



BIOSISTEMAK



Value based healthcare for Outcomes In breast and lung Cancer in Europe

Roche



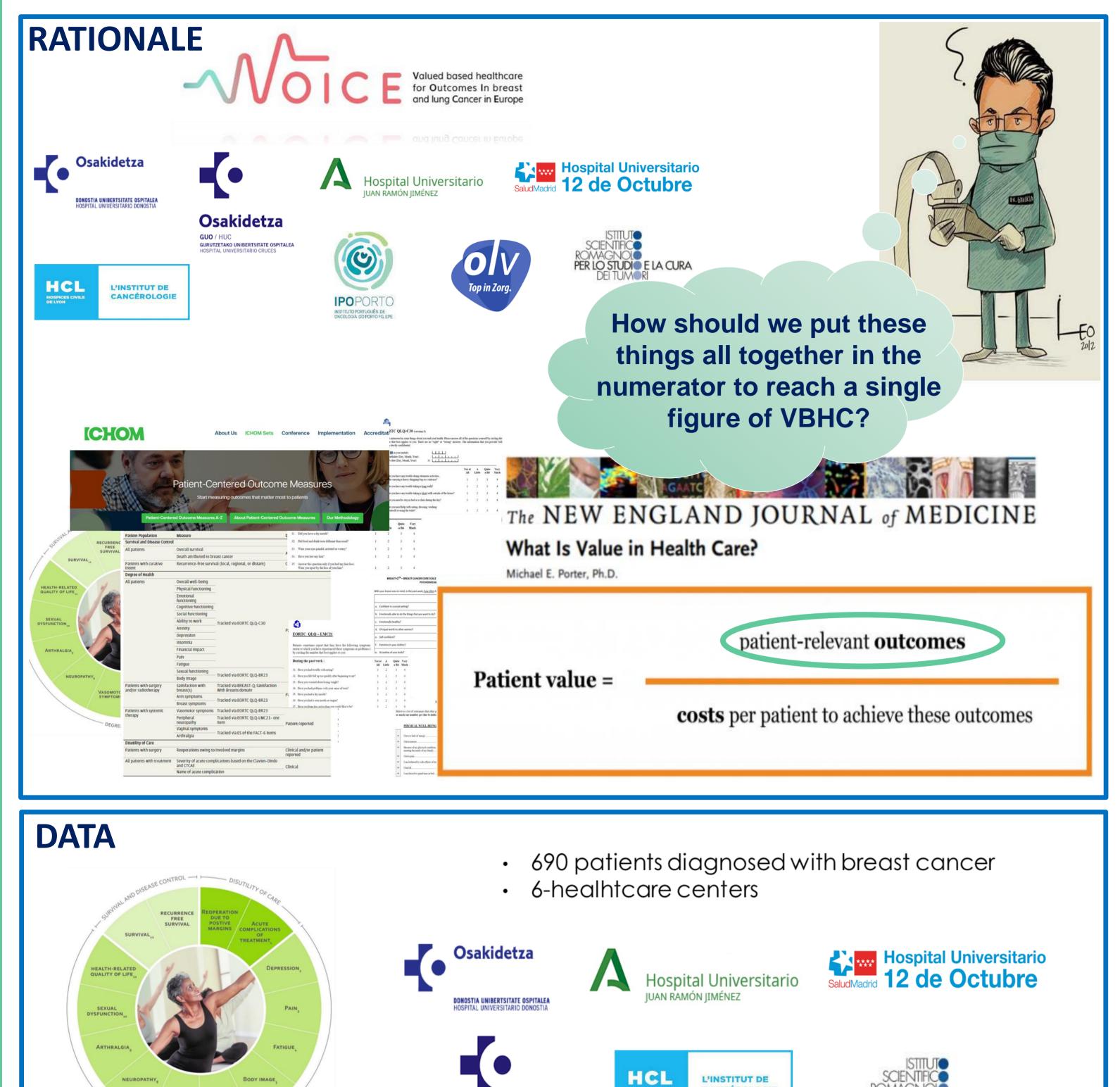
Catalyst



RESEARCH

Disentangling the Value Equation: A Step Forward in Value-Based Health Care

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RESULTS

Table 1. Descriptive analysis

	Site A n=273(39.6%)	Site B n=58(8.4%)	Site C n=42 (6.1%)	Site D n=99(14.3%)	Site E n=127(18.4%)	Site F n=91(13.2%)	p-value
PATIENT CHARACTERISTICS							
Age at diagnosis	58.2 (11.6)	58.1 (12.9)	53.1 (9.42)	59.6 (13.8)	61.3 (12.1)	61.2 (12.5)	0.002*
Post-menopause status	180 (66.4%)	32 (57.1%)	23 (59.0%)	59 (60.2%)	92 (72.4%)	64 (70.3%)	0.19
Comorbidity ^a	108 (39.6%)	16 (28.6%)	14 (33.3%)	58 (58.6%)	56 (44.1%)	30 (43.5%)	<0.001*
TUMOUR CHARACTS.							
Ductal carcinoma in situ	43 (15.8%)	8 (13.8%)	12 (28.6%)	19 (19.2%)	15 (11.8%)	47 (52.2%)	<0.001*
Invasive ductal carcinoma	190 (69.6%)	40 (69.0%)	28 (66.7%)	84 (84.8%)	102 (80.3%)	51 (56.7%)	<0.001*
Invasive lobular carcinoma	19 (6.96%)	10 (17.2%)	6 (14.3%)	6 (6.06%)	10 (7.87%)	15 (16.9%)	0.01
Other carcinoma	21 (7.69%)	0 (0.00%)	3 (7.14%)	0 (0.00%)	0 (0.00%)	8 (8.89%)	< 0.001*
+ estrogen receptor status	238 (87.2%)	48 (82.8%)	38 (90.5%)	80 (83.3%)	99 (84.6%)	65 (92.9%)	0.42
+ progesterone receptor status	221 (81.0%)	39 (68.4%)	32 (76.2%)	73 (76.0%)	82 (70.1%)	62 (88.6%)	0.02
+ HER2 receptor status	23 (8.46%)	5 (8.62%)	7 (16.7%)	20 (20.8%)	16 (13.7%)	4 (4.49%)	< 0.001*
TREATMENT CHARACTERISTICS							
Surgery:							<0.001*
BCS	214 (78.7%)	36 (63.2%)	29 (69.0%)	61 (61.6%)	81 (63.8%)	61 (67.0%)	
BCS with mammoplasty	4 (1.47%)	0 (0.00%)	0 (0.00%)	0 (0.00%)	29 (22.8%)	0 (0.00%)	
Mastectomy w/o immediate rec.	11 (4.04%)	11 (19.3%)	3 (7.14%)	17 (17.2%)	15 (11.8%)	10 (11.0%)	
Mastectomy with immediate rec.	43 (15.8%)	10 (17.5%)	10 (23.8%)	21 (21.2%)	2 (1.57%)	20 (22.0%)	
Surgery to axilla:							<0.001*
None	27 (9.89%)	6 (10.5%)	4 (9.52%)	0 (0.00%)	6 (4.72%)	15 (17.0%)	
Sentinel lymph node biopsy	198 (72.5%)	39 (68.4%)	24 (57.1%)	23 (23.2%)	0 (0.00%)	51 (58.0%)	
Axillary clearance	48 (17.6%)	11 (19.3%)	13 (31.0%)	18 (18.2%)	22 (17.3%)	21 (23.9%)	
Axillary sampling	0 (0.00%)	1 (1.75%)	1 (2.38%)	58 (58.6%)	99 (78.0%)	1 (1.14%)	
Radiotherapy	239 (87.5%)	42 (72.4%)	39 (92.9%)	66 (66.7%)	118 (92.9%)	63 (69.2%)	< 0.001*
Chemotherapy	88 (32.2%)	22 (37.9%)	20 (47.6%)	43 (43.4%)	50 (39.4%)	25 (27.5%)	0.07
Hormonal therapy	231 (84.6%)	51 (87.9%)	37 (88.1%)	81 (81.8%)	97 (76.4%)	66 (72.5%)	0.04*

^a Comorbidity has been defined as a binary variable equal to 1 if patient presents a comorbidity **BCS: Breast Conservative Surgery**

Figure 1. Patient-Reported Outcomes weights

Vasomotor symptoms Arthalagia Vaginal symptoms

Peripheral symptoms



VASOMOTOR SYMPTOMS, ARM AND BREAST SYMPTOMS

Descriptive analysis and statistical tests

Clinical and socio-demographic variables

Composite indicator (CI-PCO)

• Regression analysis

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- 6-months
- In-differences

Sensitivity analysis

Scatter plot and Pearson coefficient

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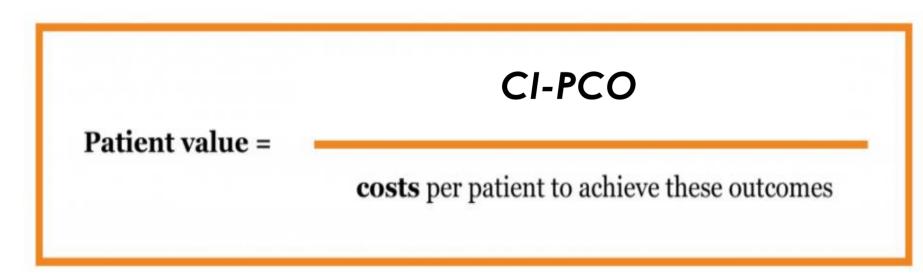
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• CI-PCO_{rg, 6-month} vs. HRQoL (EQ-5D)

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• CI-PCO_{ra, in-diff} vs. HRQoL (EQ-5D)



CI-PCO: Composite Indicator of Patient-Centred Outcomes

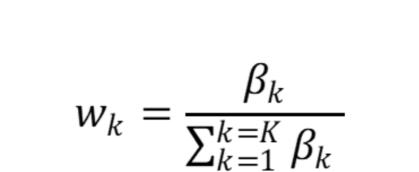
$$CI-PCO_{i} = \sum_{k=1}^{K-K} w_{k} \cdot PCO_{ki}$$

$$HRQoL_{i} = \alpha_{0} + \sum_{k=1}^{K} \beta_{k} \cdot PCO_{ki} + \sum_{j=1}^{J} \phi_{j} X_{ji} + \mu_{i}$$

$$HRQoL_{i} = HRQoL_{i} = \alpha_{0} + \sum_{k=1}^{K} \beta_{k} \cdot PCO_{ki} + \sum_{j=1}^{J} \phi_{j} X_{ji} + \mu_{i}$$

$$HRQoL_{i} = \mu_{i} + \mu_{i}$$

CI-PCO: Composite Indicator of Patient-Centred Outcomes W_k : Weights PCO: Patient-Centred Outcomes



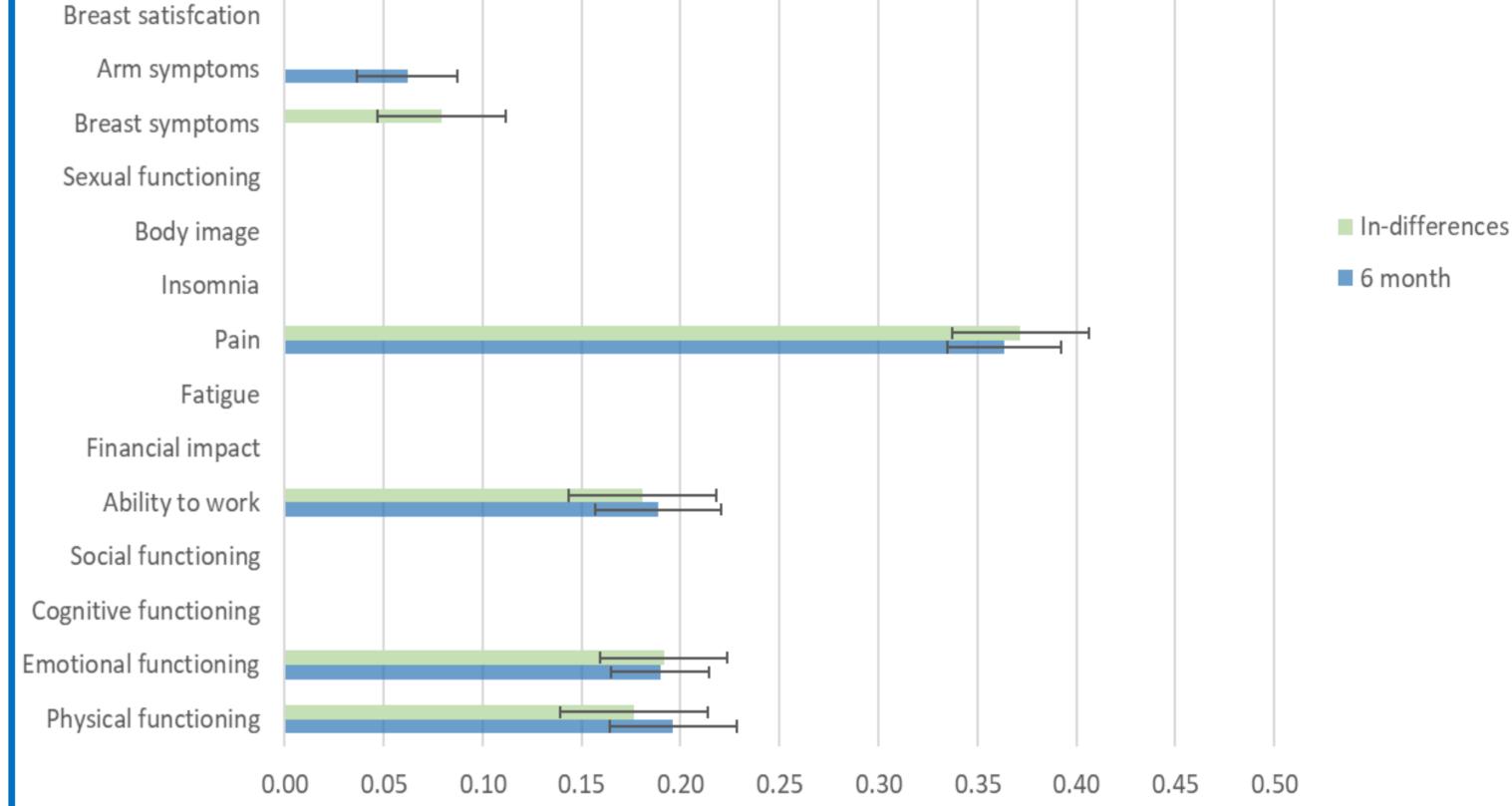
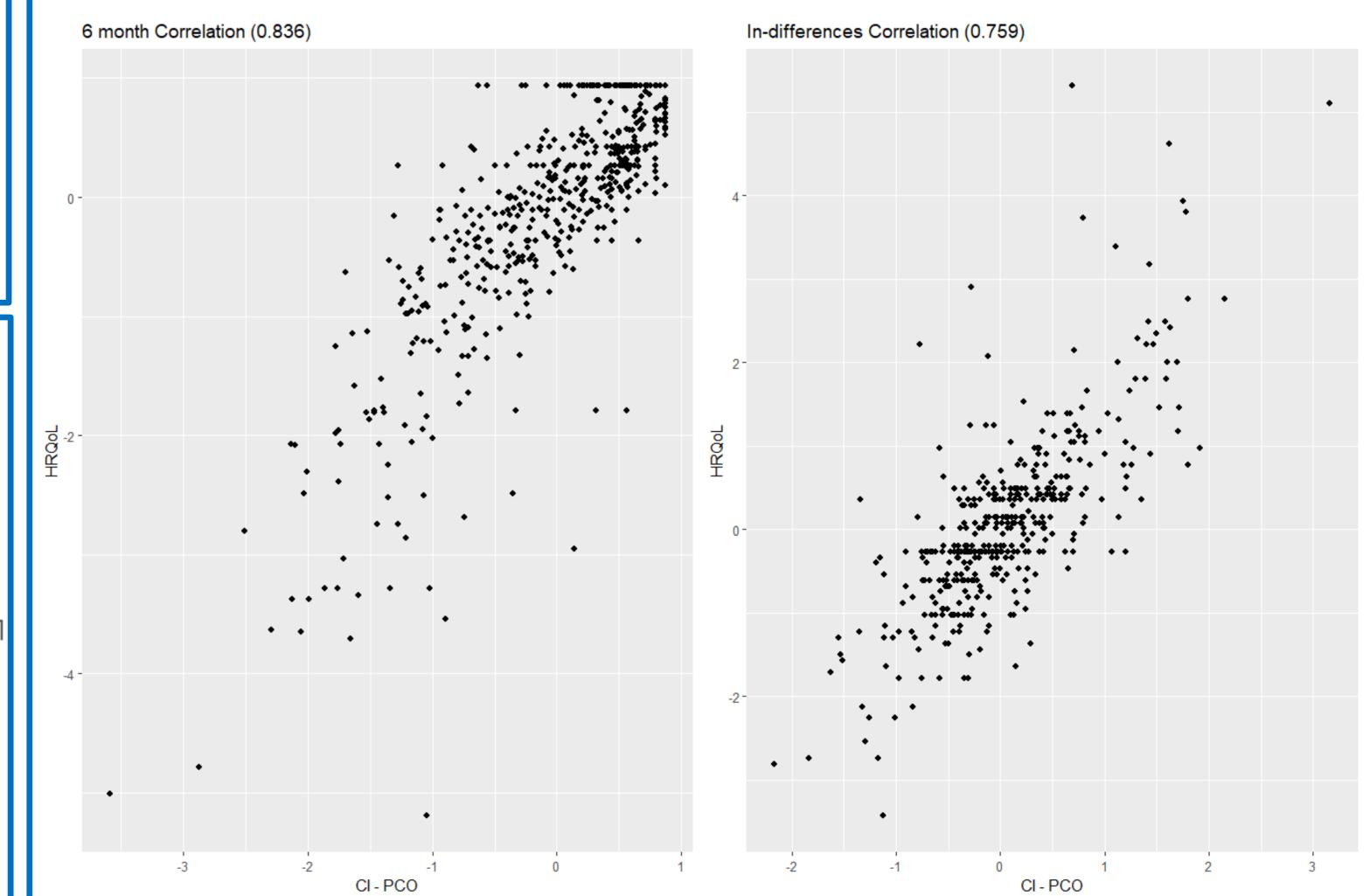


Figure 2. CI-PCO and HRQoL scatterplot



 β_k : Standardized significant parameters *w_k*: *PCO*'s weights

X: patient characteristics; β_k : Standardized parameters

DISCUSSION

Issues

- Regression weights were rather robust over periods (6-month, diff-in-diff) •
 - What time-period should be used?
- CI-PCO_{ra} vs. HRQoL values are highly correlated with variety of CI-PCO values when HRQoL=1 • • Does the CI-PCO represent us better tan HRQoL?

Limitations

- No availability of Patient-Reported Experiences (PREs) which should be included as PCOs
- Short follow-up (6-months)