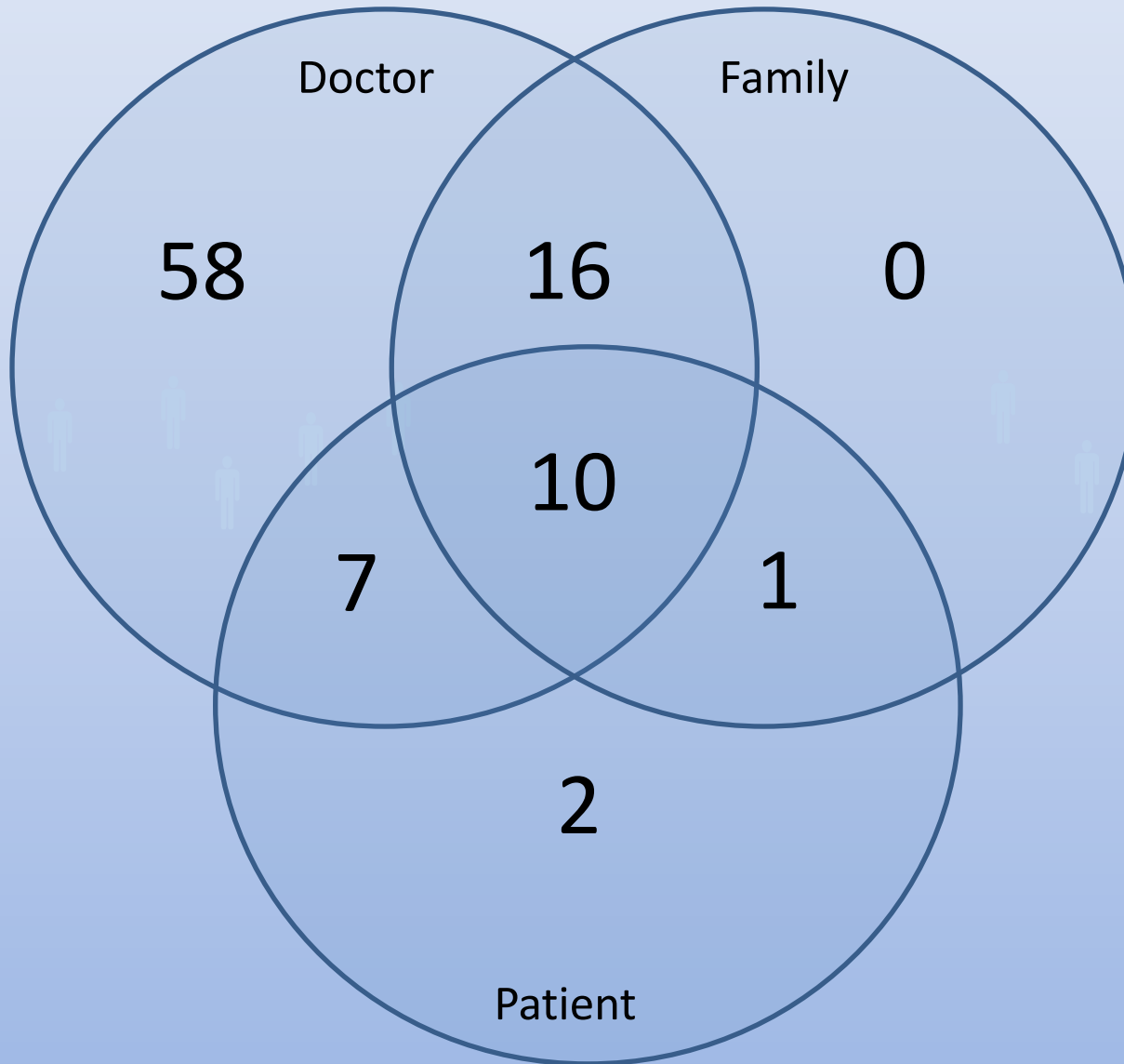
Prevalence.....common

Outcomes

Resource use

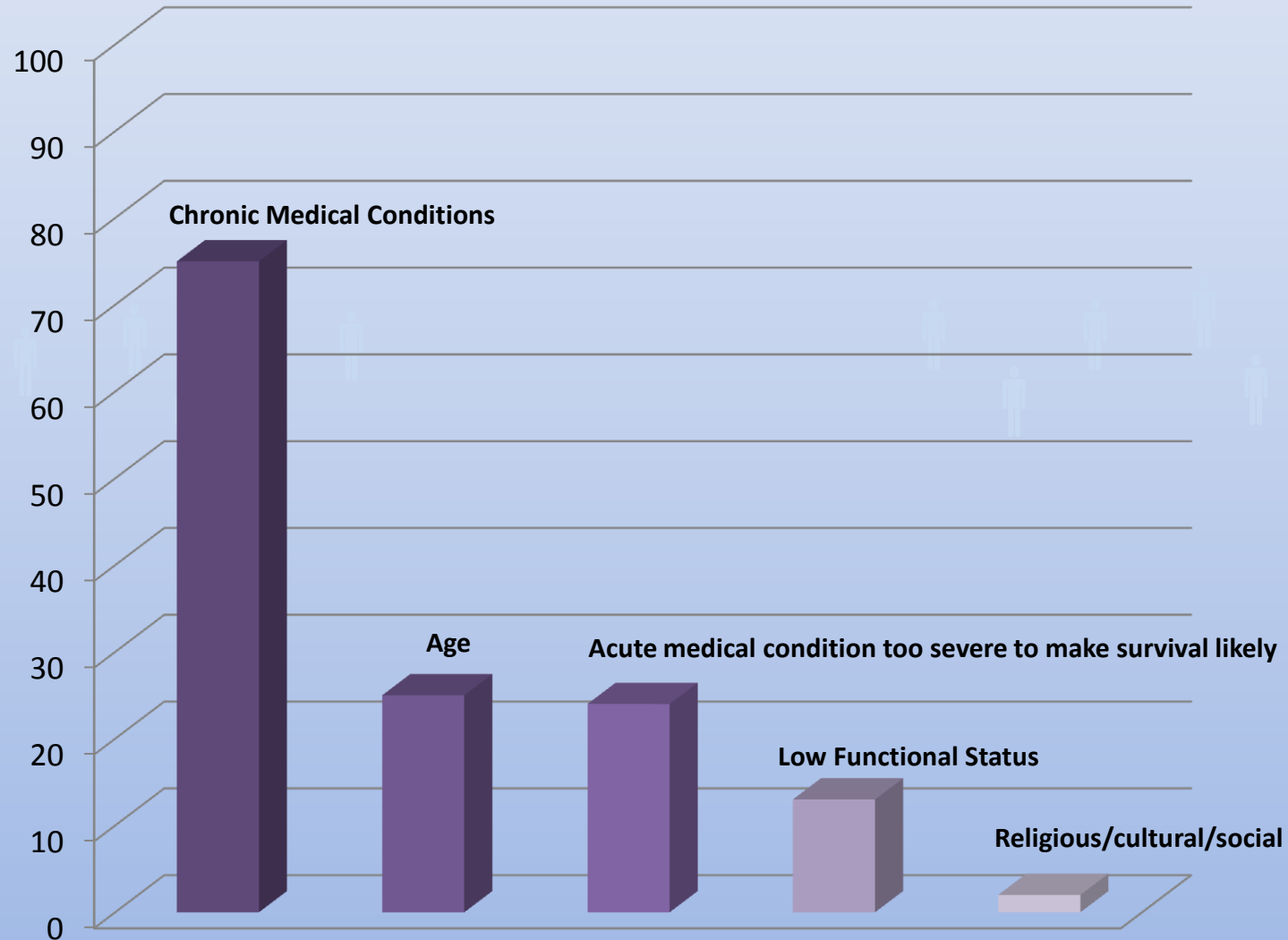
Factors associated with good outcome

Who Limited Treatment?

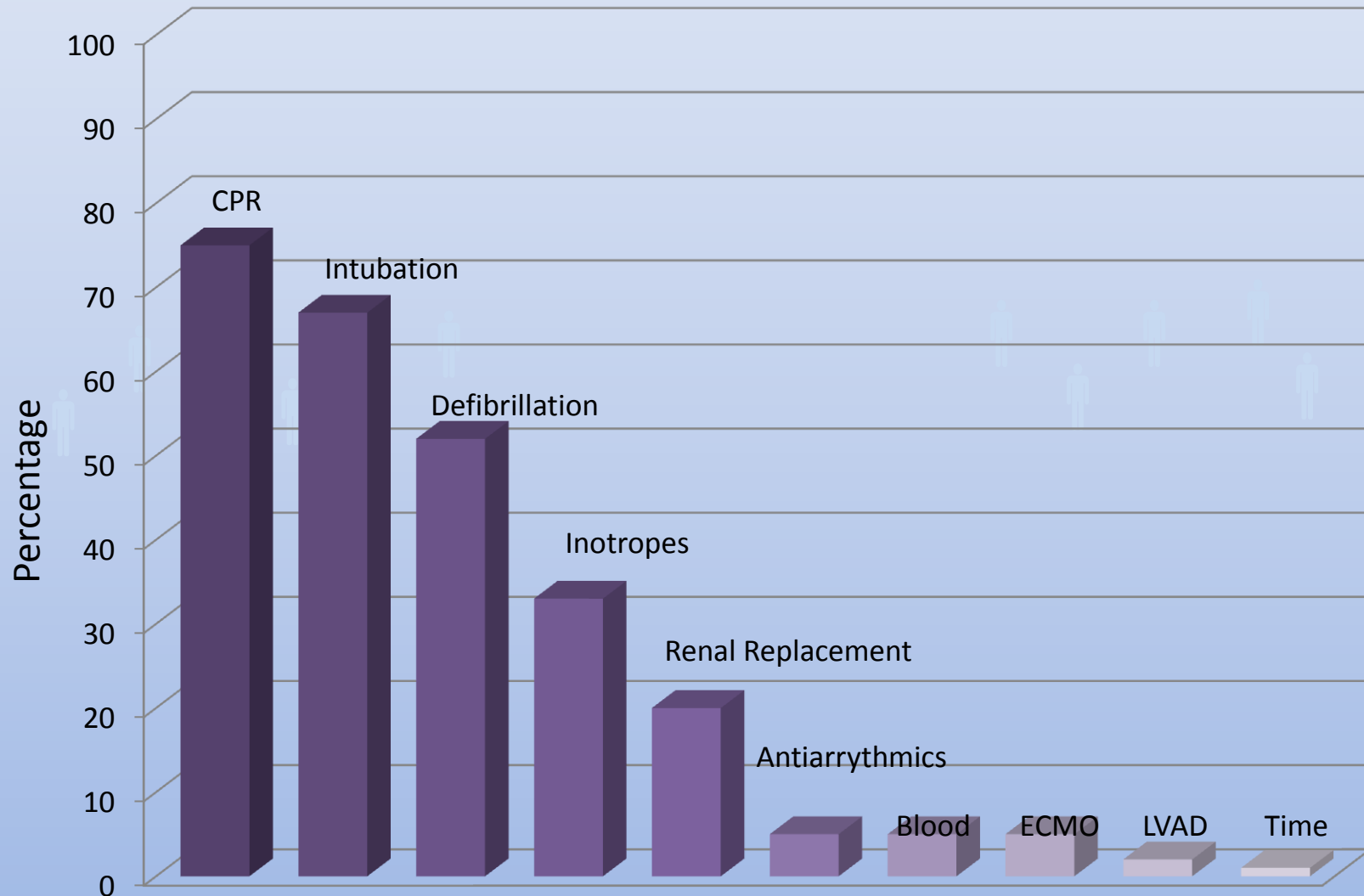


Doctor 91%
Family 27%
Patient 20%

Why Limit Treatment?



What Treatment is Limited?





ANZICS Adult
Patient
Database

Aims of the study.....



Case Note Review of 100 patients

Treatment Limits on Admission to ICU

Prevalence.....common

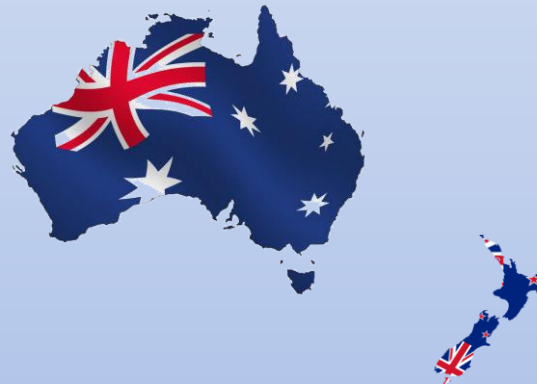
Outcomes

Resource use

Factors associated with good outcome

 **ANZICS** Adult
Patient
Database

Aims of the study.....



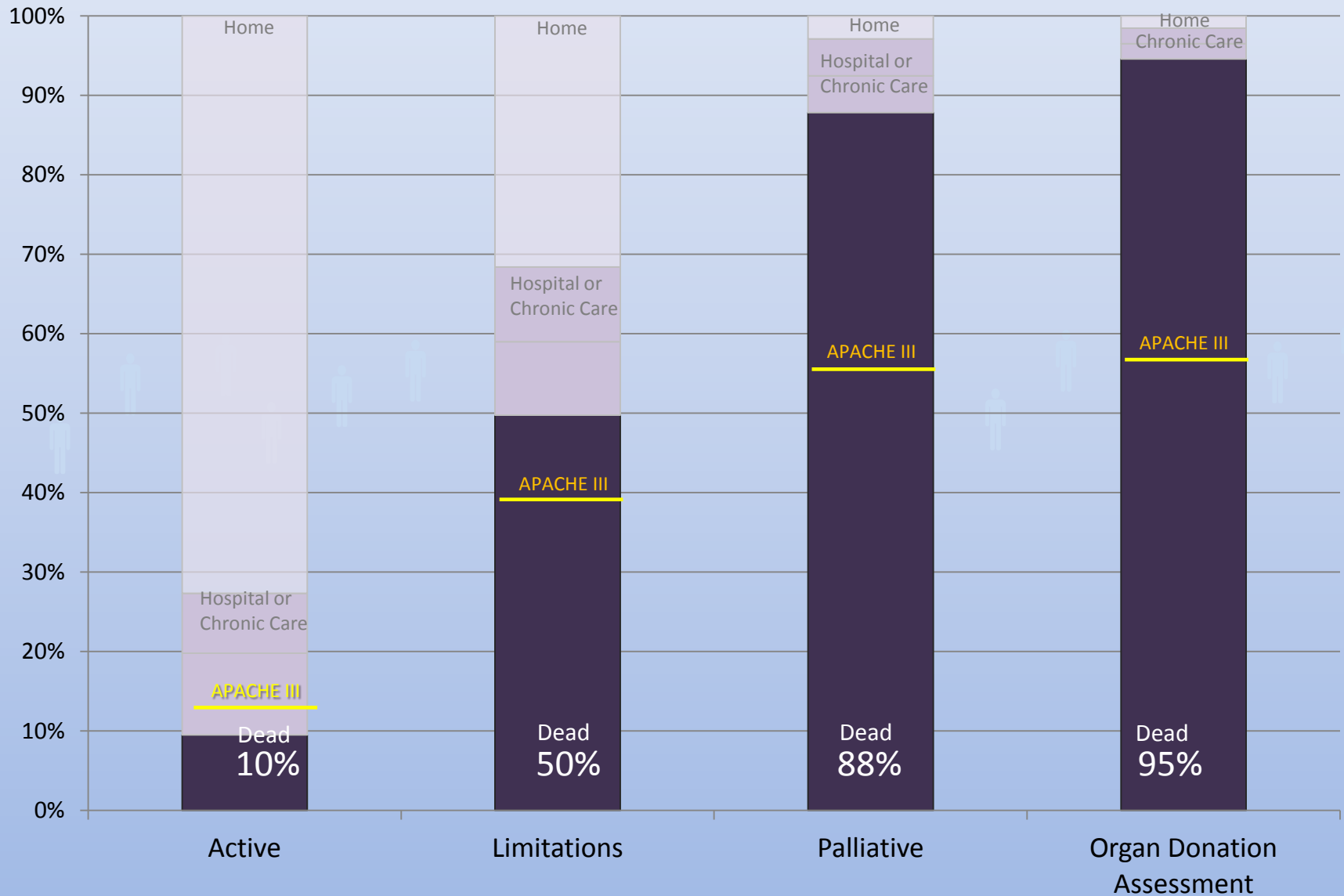
Treatment Limits on Admission to ICU

Prevalence.....common

Outcomes

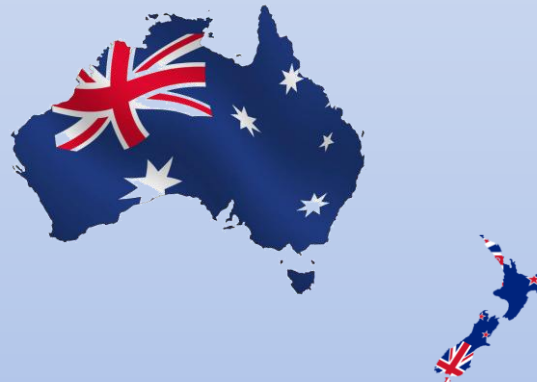
Resource use

Factors associated with good outcome



 **ANZICS** Adult
Patient
Database

Aims of the study.....



Treatment Limits on Admission to ICU

Prevalence.....common

Outcomeshigh mortality but

Resource use

Factors associated with good outcome

 **ANZICS** Adult
Patient
Database

Aims of the study.....



Treatment Limits on Admission to ICU

Prevalence.....common

Outcomeshigh mortality but

Resource use

Factors associated with good outcome



ANZICS Adult Patient Database



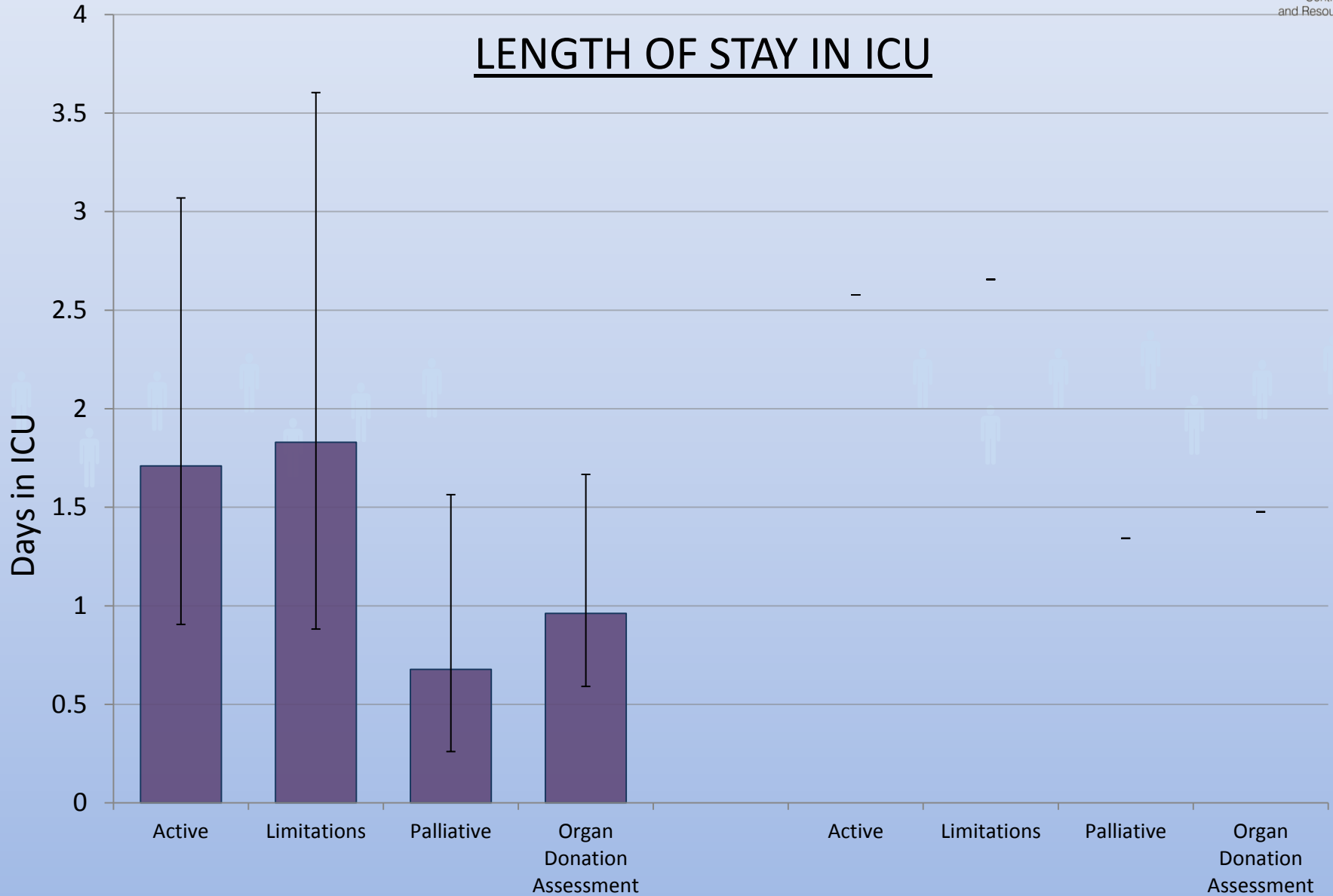
Resource Use

≈

ICU Length of Stay

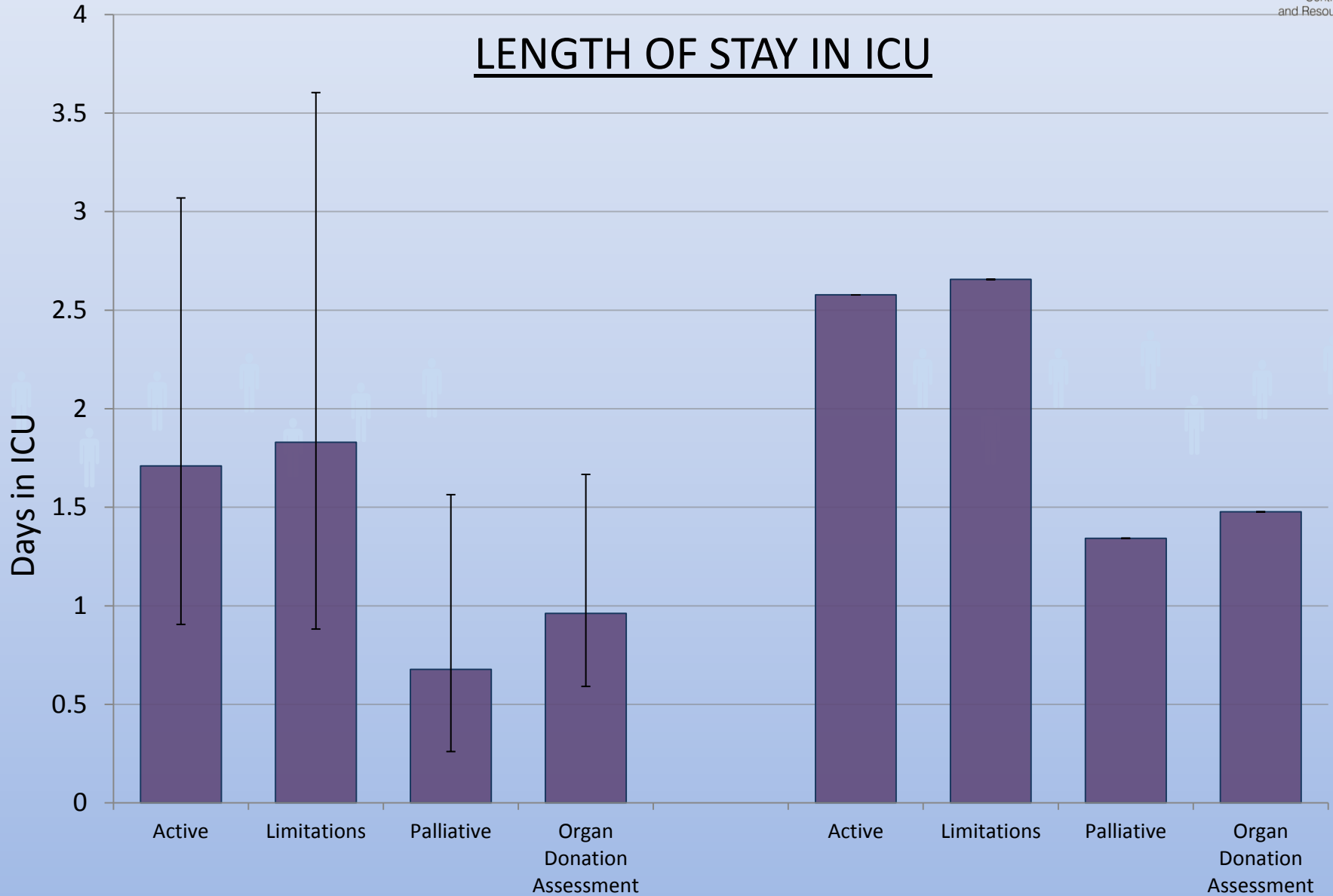


LENGTH OF STAY IN ICU

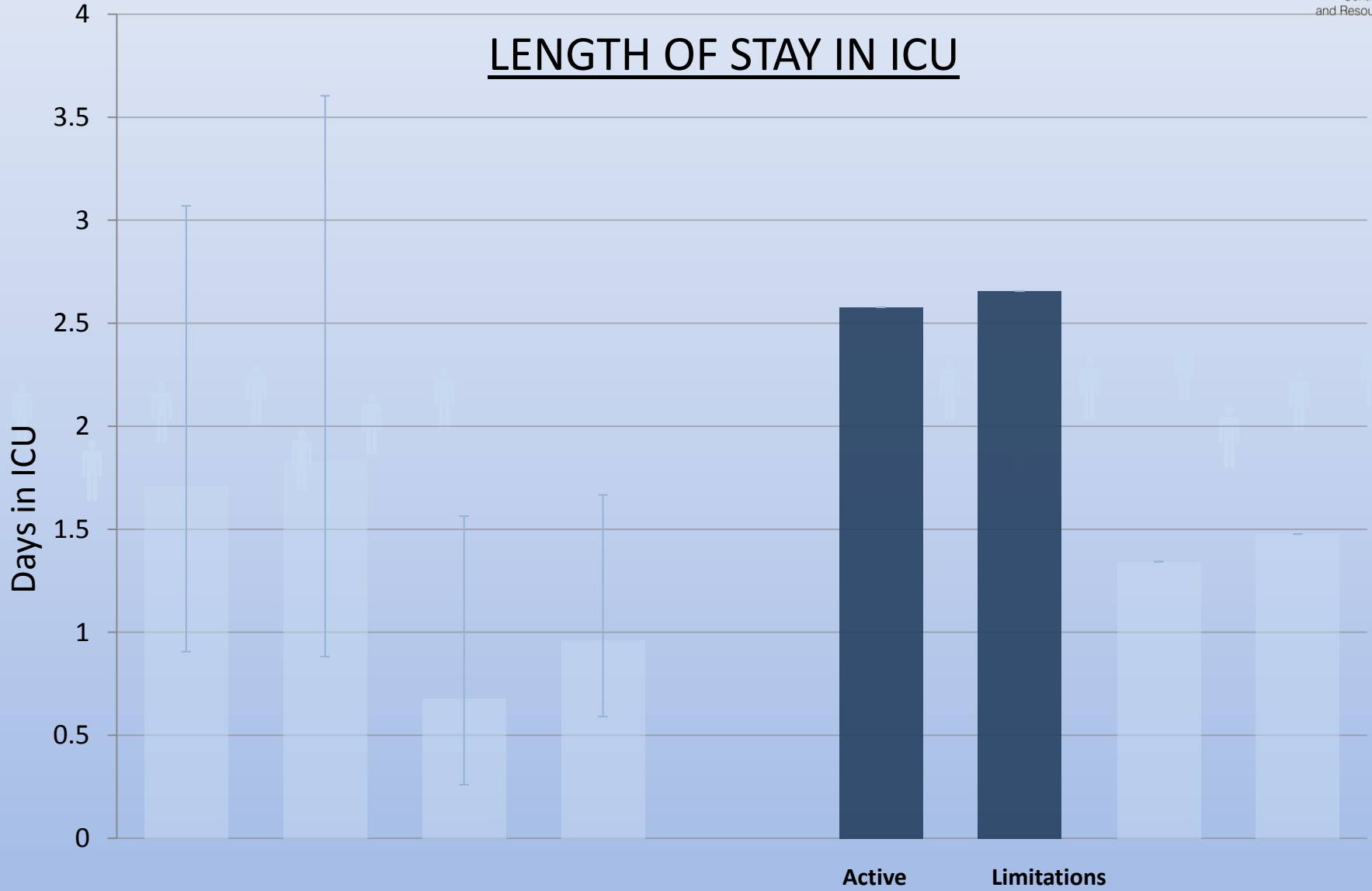


Median
 (Interquartile Range)

LENGTH OF STAY IN ICU



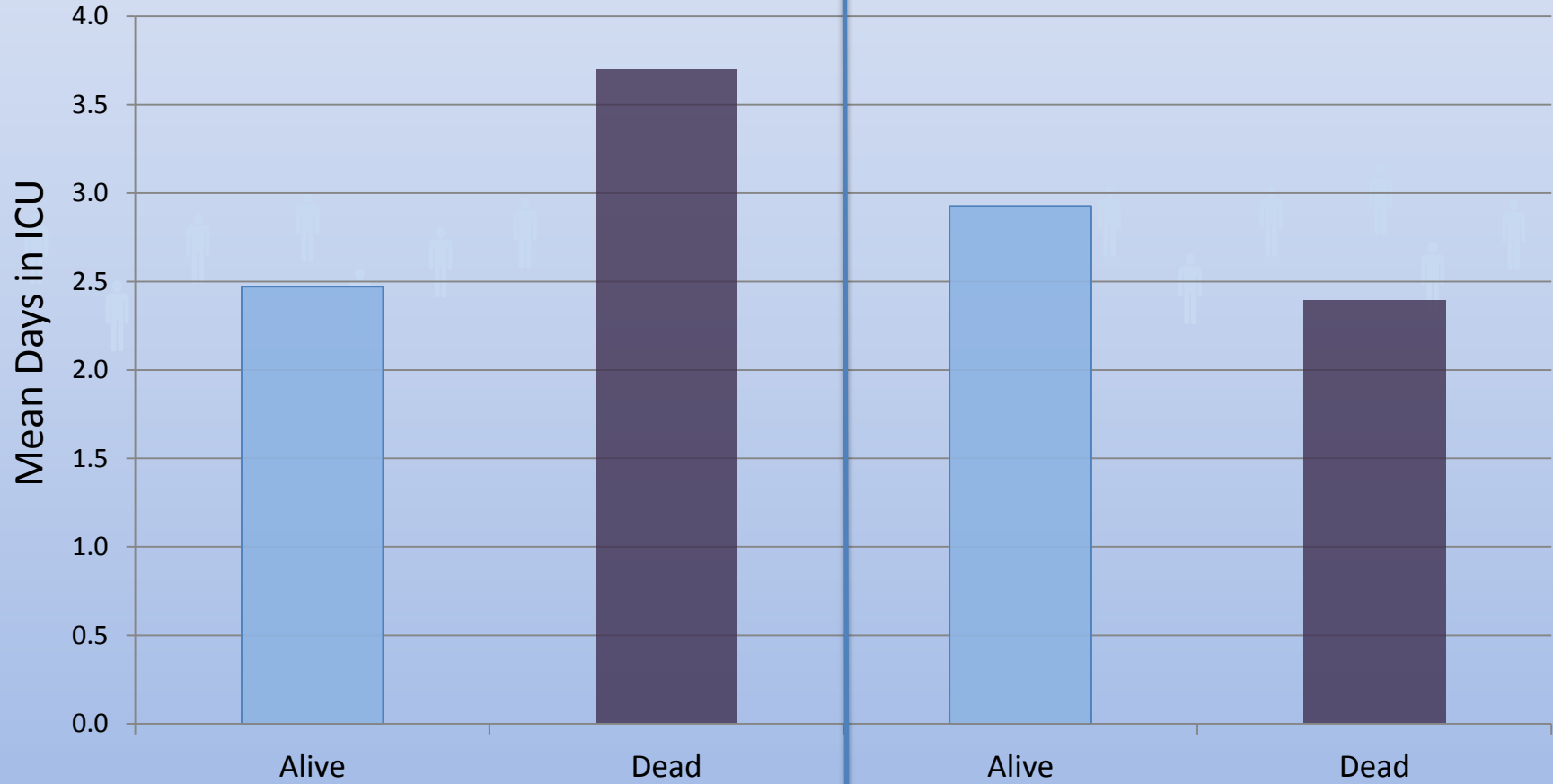
LENGTH OF STAY IN ICU



LENGTH OF STAY IN ICU

Active Treatment

Treatment Limitations



 **ANZICS** Adult
Patient
Database

Aims of the study.....



Treatment Limits on Admission to ICU

Prevalence.....common

Outcomeshigh mortality but

Resource use.....not disproportionate?

Factors associated with good outcome

 **ANZICS** Adult
Patient
Database

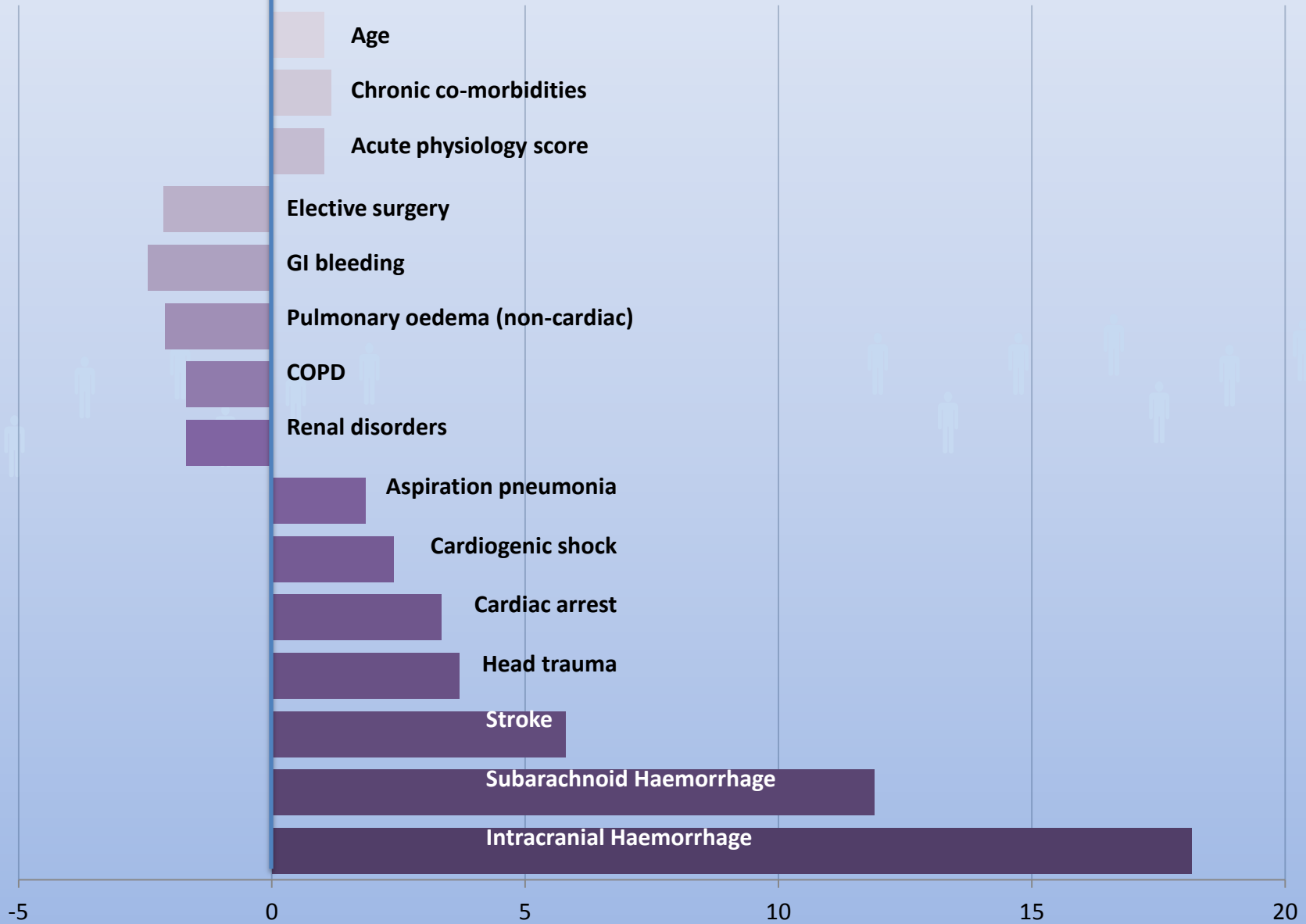
Aims of the study.....



Treatment Limits on Admission to ICU

Prevalence.....common
Outcomeshigh mortality but
Resource use.....not disproportionate?

Factors associated with good outcome



-5 0 5 10 15 20

Odds Ratios



Treatment Limits on Admission to ICU

Prevalence.....common

Outcomeshigh mortality but

Resource use.....not disproportionate?

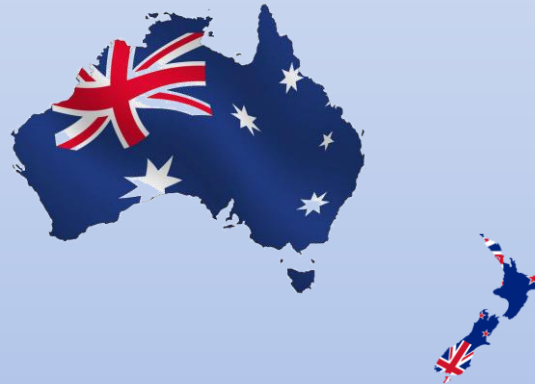
Factors associated with good outcome

Younger, elective surgery & “less sick”

Neurological diagnoses poor outcomes

 **ANZICS** Adult
Patient
Database

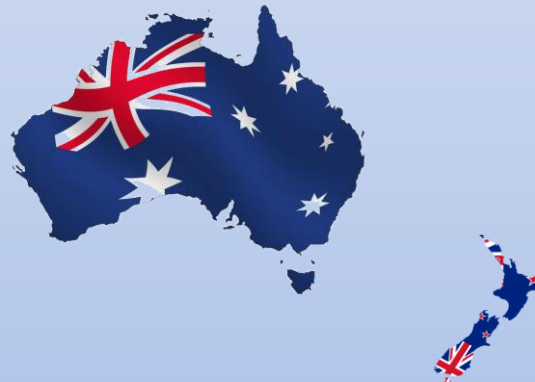
Limitations of the study.....



- Data quality unknown
- Associations not causation
- Change in goals after admission
- Applicability of Alfred sub-study
- Limited resources information

 **ANZICS** Adult
Patient
Database

Uses of the study.....

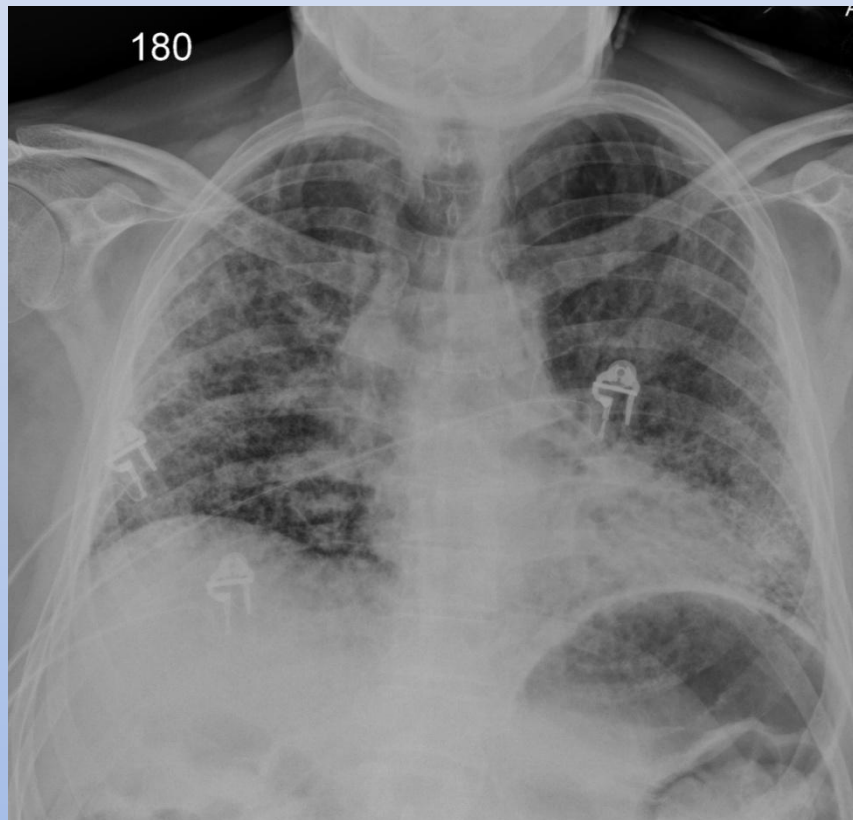


Inform clinical practice

Counter misconceptions

Mortality prediction models

A True Case



Wayne

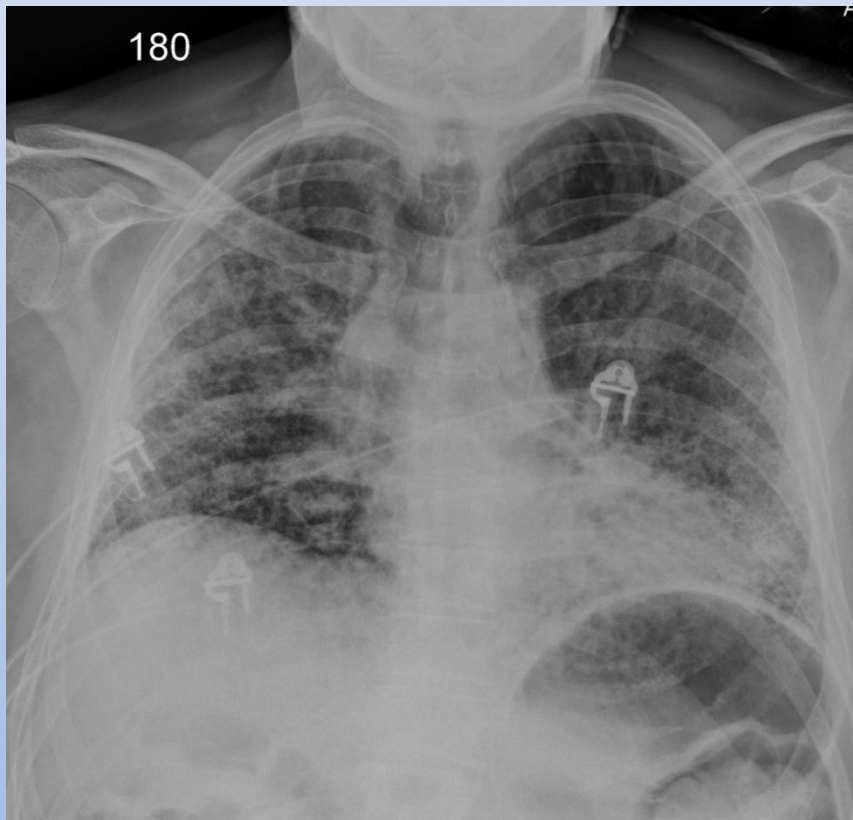
49 year old

Pulmonary Fibrosis 2 years

Acute Deterioration 4 weeks

“Will you admit him to the ICU?”

A True Case



Wayne

49 year old

Pulmonary Fibrosis 2 years

Acute Deterioration 4 weeks

“Will you admit him to the ICU?”

“I know I’m about to die, take me to your ICU so I can donate my kidneys.”

 **ANZICS** Adult
Patient
Database



THANK YOU

