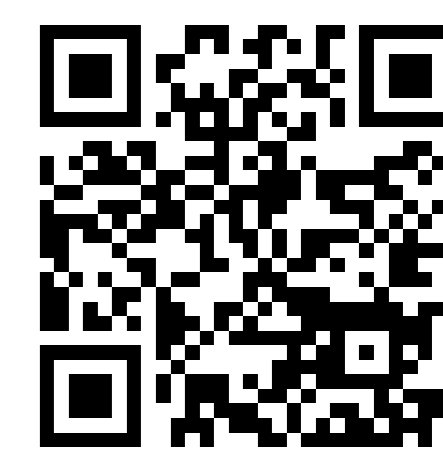# PCN237 Healthcare professionals' preferences for the treatment selection of Chronic Lymphocytic Leukemia (CLL): THE PRELIC STUDY

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Background

- Advances in the treatment of Chronic Lymphocytic Leukemia (CLL) have primarily benefitted young, fit patients[1]. Conversely, many older patients receive sub-optimal treatment and show lower survival rates[2].
- Moreover, findings in the cost awareness studies show that doctors feel pharmaceutical costs are important[3]. This could limit the access to new CLL treatment alternatives, which offer the opportunity to actively and effectively treat older patients.

Objective

- **To explore the preferences of Spanish healthcare professionals (hematologists and hospital pharmacists) in the treatment selection for active CLL patients at first relapse.**

Methods

Design

- An observational cross-sectional study was conducted in Spain using the Discrete Choice Experiment (DCE)[4] (*Figure 1*).

Figure 1. Steps for the development of DCE

Literature review → Focus group with 5 experts → Attributes and levels combination → Fractional factorial design: scenarios

- Two groups of attributes, one related to patient or disease and the other to treatments, were included in the study (*Table 1*).

Table 1. Attributes and levels included in the scenarios

Patient/ disease	**Age:** 70, 75, 85
	Performance status: Good (ECOG 0-1) / Poor (ECOG ≥2)
	Comorbidities: No comorbidities / Renal failure (with or without other comorbidities) / Other comorbidities (with functional repercussion and normal renal function)
	Risk of disease: Low [without 17p-deletion/p53 mutation and late relapse (≥ 3 years)] / High [with 17p-deletion/p53 mutation and/or early relapse (< 3 years)]
Treatment	**Progression Free Survival (PFS):** HR= 0.30, HR= 0.45, HR= 0.65
	Discontinuation due to adverse events (AEs): 5%, 15%, 25%
	Cost/year: €10,000, €35,000, €70,000

ECOG: Eastern Cooperative Oncology Group; HR: Hazard Ratio.

- A fractional factorial analysis (orthogonal matrix) produced 36 scenarios, that were divided into 3 blocks of 12 sets of choices. Choice pairs were generated by mix-and-match algorithm[5].
- An electronic case report form (eCRF) including sociodemographic variables, DCE scenarios and two ad-hoc questions to evaluate the Willingness To Pay (WTP) was developed. The sponsor of the study was concealed from study participants.

Selection criteria of study participants

- **Hematologists:** ≥ 2 years of experience, time spent in clinical assistance >70% and clinical experience in patients with CLL.
- **Pharmacists:** ≥ 2 years of experience and familiarity with onco-hematological drugs.

Statistical analysis

- Preferences and utility values were analyzed though a mixed logit model[4,6]. The relative importance (RI) of attributes was calculated. Importance scores indicate how much the decision is based on a specific attribute.
- The RI was compared between healthcare professionals (hematologists and pharmacists).
- WTP for the attribute levels was estimated from the utility values obtained in DCE. Additionally, mean-WTP was calculated from ad-hoc questions.

Results

Participants characteristics

- A total of 130 participants (72 hematologists and 58 hospital pharmacists) from representative regions of Spain answered the eCRF (*Table 2*).
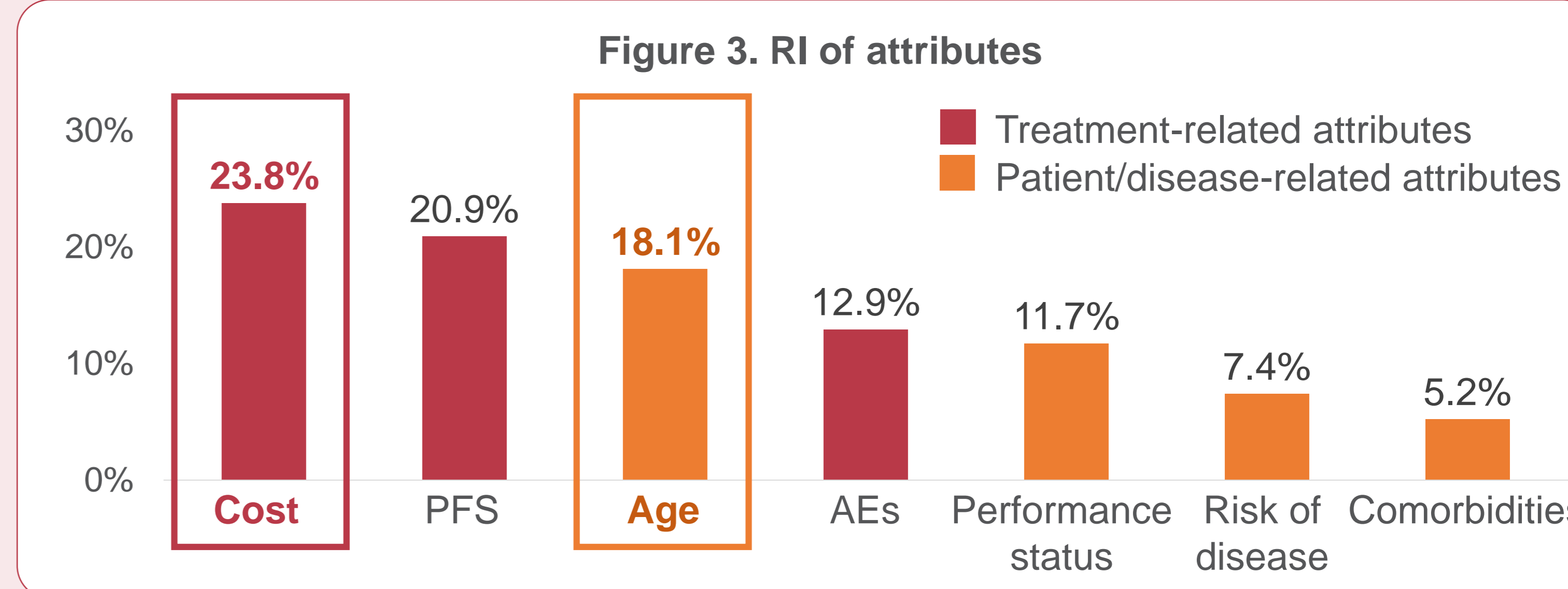
Table 2. Population characteristics

		Total	Hematologists	Pharmacists
Gender, male (%)		**45.4**	38.9	53.4
Age, years (mean ± SD)		**45.6 (8.4)**	46.2 (7.5)	44.7 (9.4)
Professional experience, years (mean ± SD)		**16.6 (8.4)**	16.8 (7.7)	16.3 (9.3)
Healthcare sector	*Public (%)*	**93.1**	90.3	96.6
	Public-private (%)	**6.9**	5.4	3.4
Position (%)	*Head of department (%)*	**31.5**	20.8	44.8
	Associate (%)	**68.5**	79.2	55.2
CLL patients per year (mean ± SD)		**-**	72.1 (71.1)	-

DCE: preferences and WTP

- All attributes were significant predictors of choice (p<0.05). *Figure 2* represents the utility values for cost and age attributes, respectively.

Figure 2. Utility values for cost and age attributes
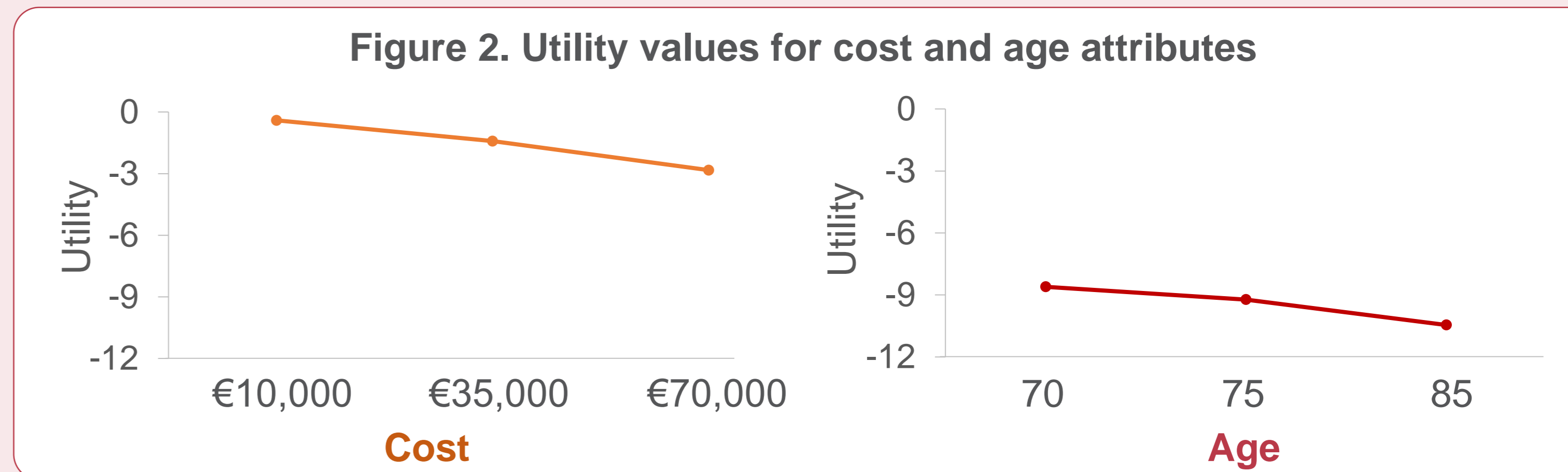
- Treatment-related attributes obtained higher RI, the highest rated being 'cost' and 'PFS'. Regarding patient-related attributes, 'age' obtained the highest RI (*Figure 3*).

Figure 3. RI of attributes

Cost: 23.8%, PFS: 20.9%, Age: 18.1%, AEs: 12.9%, Performance status: 11.7%, Risk of disease: 7.4%, Comorbidities: 5.2%

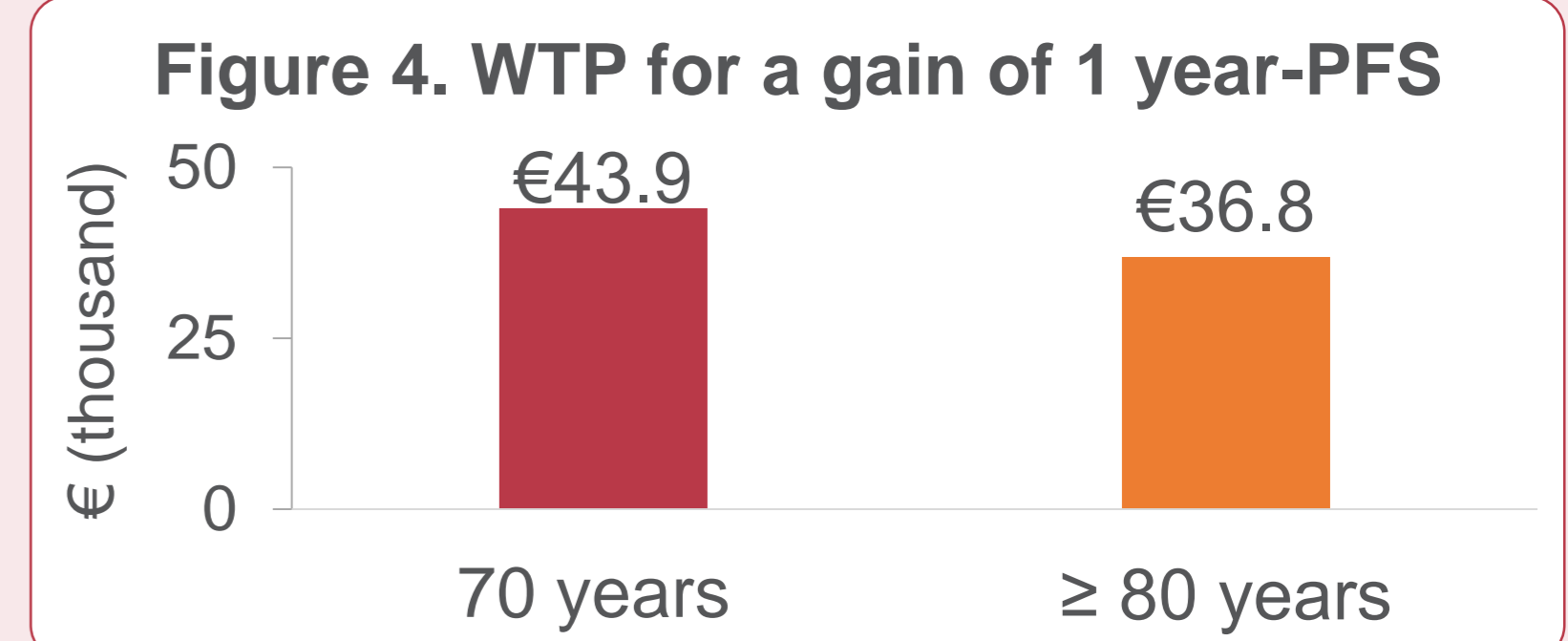Treatment-related attributes / Patient/disease-related attributes

- The attribute with the highest RI for hematologists was efficacy (PFS), while pharmacists gave greater importance to cost. However, these differences were not significant (p>0.05).
- WTP decreases as patients age increases. Professionals were willing to pay an additional amount of €253.9/month for the treatment of a patient 1 year younger.

Ad-hoc questions: WTP

- Professionals WTP for a gain of 1 year-PFS was higher in patients aged 70 than in patients ≥ 80 years (*Figure 4*); (reference annual treatment cost of €20,000/year).

Figure 4. WTP for a gain of 1 year-PFS

€43.9 (70 years), €36.8 (≥ 80 years)

Conclusions

- **This is the first DCE including age and cost as attributes in the onco-hematology field. 'Cost', 'PFS' (treatment-related attributes) and 'age' (patient-related attribute) are the main factors that determine treatment selection for CLL patients at first relapse. WTP for the treatment is lower in older patients, even without considering other factors in the decision.**

References: 1. Knauf W, et al. J Leuk. 2015;03(02). **2.** Pulte D, et al. Eur J Haematol. 2015;94(6):540–5. **3.** Allan GM, et al. PLoS Med. 2007; 4(9): e283. **4.** Hauber AB, et al. Value Heal. 2016;19(4):300–15. **5.** Clark MD, et al. Pharmacoeconomics. 2014;32(9):883–902. **6.** Train K. Discrete Choice Methods with Simulation. 2003;169–82.