

D P P S

DIALYSIS OUTCOMES AND
PRACTICE PATTERNS STUDY

LUNCH SYMPOSIUM GENOA 2018

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DOPPS CRA Italy

DOPPS STUDY

--Started in 1996, DOOPS is a prospective, observational, coorte study looking to find connection amongst clinical practices and morbidity and mortality on Hd patients.

Its goals: find out the clinical practices which correlatest with less mortbidity and mortality amongst HD patients .

from clinical perspective

from health care providers perspective.

from patients perspective

Balancing Compassion and Health Technologies



Empowering patients: **Understanding and improving** **patient-provider connections**

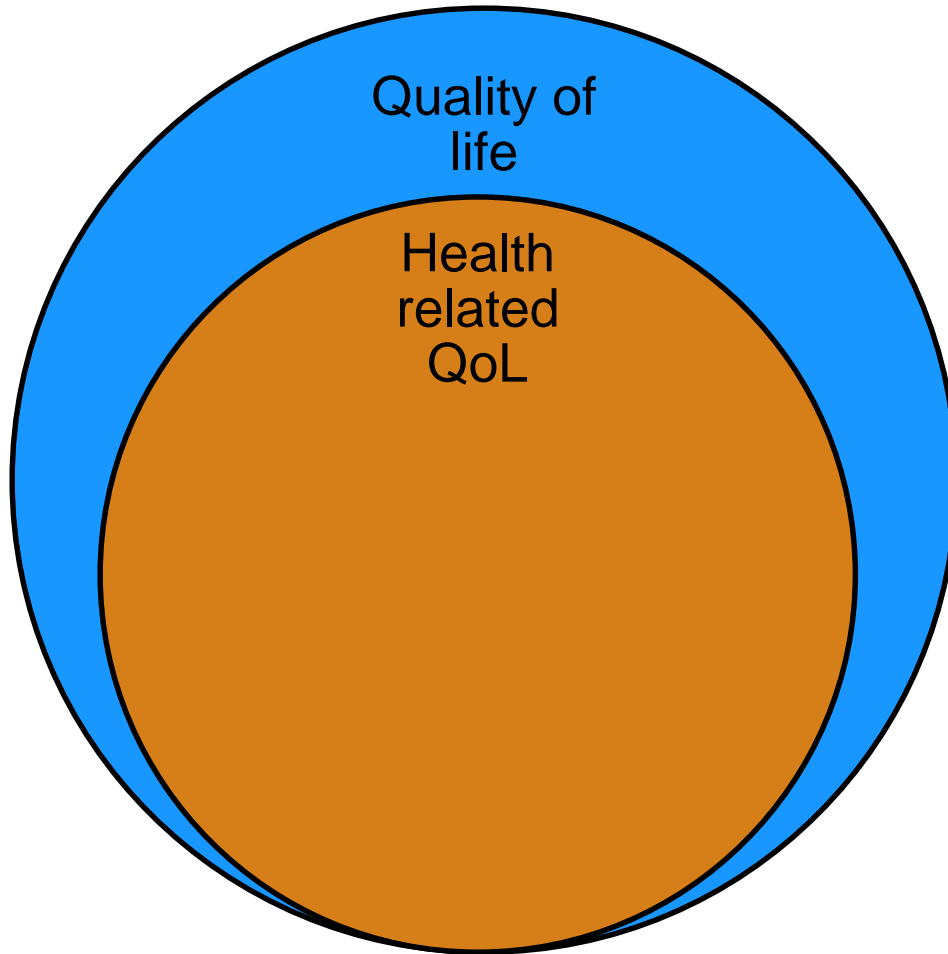
DOPPS Findings

EMPOWERMENT

- .. **PROCESS OF GROWTH** , related to single individual or about a group, based on increased self esteem, self efficacy, and self determination... to rise latent resources and allow the person to be conscious about his/he possibilities
- ..**DEFINITION** of self perception re- definition of priorities
- ...a **MULTI-LEVEL CONCEPTION** expressed on three dimensions, strictly connected
 - Psychological/individual how do I feel? What do I know about my illness?
What is important for me?
 - Organizational/communication what are the effect of my intervention?
 - Socio-political and community what can be done for improving people lives?

* Zimmerman (2000)

Definitions



Quality of life: subjective evaluations of positive and negative aspects of life” (WHOQOL Group)

Health-related quality of life: “individual’s perceived physical and mental health” (CDC)

HOW DO PATIENTS FEEL IN THEIR DAILY LIVES?

The following items are about activities you might do during a typical day. Does your health now limit you in these activities? If so, how much?

		No, not limited at all	Yes, limited a lot	Yes, limited a little
A-2	Moderate activities, such as moving a table, pushing a vacuum cleaner, bowling, or playing golf	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2
A-3	Climbing several flights of stairs	<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/> 2

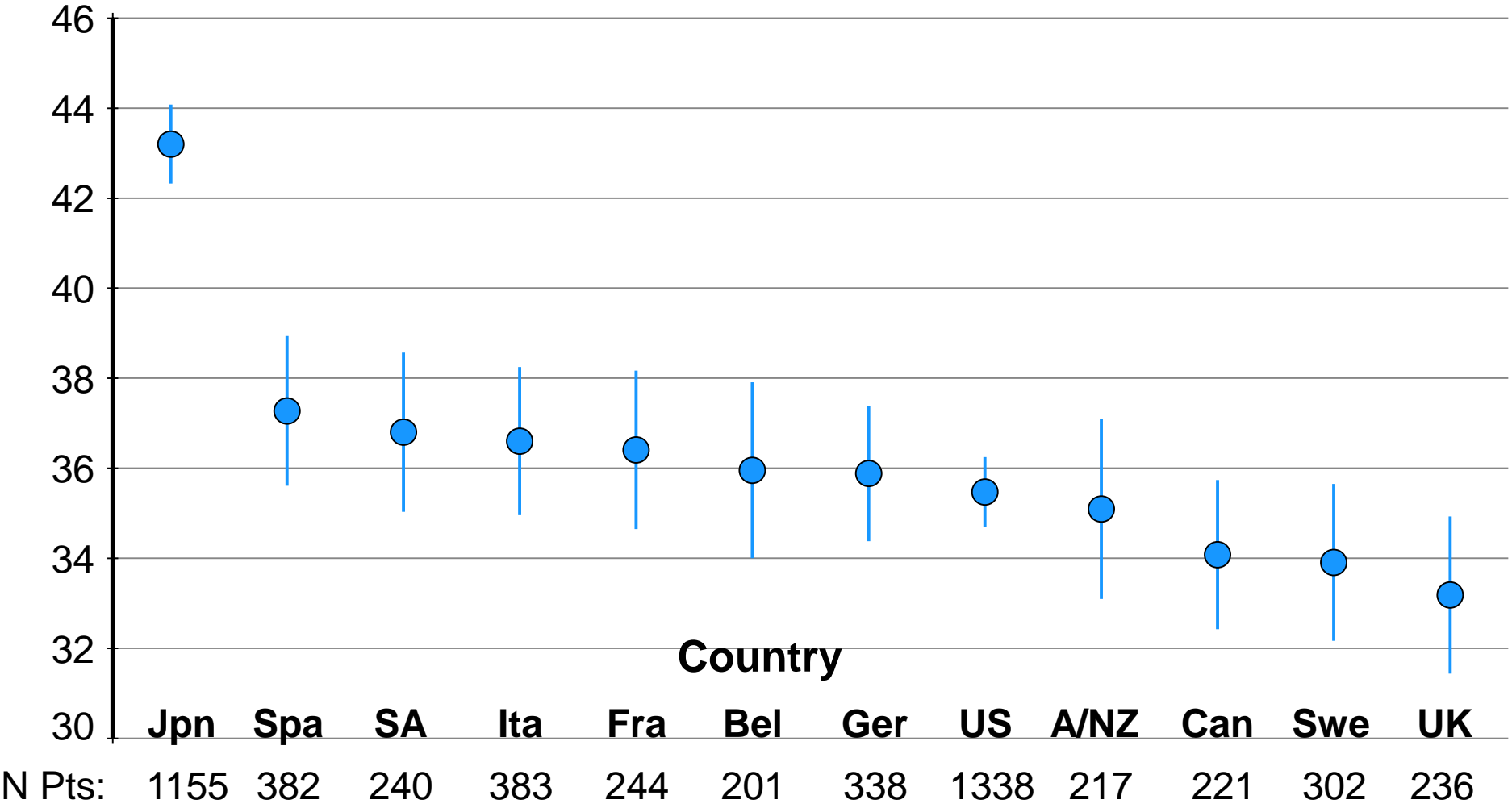
How much of the time during the past 4 weeks:

		All of the time	Most of the time	A good bit of the time	Some of the time	A little of the time	None of the time
A-9	Have you felt calm and peaceful?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6
A-10	Did you have a lot of energy?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6
A-11	Have you felt downhearted and blue?	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6

KDQoL Physical component summary score

DOPPS 4 (2009-2011)

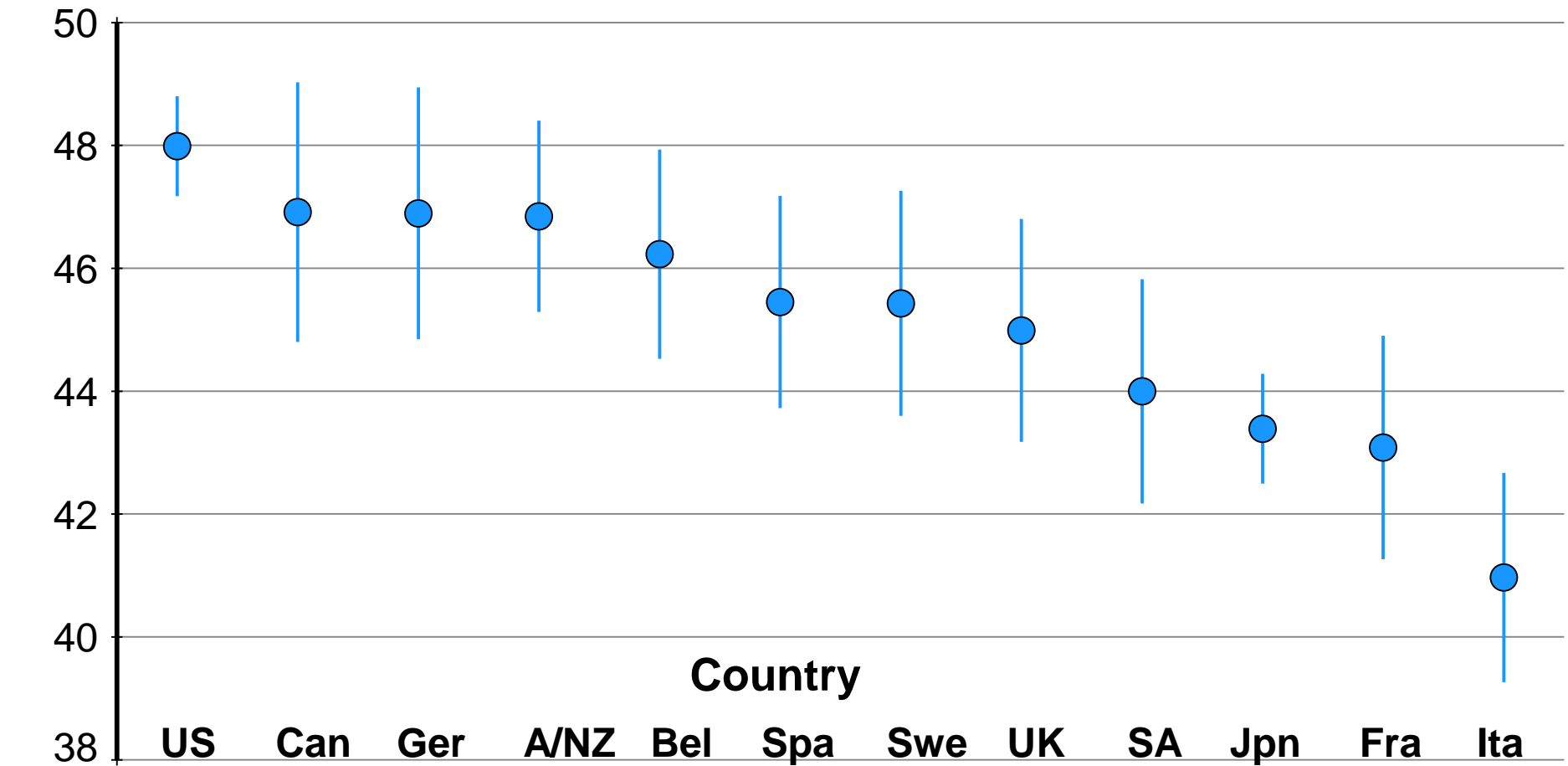
Age-adjusted mean PCS score (95% CI)



KDQoL Mental Component Summary Score

DOPPS 4 (2009-2011)

Age-adjusted mean MCS score (95% CI)



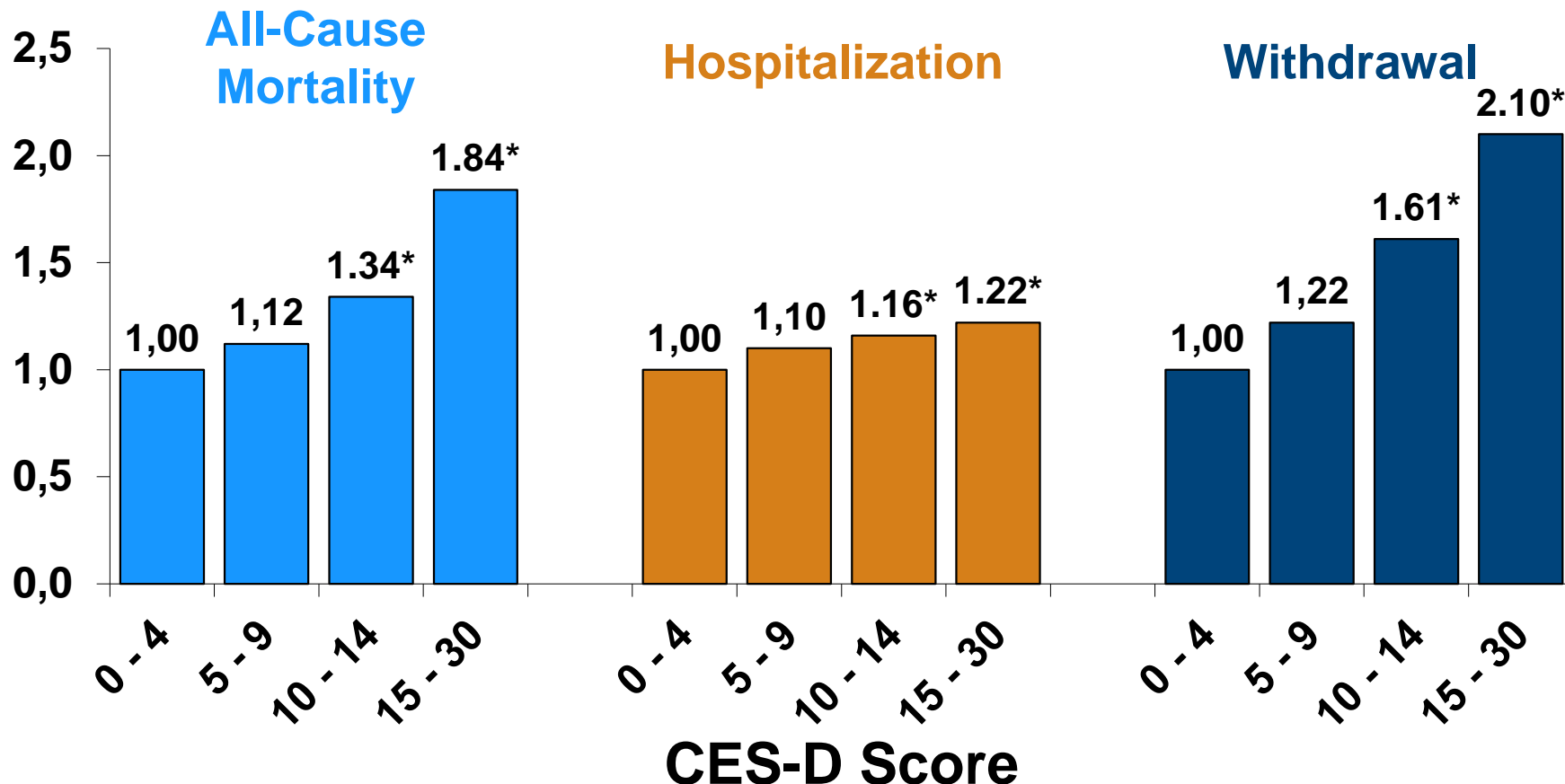
N Pts: 1338 221 338 217 201 382 302 236 240 1155 244 383



MCS calculated according to SF-12 in Ware et al. *Med Care* (1996)

Depressive Symptoms and Adverse Outcomes

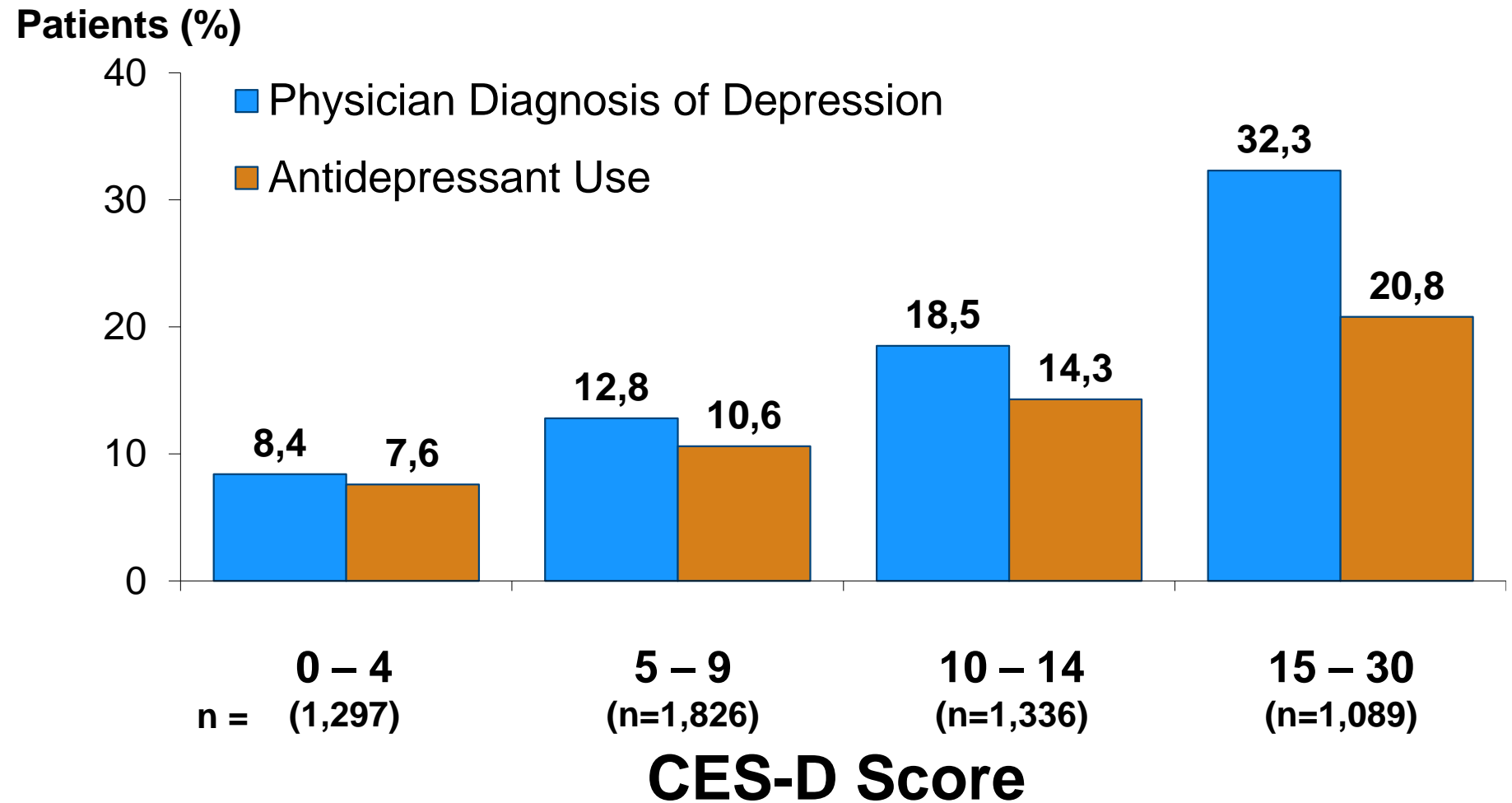
Hazard Ratio[†]



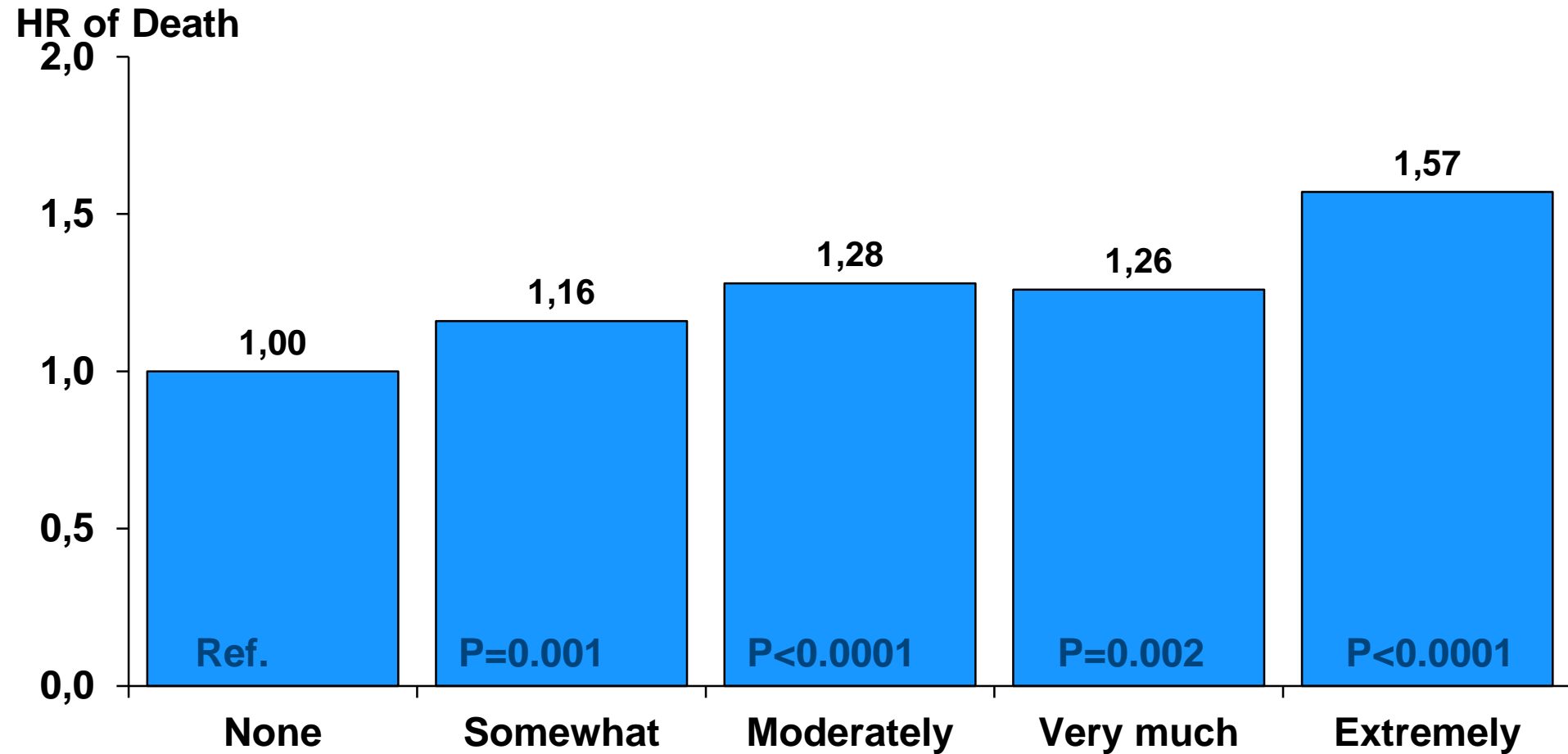
[†] Model adjusted for age, sex, black race, living status, marital status, education level, employment status, 14 summary comorbid conditions, albumin, time on dialysis, country (N=9,382)

* p<0.05 compared to reference (CES-D = 0-4)

Treatment of Depression

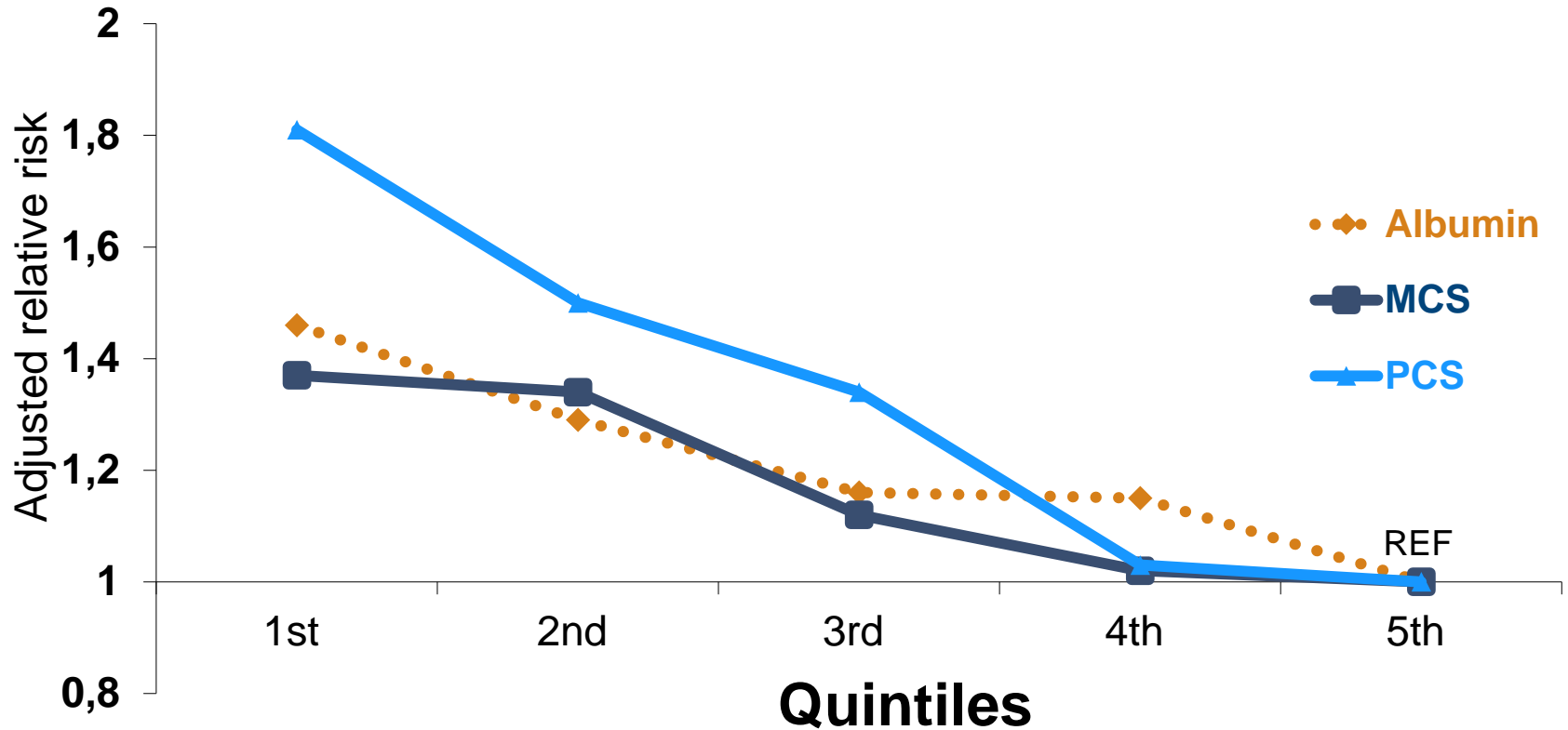


Lack of Appetite and Mortality



Cox models stratified by country and adjusted for facility clustering, age, sex, race, years on dialysis, physician-diagnosed depression and 13 comorbid conditions; n=14 399 (DOPPS 1,2)

HRQoL as a Strong Predictor of Mortality



Each line shows a significant trend (each $P < 0.001$)

MCS = mental component summary; PCS = physical component summary

D P P P S

DIALYSIS OUTCOMES AND PRACTICE PATTERNS STUDY

AJKD

Original Investigation

Recovery Time, Quality of Life, and Mortality in Hemodialysis Patients: The Dialysis Outcomes and Practice Patterns Study (DOPPS)

*Hugh C. Rayner, MD, FRCP,¹ Lindsay Zepel, MS,² Douglas S. Fuller, MS,²
Hal Morgenstern, PhD,^{2,3,4} Angelo Karaboyas, MS,² Bruce F. Culleton, MD,⁵
Donna L. Mapes, PhD,² Antonio A. Lopes, MD, MPH, PhD,⁶ Brenda W. Gillespie, PhD,⁷
Takeshi Hasegawa, MD,⁸ Rajiv Saran, MD,⁷ Francesca Tentori, MD,^{2,9}
Manfred Hecking, MD,¹⁰ Ronald L. Pisoni, PhD,² and Bruce M. Robinson, MD^{2,7}*

Recovery Time Question

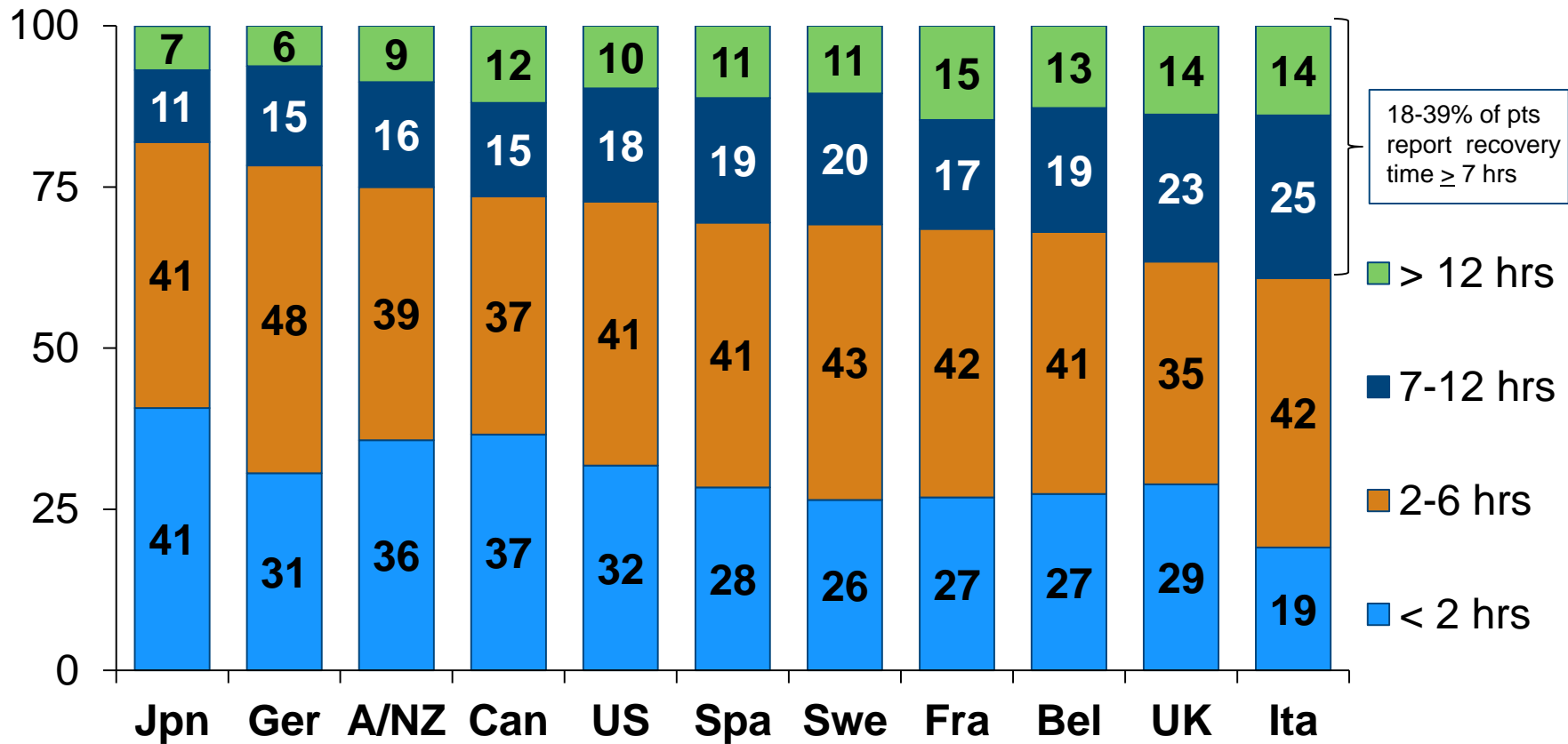
How long does it take you to recover from a dialysis session?

- Less than 2 hours 1
- 2-6 hours 2
- 7-12 hours 3
- Greater than 12 hours 4

** Adapted from: Lindsay R. M., Heidenheim P. A., Nesrallah G., Garg A. X., Suri R. Minutes to recovery after a hemodialysis session: a simple health-related quality of life question that is reliable, valid, and sensitive to change. *Clinical Journal of the American Society of Nephrology*. 2006; 1:952-9.

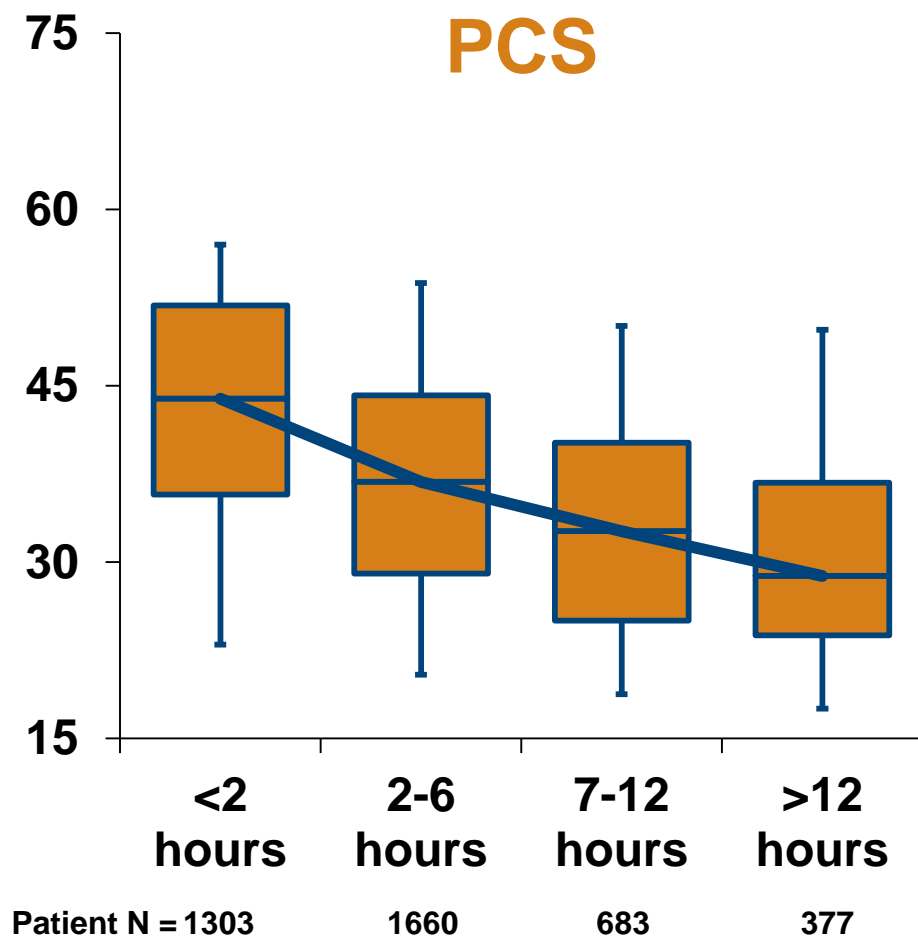
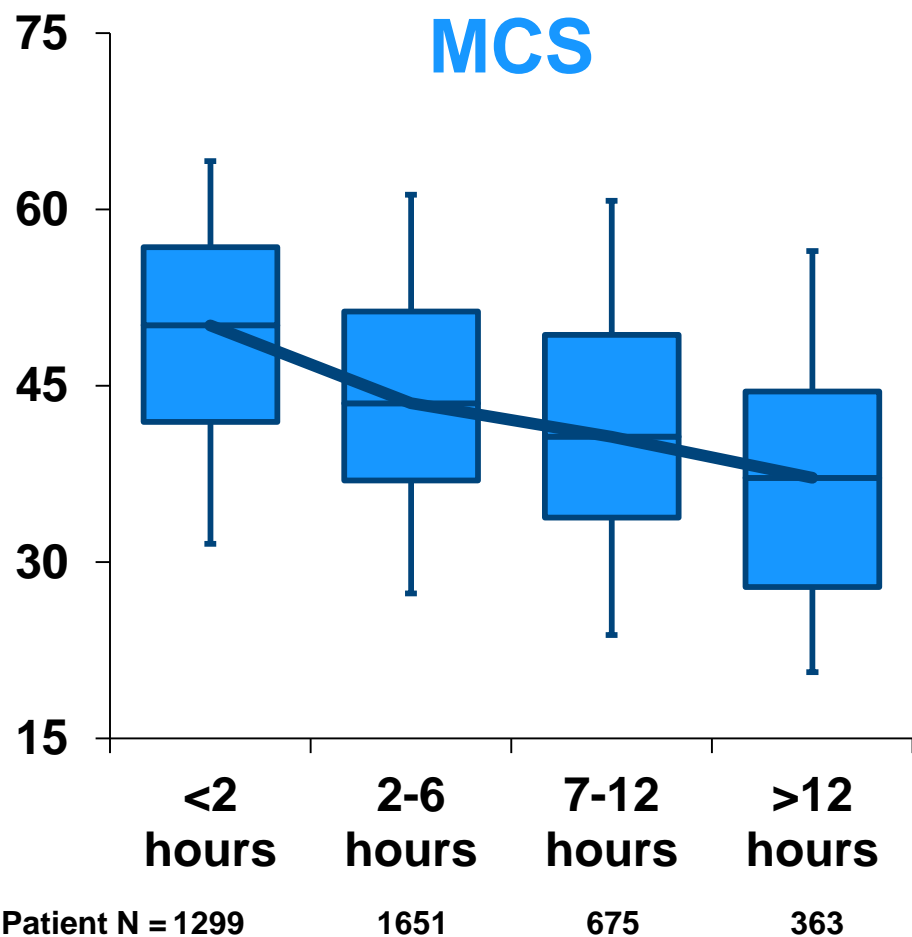
Distribution of Recovery Time

% of Patients



N Patients: 1371 298 276 419 1513 483 448 343 268 369 252

Recovery time is correlated with quality of life

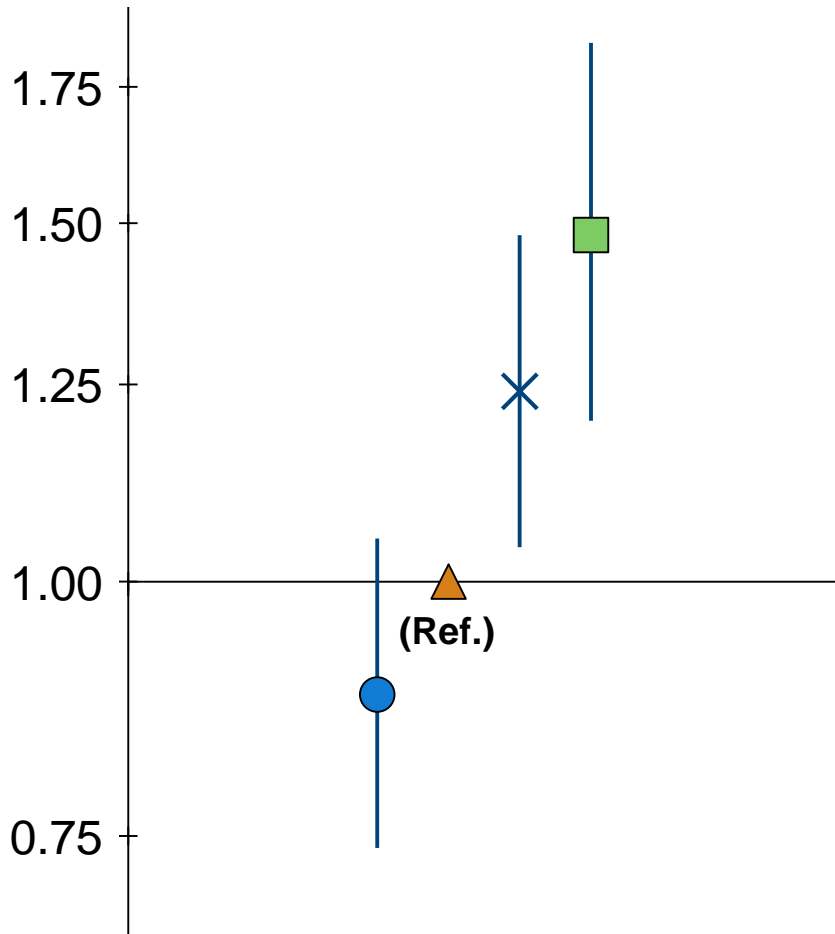


Patient-reported Recovery Time

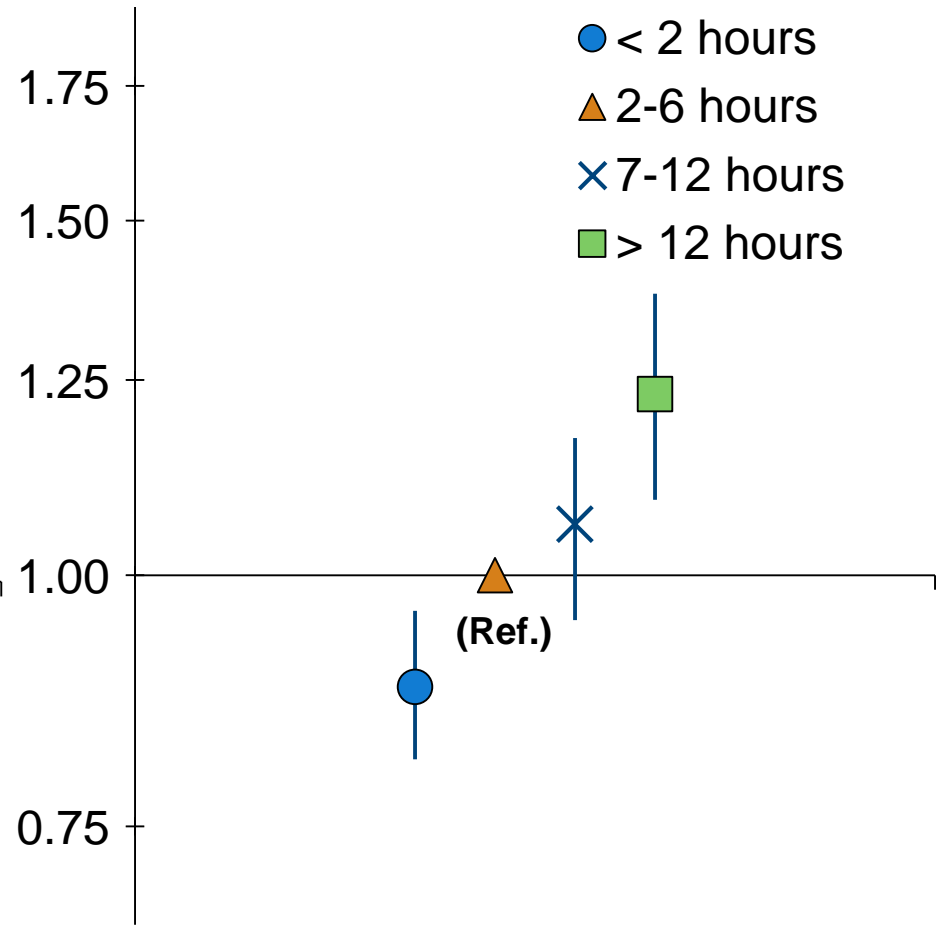
Patient-reported Recovery Time

Recovery Time and Mortality/Hospitalization

HR (95% CI) for mortality



HR (95% CI) for first hospitalization



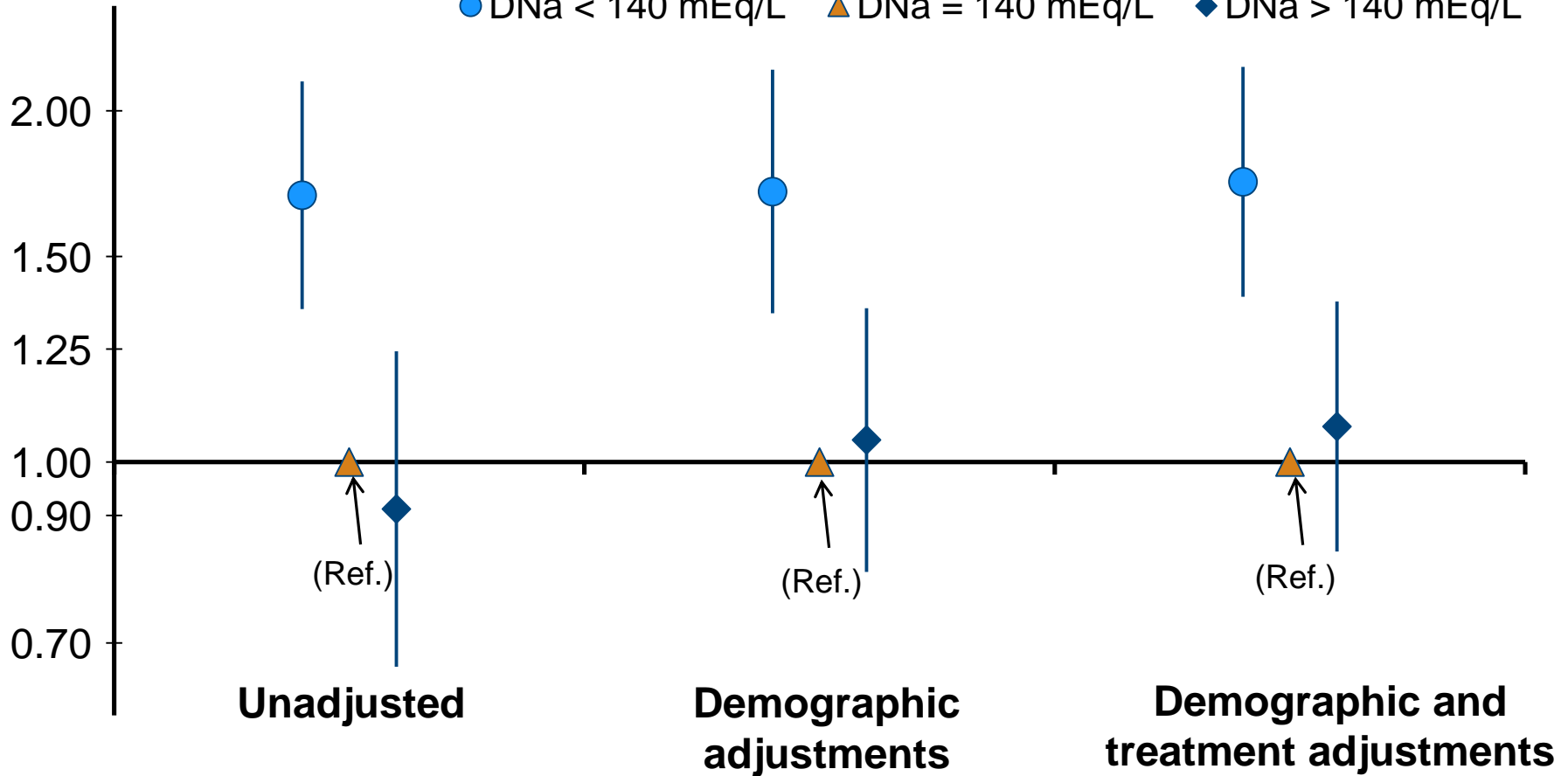
Cox models stratified by country and race (US black only) and use a robust “sandwich” variance estimator;
Demographic adjustments: sex, age, time on dialysis, BMI, and 14 summary comorbidities;
HR-QOL adjustments: RAPA, depression, sleep problems, pruritus, ADL count, employment, PCS, MCS

Rayner et al. AJKD (2014)

Odds of longer recovery time, by dialysate sodium concentration*

Odds Ratio (95% CI)

● DNa < 140 mEq/L ▲ DNa = 140 mEq/L ◆ DNa > 140 mEq/L



p for trend: **p=0.0001**

p=0.008

p=0.004

Pruritus Question

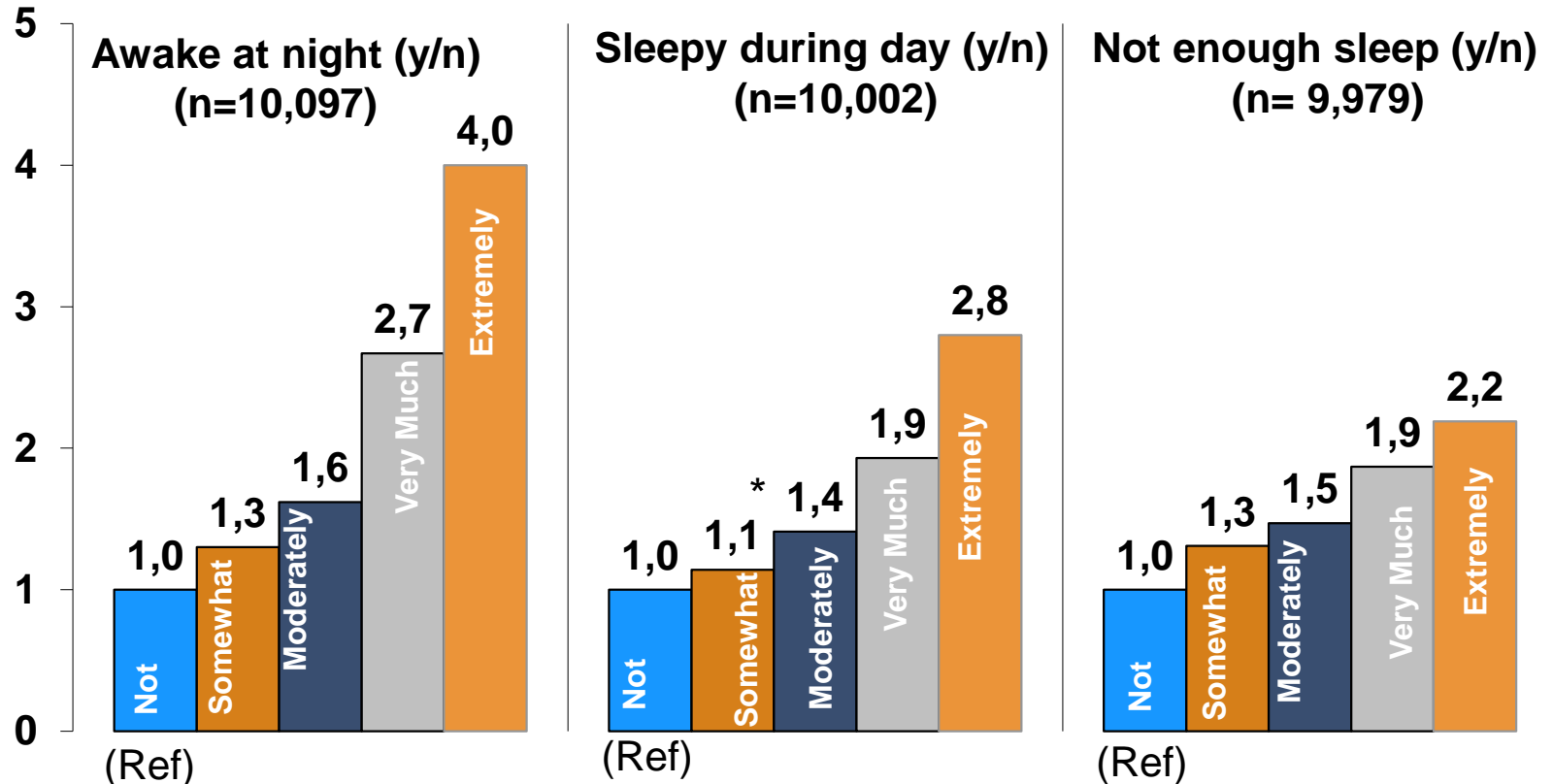
How much are you bothered by itchiness?



Photo courtesy of Dr Thomas Mettang

Pruritus is associated with poor sleep

Adjusted odds (AOR) of having sleep problem

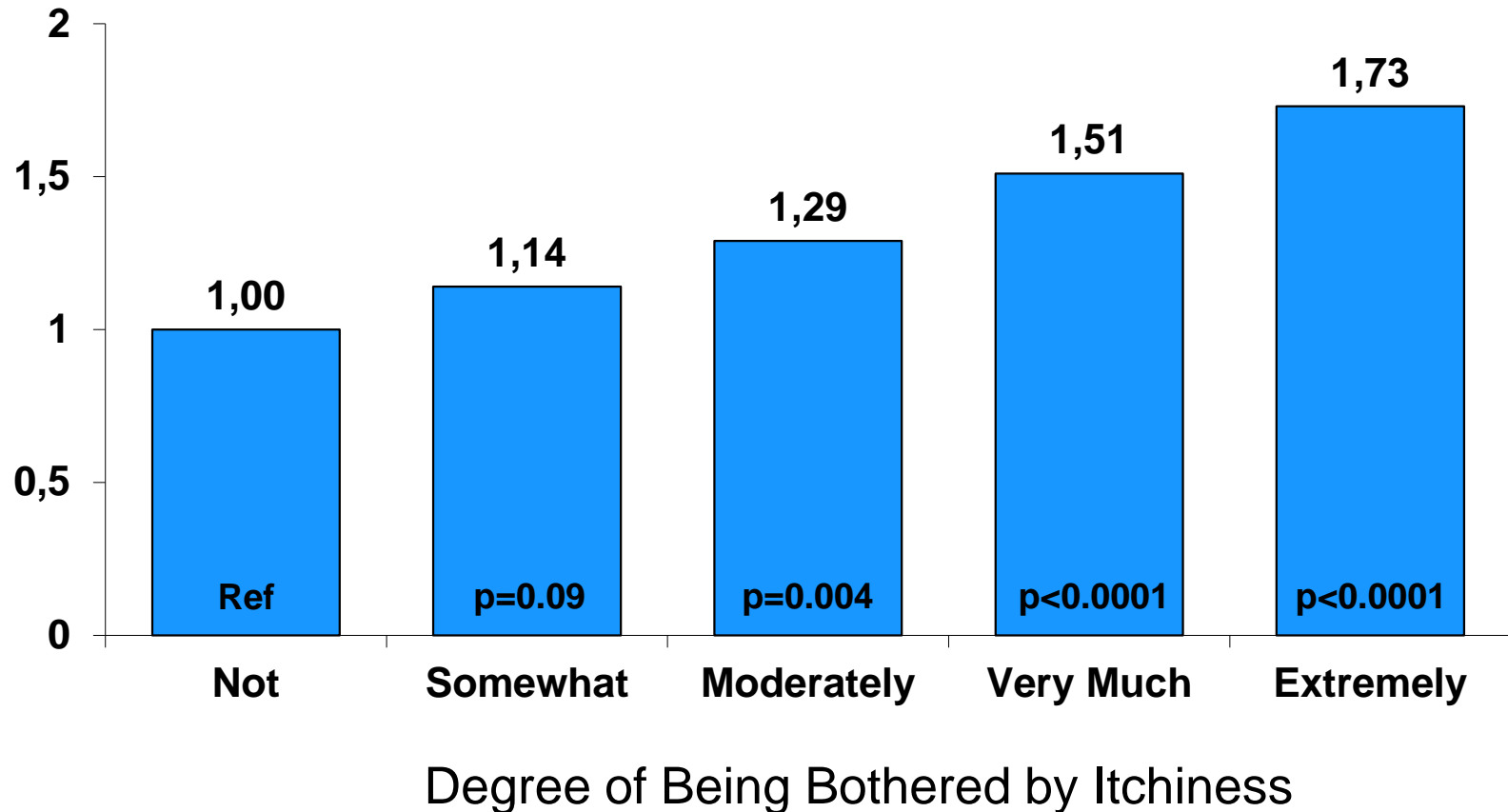


Degree of Being Bothered by Itchiness

adjusted for age, sex, race, years with ESRD, spKt/V, hemoglobin, serum albumin, 13 comorbid classes, depression, country and accounted for facility clustering effects; restricted to DOPPS I; excludes Italy due to translation error; all p-values <0.0001 except * p=0.09

Pruritus is associated with depression

AOR of having physician-diagnosed depression



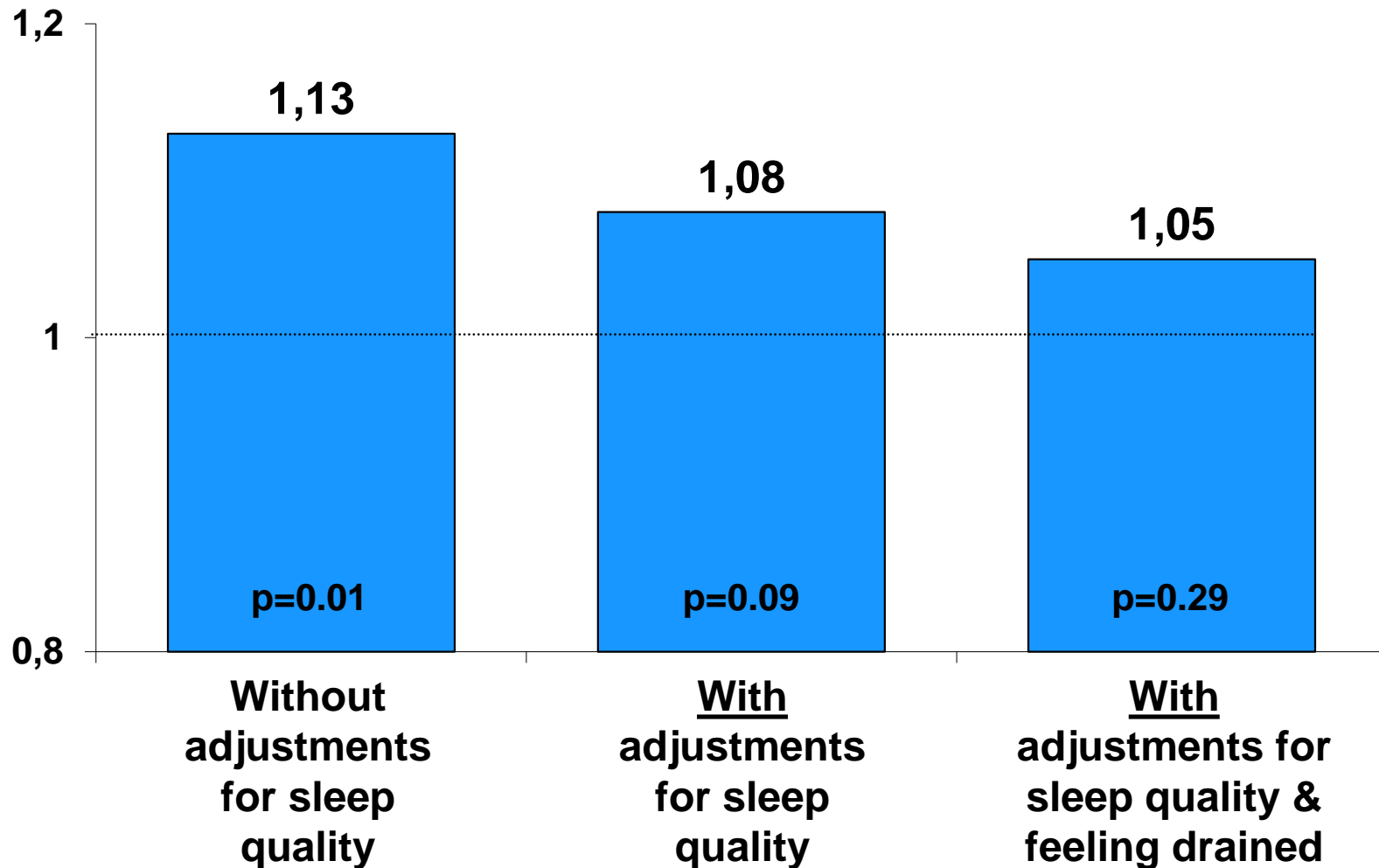
adjusted for age, sex, race, years with ESRD, spKt/V, hemoglobin, serum albumin, 13 comorbid classes, depression, country and accounted for facility clustering effects; restricted to DOPPS I; excludes Italy due to translation error; n=10,510

Pisoni RL et al. NDT (2006)

Pruritus is associated with mortality

RR of death

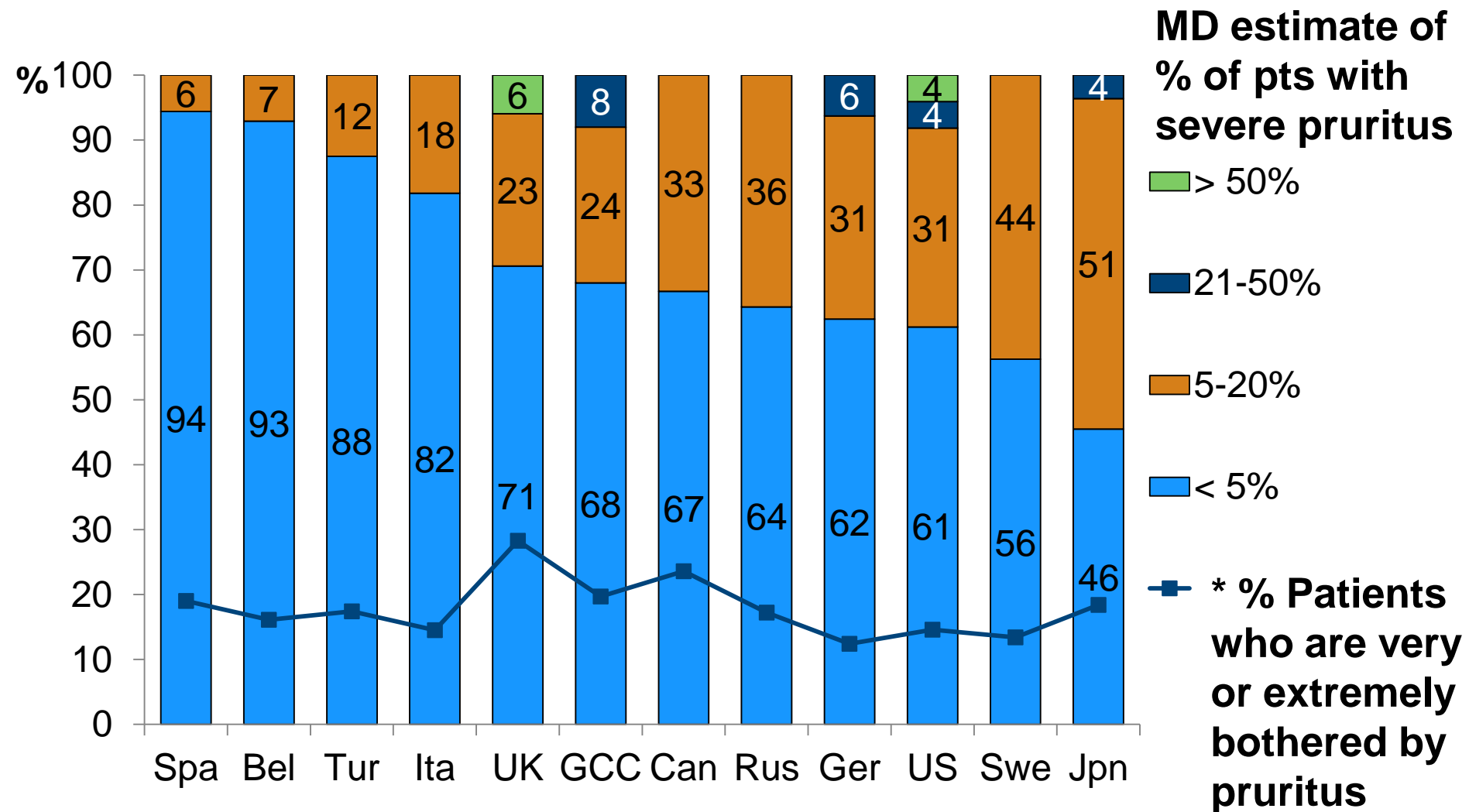
(moderate to extreme pruritus) vs (mild/no pruritus)



adjusted for age,sex, race, years with ESRD, spKt/V, hemoglobin, albumin, phosphorus, calcium, 13 comorbid classes, depression, country and accounted for facility clustering effects; restricted to DOPPS I; excludes Italy due to translation error; n=10,267

Pisoni RL et al. NDT (2006)

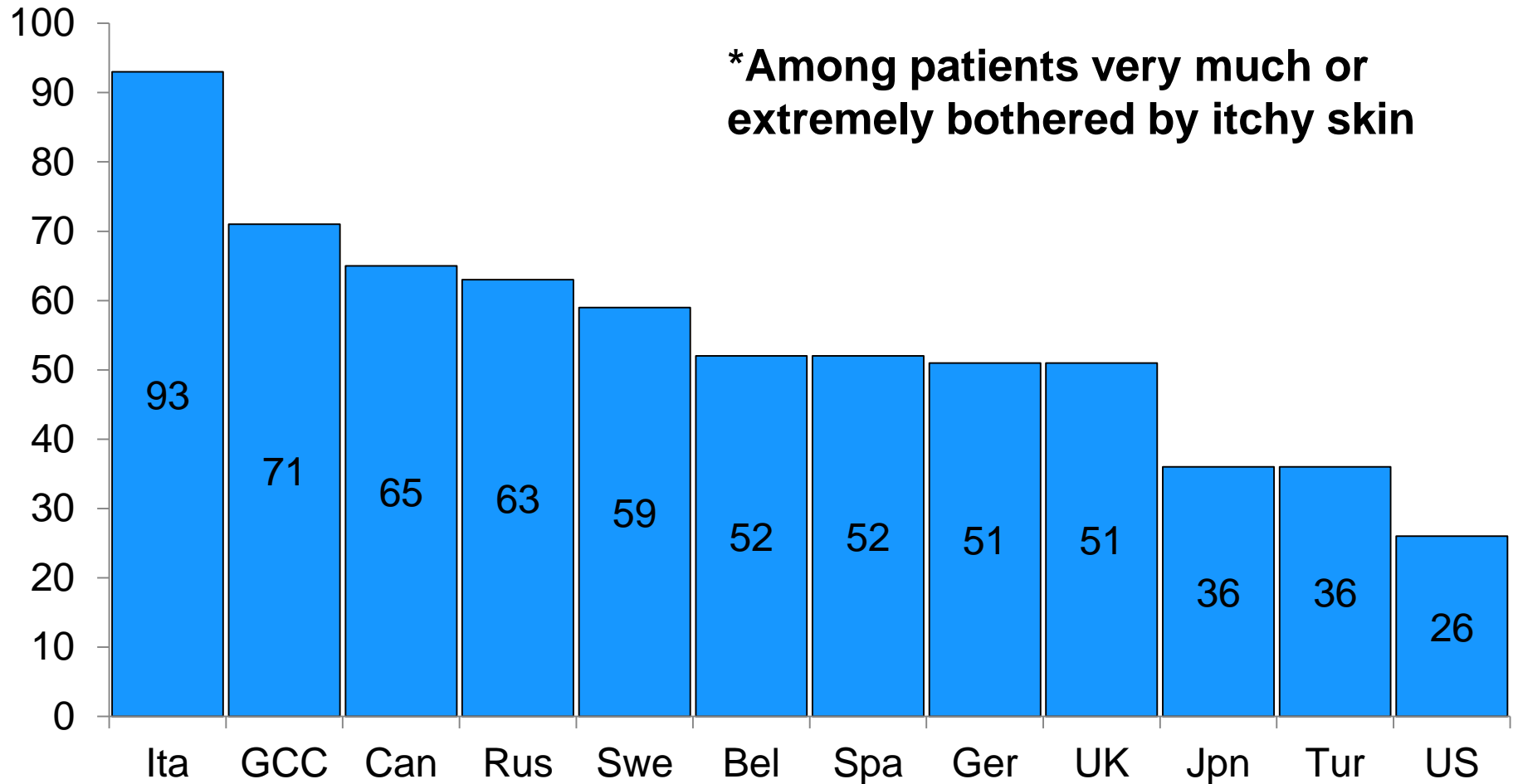
MDs' estimates of the % of HD patients with severe pruritus vs. % patients reporting* pruritus



N Fac = 18 14 9 11 18 25 18 14 16 50 16 55

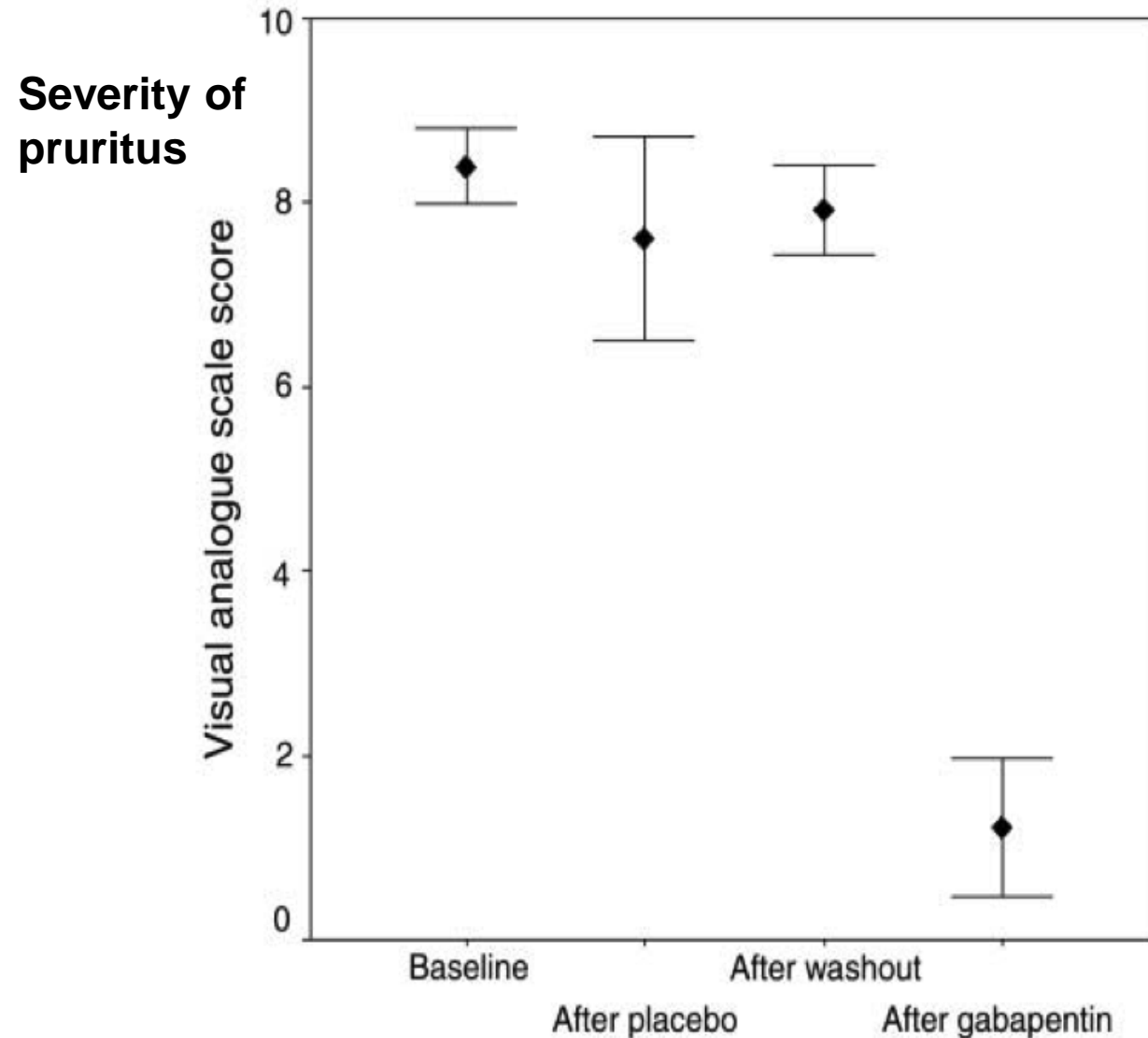
Why do MD's underestimate itching?

% of patients who have spoken with their nephrologist about itchy skin*



N Pat = 41 83 51 64 34 33 81 45 55 245 36 105

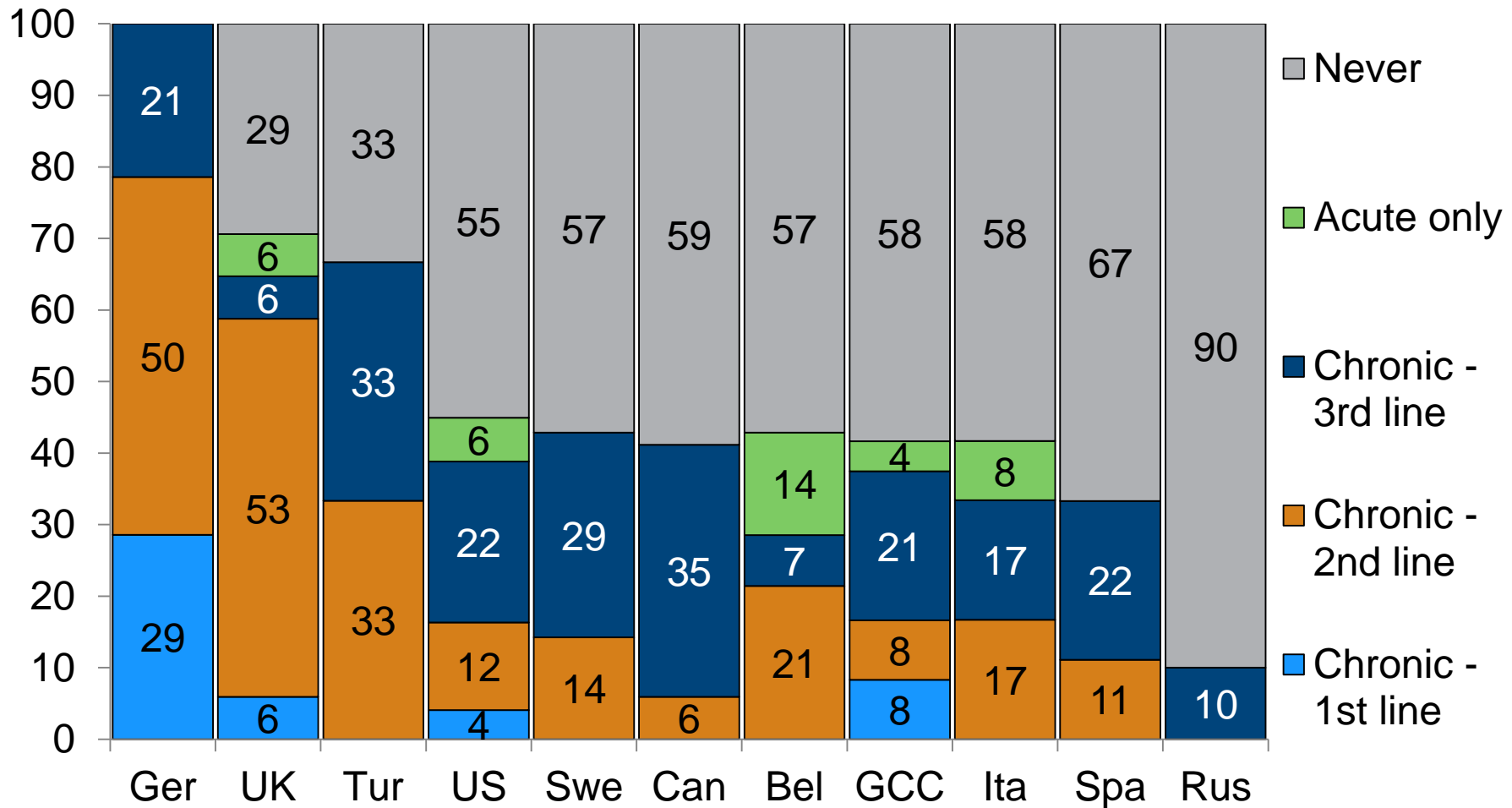
Gabapentin



Recommend
starting with
100mg
after dialysis

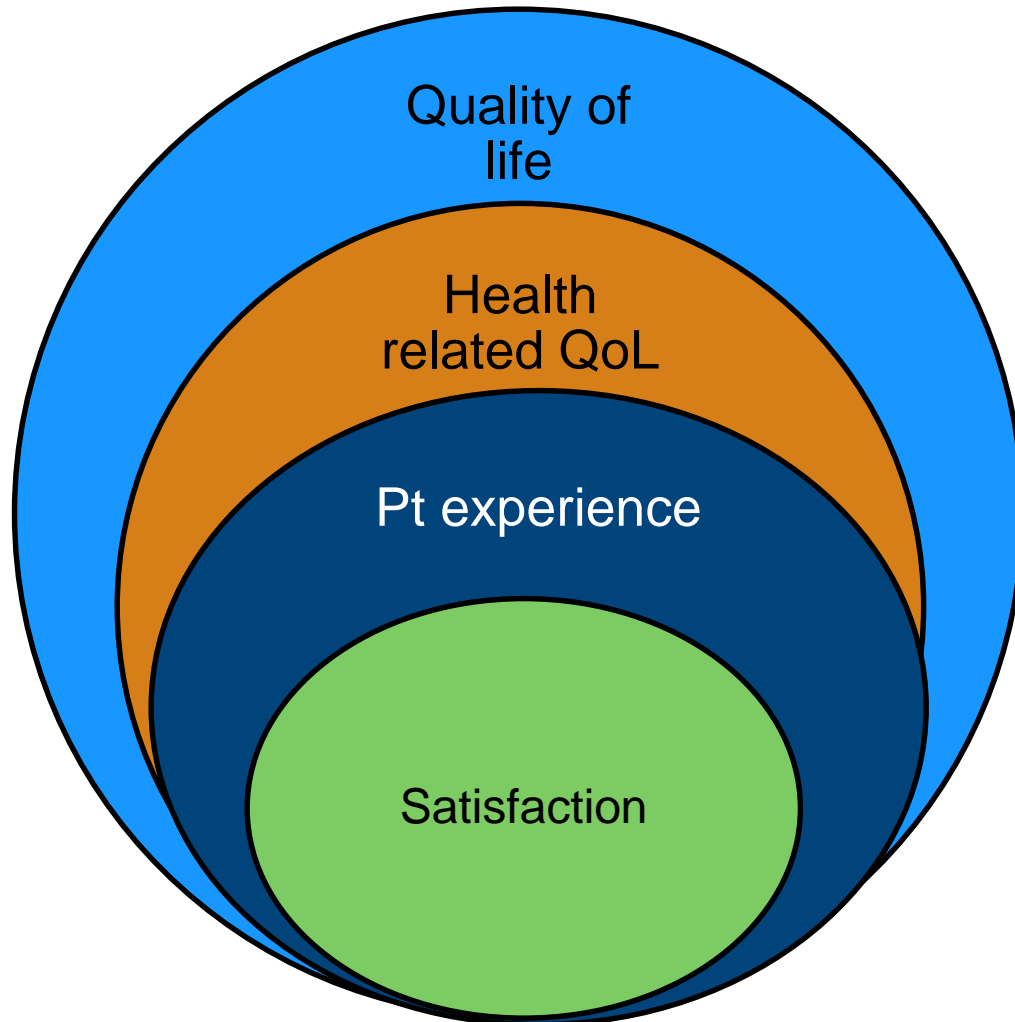
Use of gabapentin for chronic haemodialysis patients with pruritus not referred to a specialist

% of facilities

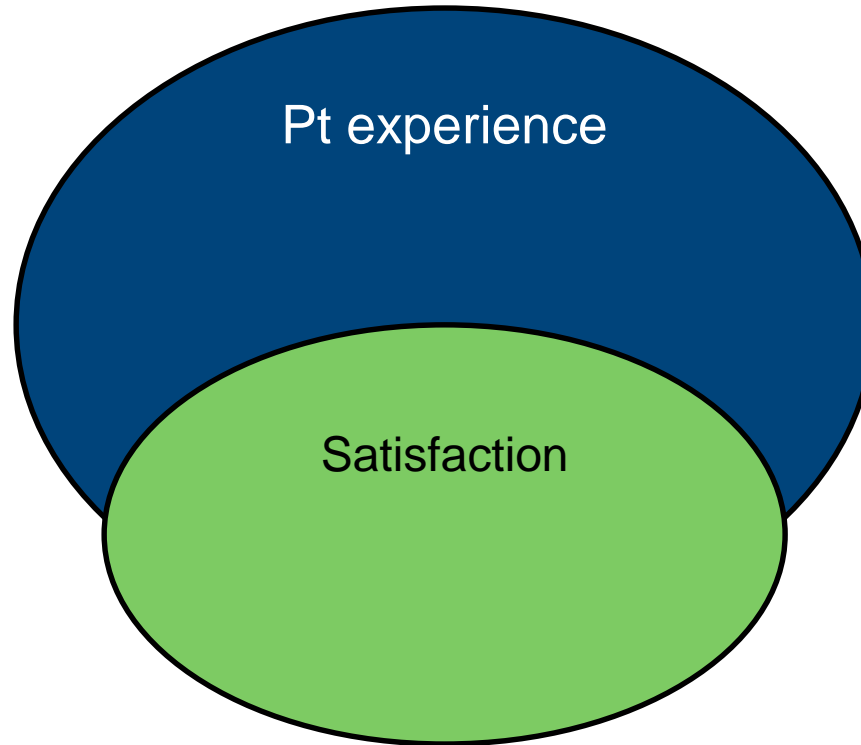


N Fac = 15 17 9 14 15 10 14 14 12 17 49

QUALITY OF LIFE IS A COMPLEX MIX



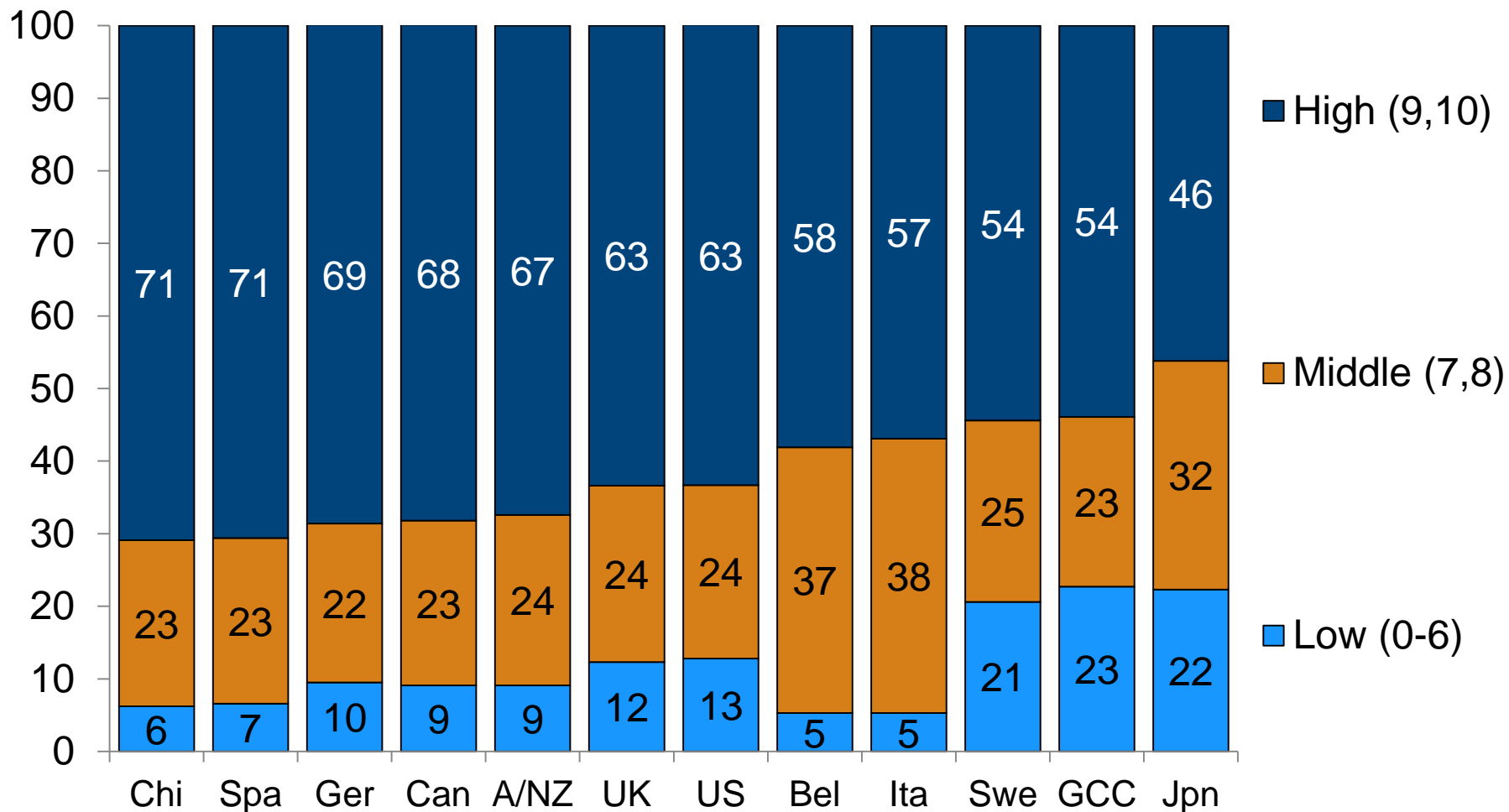
OPPORTUNITIES TO IMPROVE THE PATIENT EXPERIENCE



BETTER PATIENT PROVIDER CONNECTIONS

How would you rate your kidney doctors?

% of patients

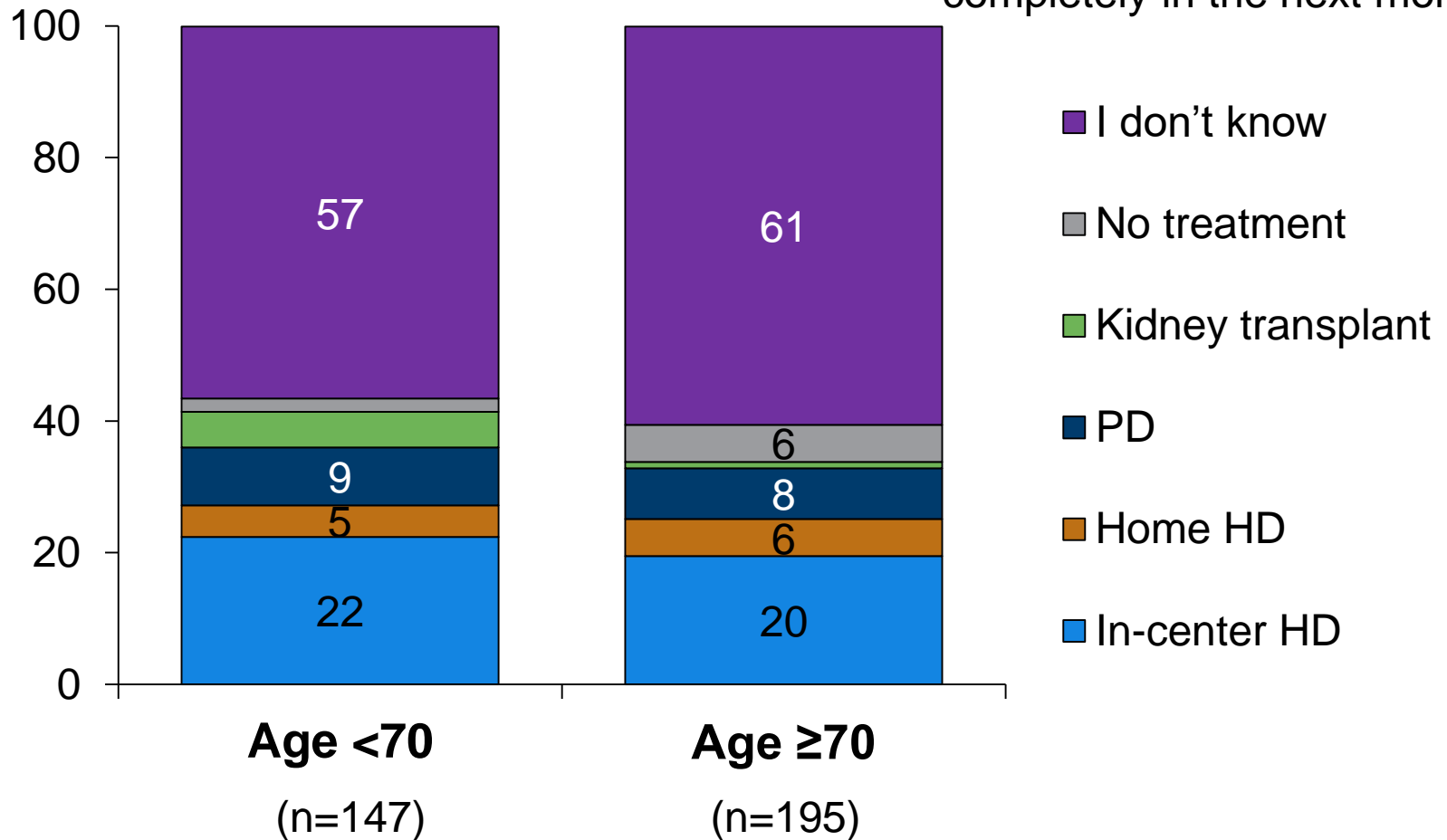


N Pts= 993 469 453 309 319 317 1098 246 394 316 449 1527

Education on treatment options for renal failure US CKDopps (2015)

% of patients

Which treatment would you choose if your kidneys failed completely in the next month?



Year 1 Patient Questionnaire data, among US patients with eGFR<30

CKDopps Patient Questionnaire; updated from Mariani et al (ASN 2015 abstract)

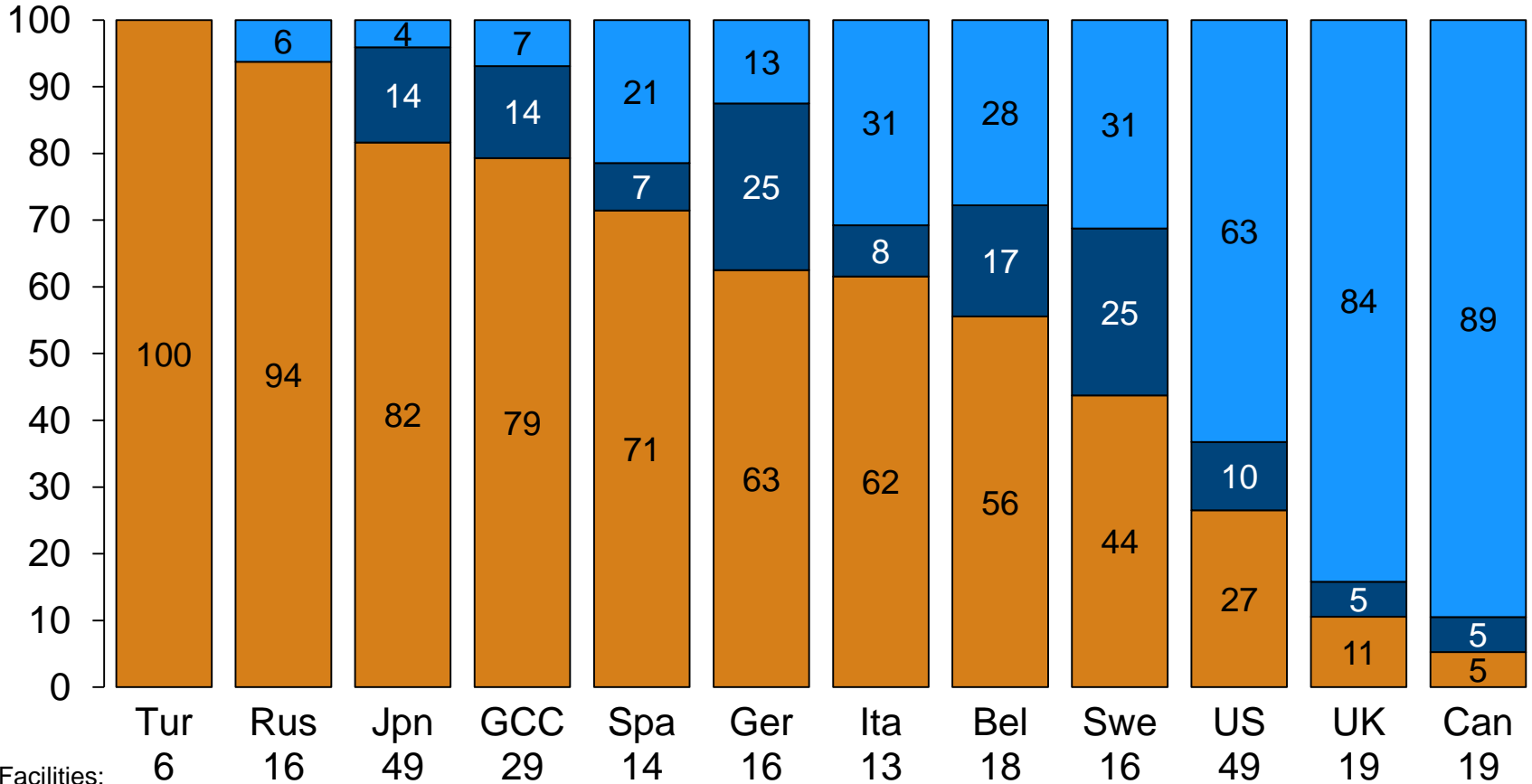
For elderly patients approaching end stage renal disease, how often does your team offer the option of conservative care without dialysis?

% Facilities

■ Never or Seldom

■ About half the time

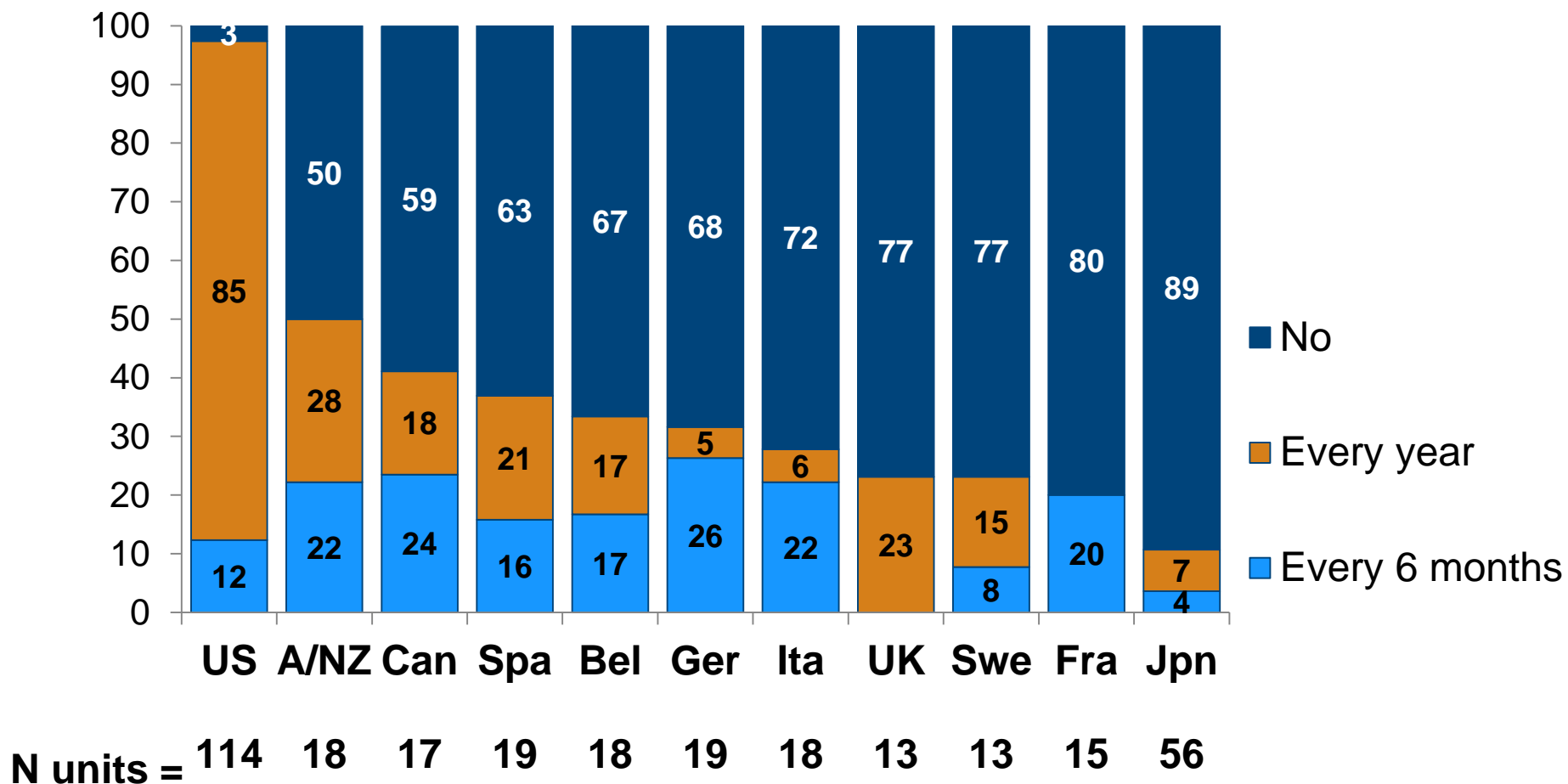
■ Usually or Always



Question text: For elderly patients approaching end stage renal disease, how often does your team offer the option of conservative care without dialysis?

Is patient quality of life routinely* assessed?

% of dialysis units



SUMMARY

- **Validated instruments are too burdensome to be done more than once/twice a year**
- **May not assess factors that are most important to patients**
- **Selection bias: only completed by patients who are “healthier” and more willing to spend time doing so (or those who are very unhappy)**
- **Patients are reporting “questionnaire fatigue” and frustration for lack of feedback**
- **Patients’ empowerment improve adherence to treatment and QoL**

A TAKE HOME MESSAGE

- Quality of life is associated with morbidity and mortality
- Validated questionnaires are cumbersome, but put in evidence that simple questions on
 - RECOVERY TIME AFTER DIALYSIS
 - PRURITUS
 - SLEEP QUALITY
- Responses to each these item are associated with clinical outcomes
- Each of these issues are potentially amenable to intervention
- **So...**

Let's ask to our patients

at every consultation and involve them in finding the better possible solution

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THE END

**THANKS
FOR YOUR ATTENTION**