



CHRONIC KIDNEY DISEASE OUTCOMES  
AND PRACTICE PATTERNS STUDY

# Improving outcomes in advanced CKD and the transition to dialysis

**Elodie Speyer, PhD**

on behalf of CKDopps and CKD-REIN Investigators

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Krakow, Poland  
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# CKDopps: Outline

- 1. Study overview**
2. Practice patterns
3. What patients tell us

# CKDopps – Overall goal and design

- The CKD Outcomes and Practices Patterns Study (CKDopps)
- International, prospective cohort study of CKD patients receiving nephrologist care (based on national samples of nephrology clinics)
- Identify nephrologist practices associated with better outcomes in advanced CKD patients and during kidney failure transition
- CKDopps initiative may have a lasting influence on CKD care, as DOPPS has had on HD care since its launch in 1996.
- Public and industry funding

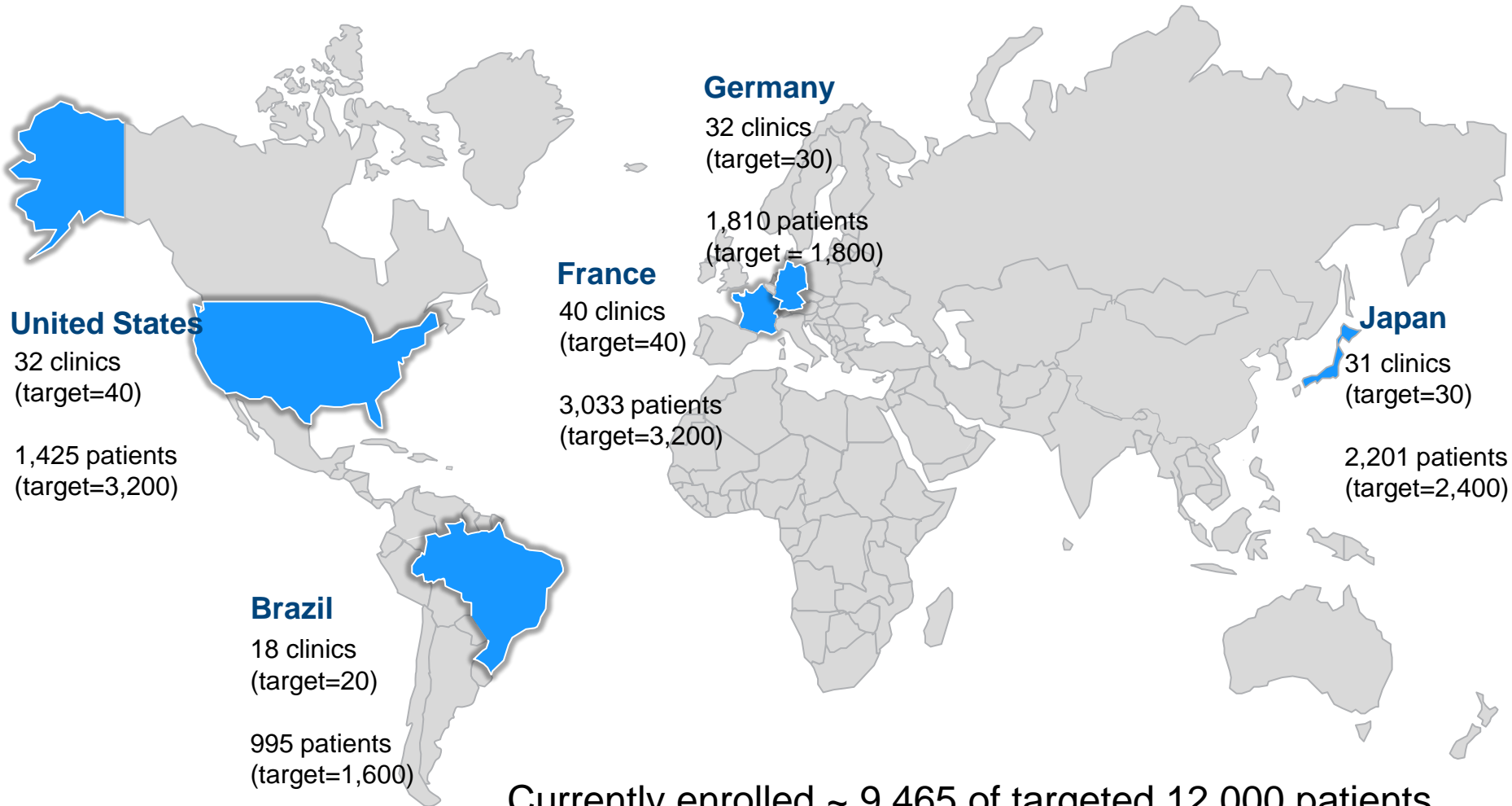
# Patients and information

Design	Target $\approx$ 12,000 CKD patients
<b>Inclusion criteria</b>	<ul style="list-style-type: none"><li>• Adult patients (<math>\geq 18</math> years)</li><li>• All causes of CKD stage 3b to 5 (non dialysis, non-renal transplant)<ul style="list-style-type: none"><li>- Stage 3-4 in France</li></ul></li><li>• 60-80 per clinic</li></ul>
<b>Follow-up</b>	<ul style="list-style-type: none"><li>• 3 years (up to 5 years in France)</li><li>• Before and after starting RRT</li></ul>
<b>Extensive data collection (longitudinal)</b>	<ul style="list-style-type: none"><li>• <b>Patient-level data</b> (medical records &amp; PRO)<ul style="list-style-type: none"><li>- Routine lab data (vs requested in France)</li><li>- No patient-questionnaire in Germany</li></ul></li><li>• <b>Physician-, and clinic-level data</b></li></ul>
<b>Outcomes</b>	<ul style="list-style-type: none"><li>• Mortality and morbidity</li><li>• Progression and transition to kidney failure</li><li>• Patient-reported outcomes and experience</li></ul>

More details in *Mariani et al. Am J Kidney Dis. 2016 Sep;68(3):402-13*

# CKDopps participating countries

Current as of August 24, 2017



# Baseline patient characteristics

	Brazil	France	Germany	US
<b>Patients, N</b>	<b>909</b>	<b>3,033</b>	<b>1,829</b>	<b>1,251</b>
Median age (years)	67	69	75	71
Women	47%	35%	42%	47%
Diabetes <sup>a</sup>	48%	41%	43%	59%
Mean eGFR, mL/min/1.73 m <sup>2</sup>	25.8	32.9	27.7	26.4
<b>CKD Cause</b>				
Diabetes	32%	20%	27%	35%
Glomerular Disease	8%	17%	10%	6%
Hypertension	30%	21%	33%	33%
Other/Unknown	30%	42%	30%	26%

- a. 5, 2, 2, 4 % of all patients in Brazil, France, Germany, US were type 1 diabetic  
 b. \*\* Japanese data not available yet (enrollment started in 2016)

# CKDopps Outcomes\*

Country	N Pts	Follow-up Time, Median years	Dialysis Starts, % (n)	Deaths**, % (n)	Hospitalizations†, % (n)
Brazil	909	1.20	9% (78)	6% (51)	17% (155)
France	3,012	1.99	8% (258)	8% (237)	58% (1774)
Germany	1,829	3.10	22% (396)	13% (234)	-
United States	1,251	1.21	13% (168)	12% (156)	28% (345)
<b>CKDopps Total</b>	<b>6,894</b>		<b>13% (900)</b>	<b>10% (678)</b>	<b>32% (2274)</b>

\* Japanese data not available yet (enrollment started in 2016)

\*\* Deaths captured during study follow-up (including up to 12 months after start of dialysis)

† Inpatient hospitalization

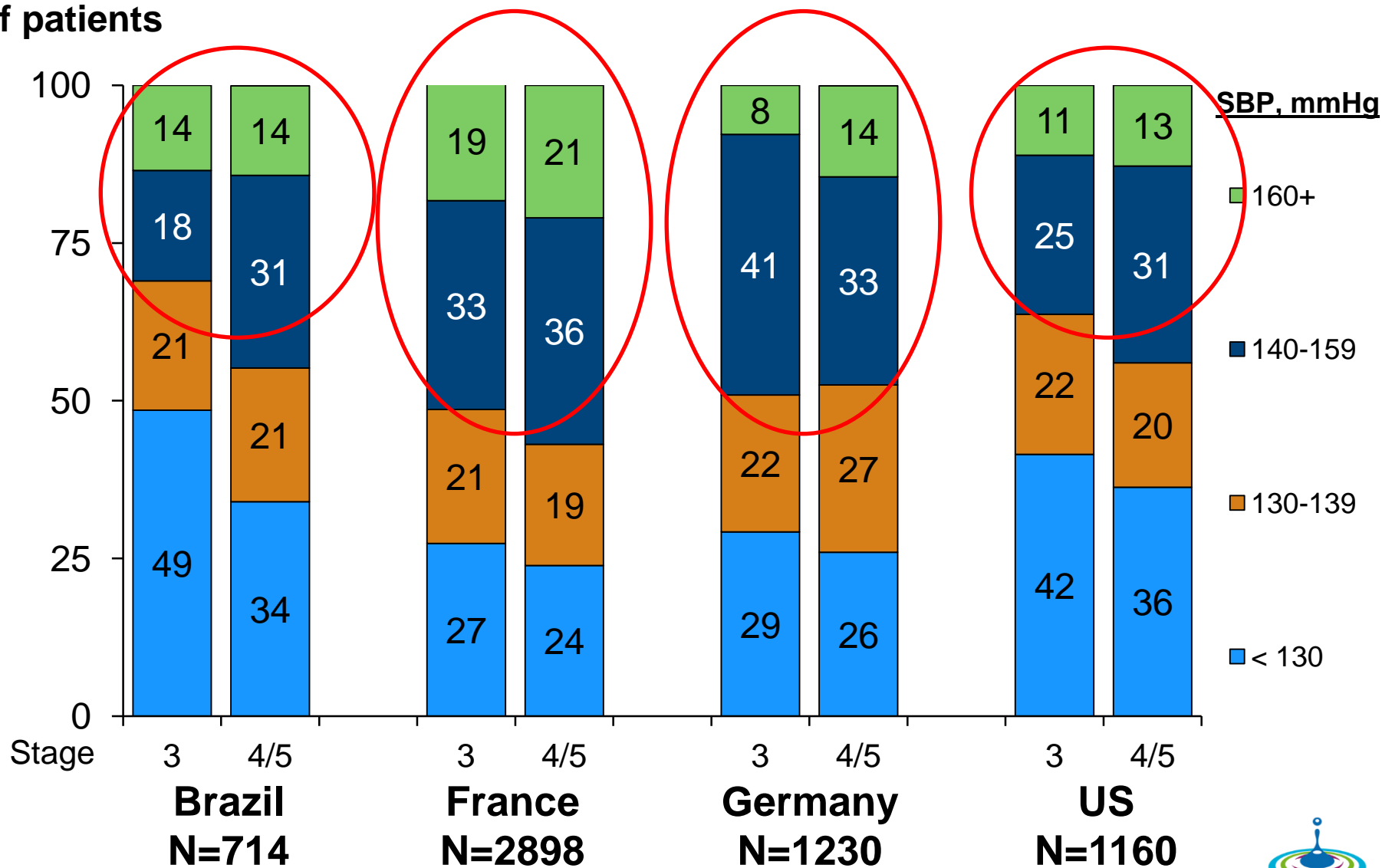
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# Systolic blood pressure, by CKD stage

% of patients



KDIGO 2012: Individualize BP targets; avoid postural hypotension

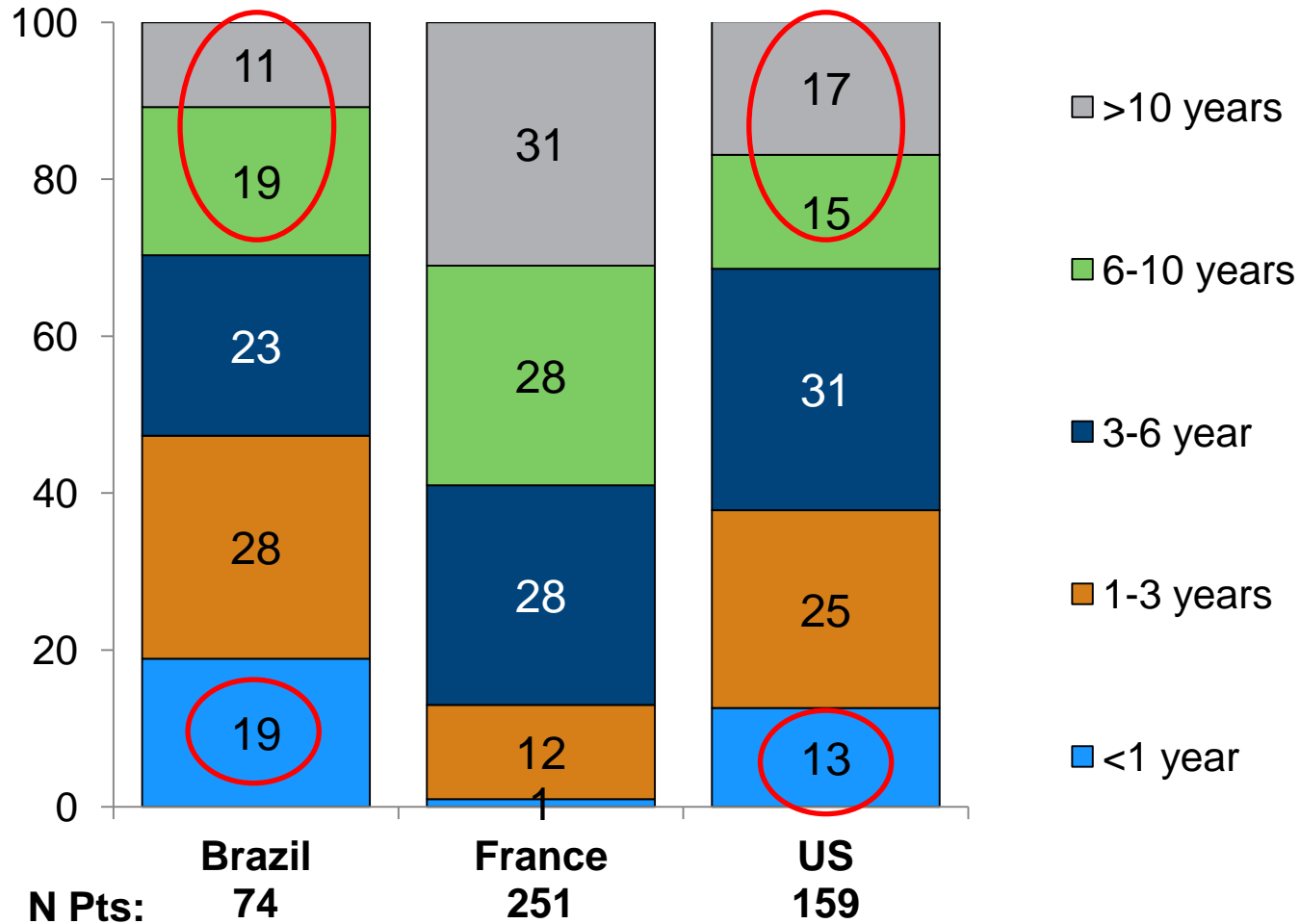
# Timing of first nephrology visit before starting dialysis

## KDIGO 2012

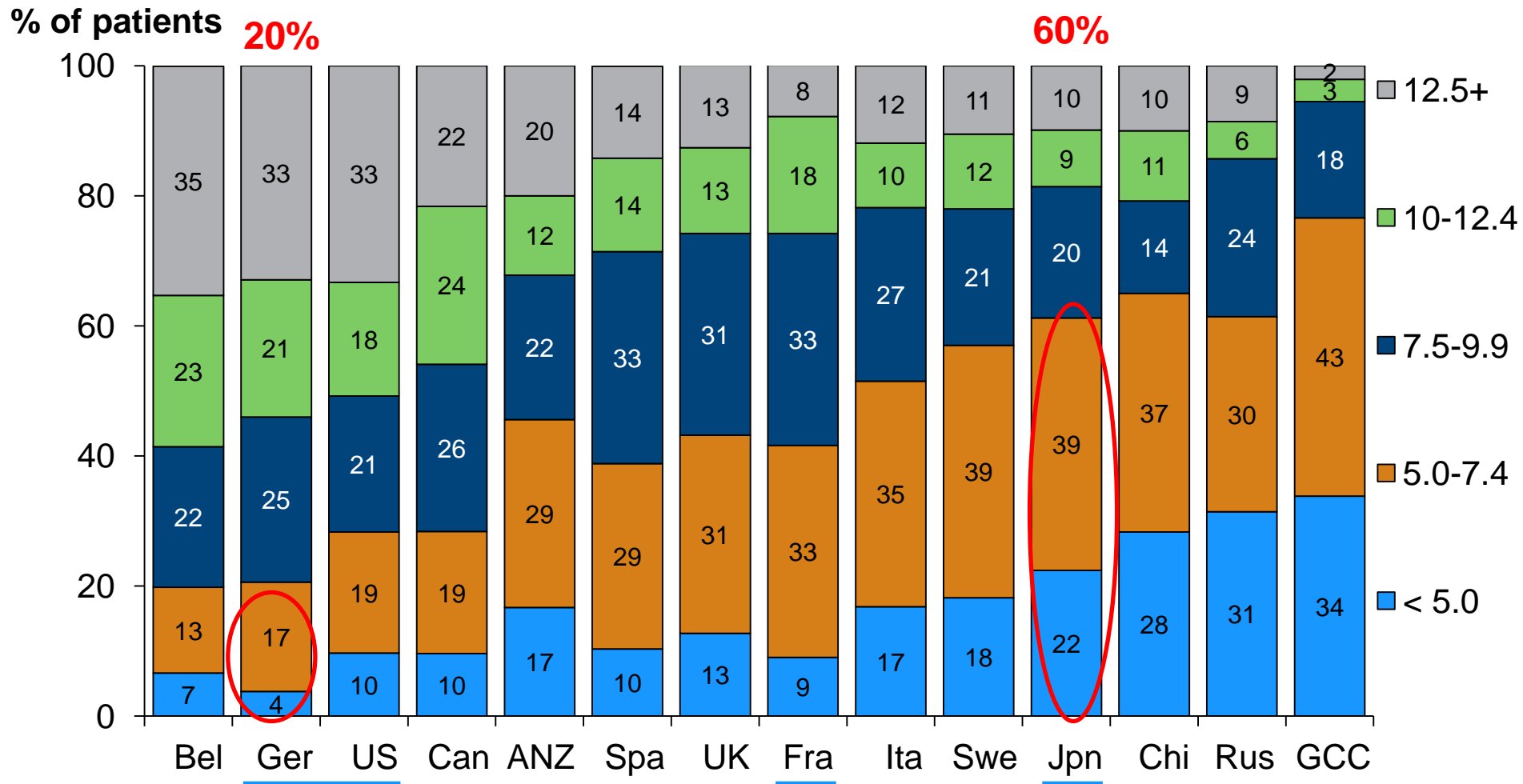
Timely referral for RRT planning if progressive CKD with 1-year ESKD risk at least 10-20% (using validated risk prediction tool)

# Timing of first nephrology visit before starting dialysis

% of patients



# eGFR at dialysis initiation (DOPPS)\*



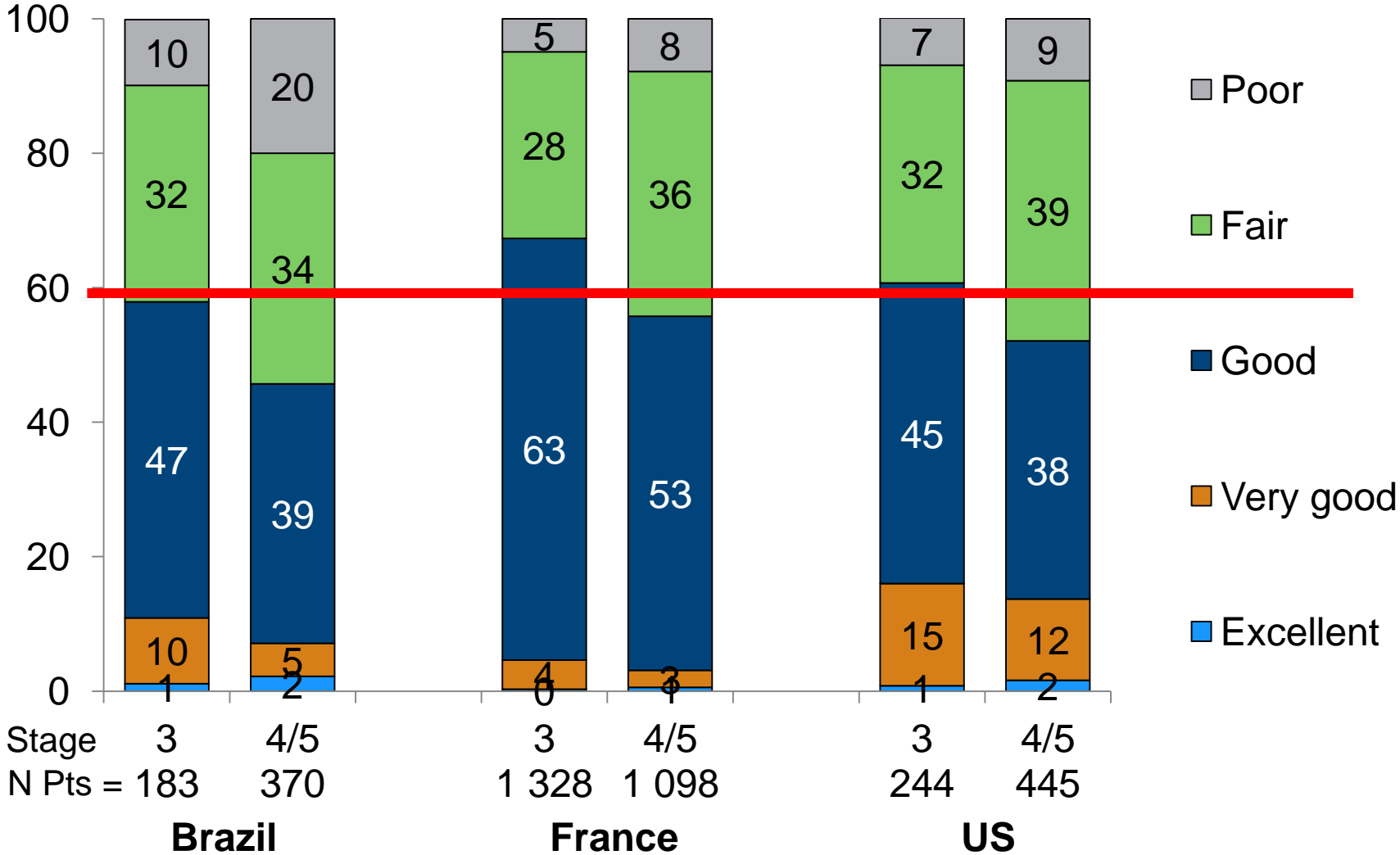
N Pts: 227...346...526...218...90... 319...197...89... 202...286...446...120...70... 145...  
 Mean:

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# Patient's general health

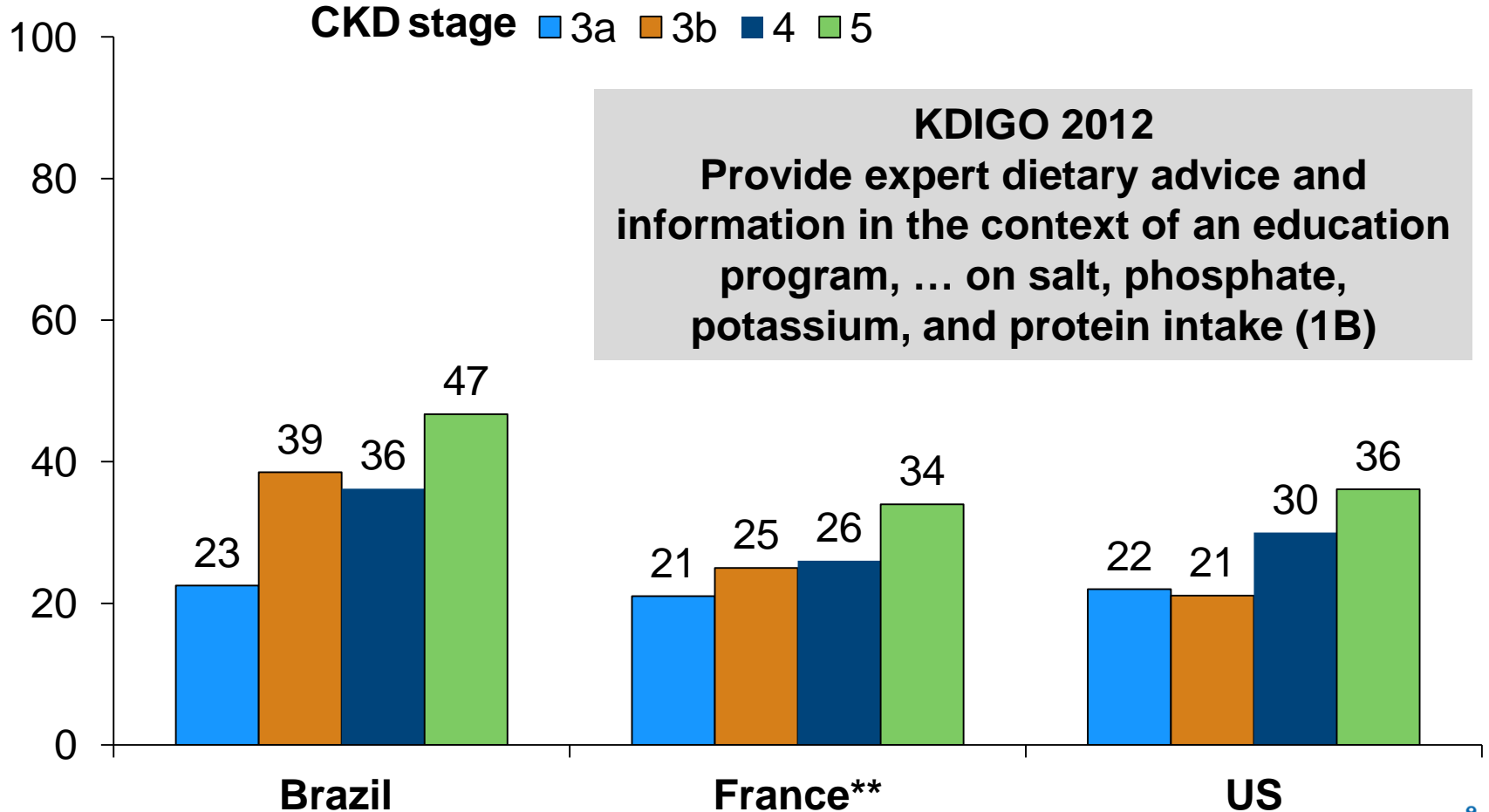
% of patients



Enrollment Patient Questionnaire data

# Patients reporting to have seen a dietitian at least once during past year

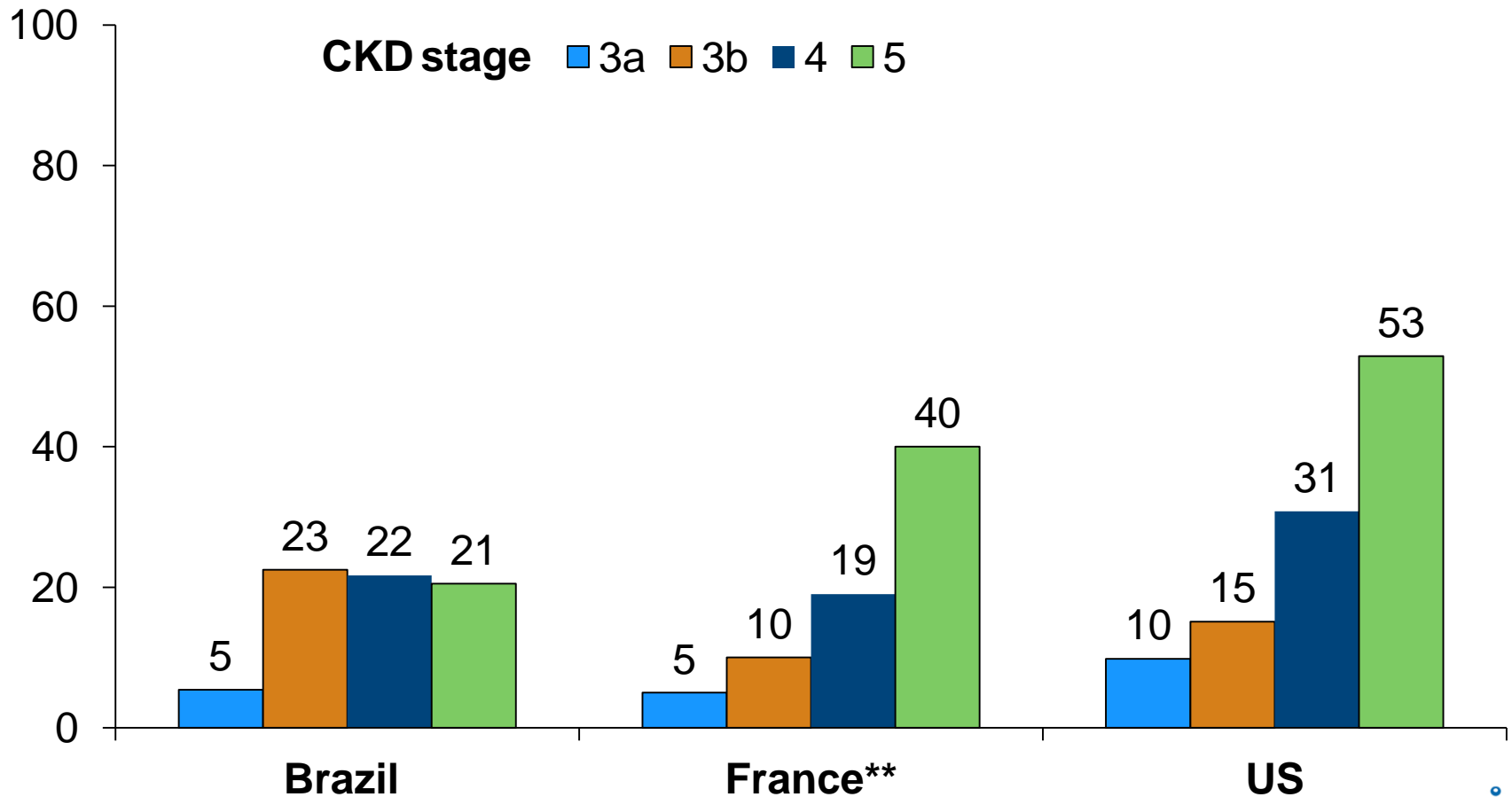
% of patients



Enrollment Patient Questionnaire data

# Percentage of patients who reported receiving education sessions\* about treatment options for kidney failure

% of patients



\* Either one-on-one or a classroom education sessions

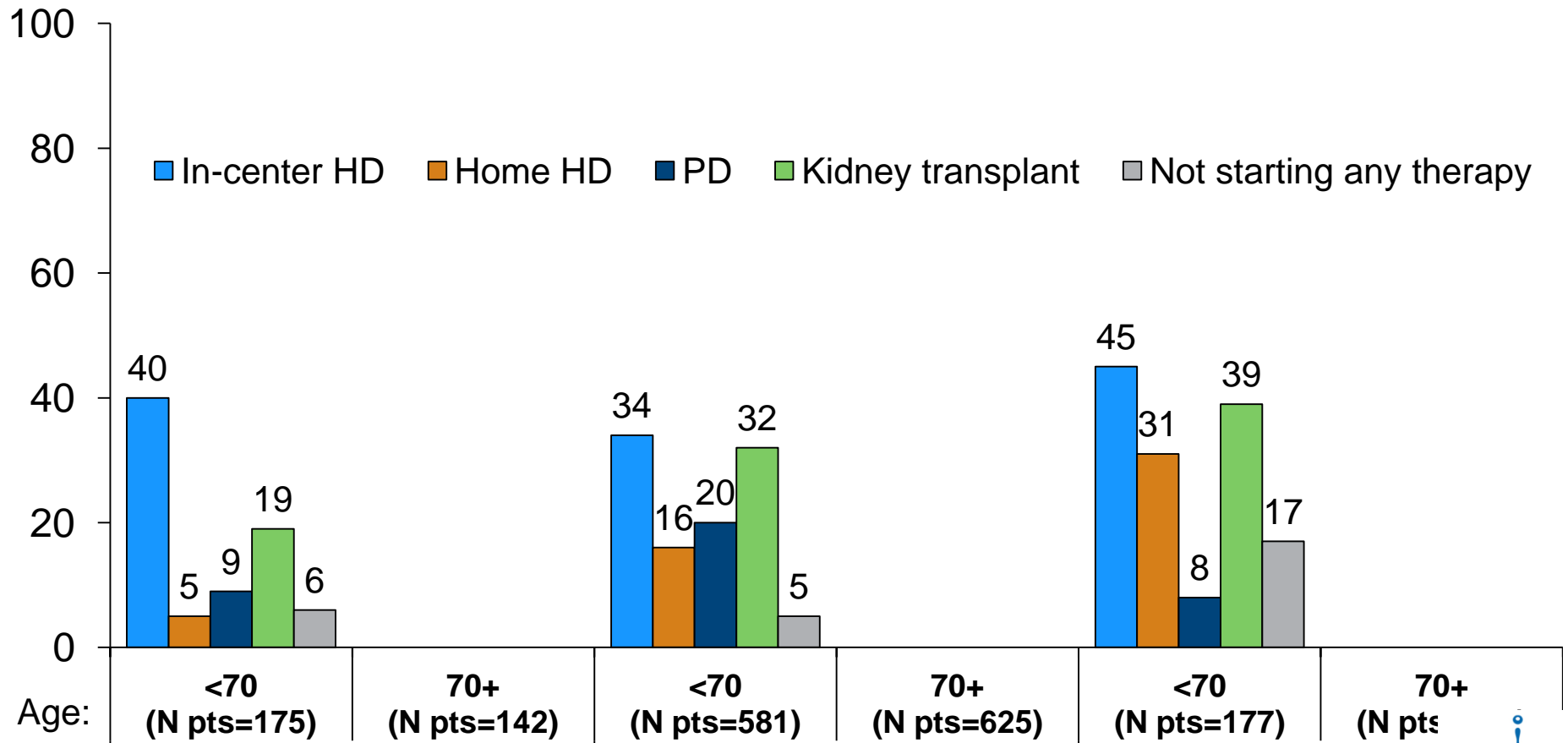


# “Which of treatment options for kidney failure has your doctor discussed with you?”

Among patients with eGFR<30

% of patients

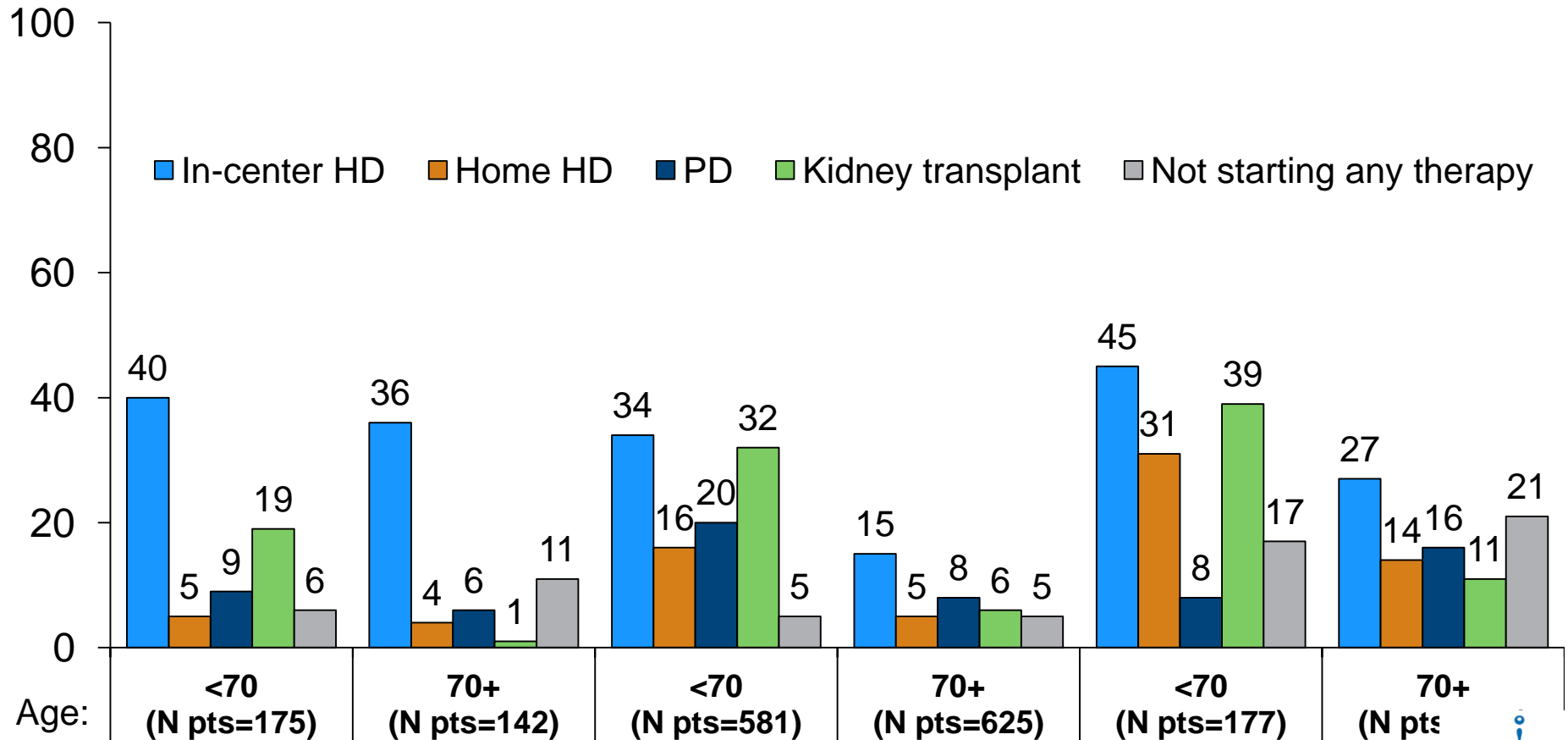
Not discussed yet → more than 40% of patients



# “Which of treatment options for kidney failure has your doctor discussed with you?”

Among patients with eGFR<30

% of patients



# CKDopps: Take-Home Messages

## Early data show:

- Important variations already identified across countries

## About practice patterns:

- Study is ongoing, but a high number of outcomes have already been recorded
- Uncontrolled SBP > 140 mm Hg remains high
- Late nephrologist referral is most common in Brazil

## What patients tell us:

- A certain burden of kidney disease for patients
- Many don't regularly see a dietician or receive advice regarding treatment options for kidney failure (recall bias?)

# CKDopps: Special Thanks

- **CKDopps Investigators**
  - **Arbor Research**: B. Robinson, R. Perlman, RL. Pisoni, F. Port
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- All **clinical investigators** and **CRAs** for invaluable contributions.
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# CKDopps: Special Thanks

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