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Canadian utility set for the cancer-specific utility instrument, FACT-8D

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Introduction

Generic utility instruments are used to assess patient quality of life which, in turn, can inform cost-utility analyses (CUA). However, the dimensions of generic utility instruments may not capture all relevant information that impact cancer patients. As a result, these instruments may not be sensitive to guide cancer priority setting and resource allocation in many countries, including Canada.

Under the auspices of the Multi-Attribute Utility in Cancer (MAUCa) Consortium, a cancer-specific utility instrument was derived from the Functional Assessment of Cancer Therapy - General (FACT-G), a widely used health-related quality of life measure in oncology.

Study Objective: The aim of the study was to obtain a Canadian utility set for the new FACT-8D.

Methods

Data Collection: A Canadian general population online research panel completed a survey valuing choice sets described by the FACT-8D, as well as the FACT-G, and sociodemographic and health questions.

Table 1: FACT-8D health state classification system

FACT-8D Dimensions
Pain
Fatigue (lack of energy)
Nausea
Problems sleeping*
Problems doing work (including work at home)*
Problems with support from my family and/or friends*
Sadness
Worry my health will get worse

Level 1 BEST	None
Level 2	A little bit
Level 3	Some
Level 4	Quite a bit
Level 5 WORST	Very much

*** The wording of 3 items was modified to standardize response direction and response options due to pilot results.**

FACT-8D discrete choice experiment: Respondents expressed their preferences via 16 choice sets, each containing two health states described by the eight dimensions of the FACT-8D plus survival duration. Utilities were derived for each level of the eight dimensions using conditional logit regression modelling.

Figure 1: Example of a FACT-8D choice set

	Situation A	Situation B
Pain	Some	Very much
Fatigue	A little bit	A little bit
Nausea	None	None
Problems sleeping	Quite a bit	None
Problems doing work (including work at home)	Some	Very much
Problems with support from my family and/or friends	Quite a bit	Quite a bit
Sadness	A little bit	A little bit
Worry my health will get worse	Some	None
You will live in this health state for	1 year, then die	5 years, then die
Which situation would you prefer?	○ Choose this?	○ Choose this?

Results

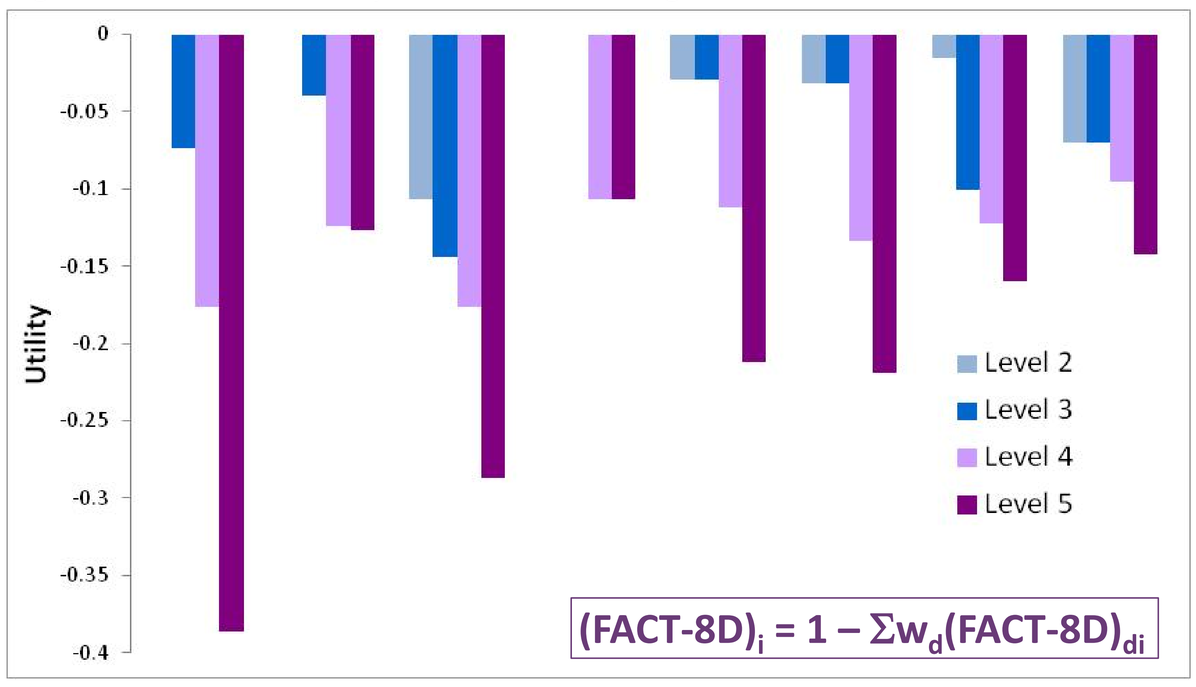
Study Sample: 2,228 individuals recruited to the online DCE valuation task, 71% completed at least one choice set and 67% completed all 16 choice sets.

Table 2: Respondent characteristics

Characteristics	Pop'n %	Sample %
Sex (chi-sq = 0.06, p = 1.0)		
Male	48.3	47.9
Female	51.6	51.9
Age (years) (chi-sq = 0.5, p = 1.0)		
18-29	19.8	19.4
30-39	17.1	17.2
40-49	21.2	20.8
50-59	18.0	18.0
60-69	11.4	11.7
70+	12.5	12.9
Geography (chi-sq = 4.7, p = 1.0)		
West (AB, BC, MB, SK)	31.6	31.3
Ontario	38.5	38.8
Quebec	22.9	22.9
Atlantic (NB, NF, NS, PEI)	6.6	6.8
Territories (YK, NU, NW)	0.3	0.2

Utility Estimates: Utilities were generally monotonic within dimensions. After constraining for montonicity, the largest decrements were for the highest levels of pain (-0.39), nausea (-0.29), support from family/friends (-0.22), and work (-0.21). The decrements of the remaining dimensions ranged from -0.11 to -0.16 for their highest levels. The utility of the worst possible health state was defined as -0.64, considerably worse than dead.

Figure 2: FACT-8D utility estimates and algorithm



	Pain	Fatigue	Nausea	Sleep	Work	Support	Sad	Worry
Level 2	0	0	-0.106	0	-0.029	-0.031	-0.016	-0.070
Level 3	-0.074	-0.039	-0.144	0	-0.029	-0.031	-0.100	-0.070
Level 4	-0.176	-0.124	-0.177	-0.106	-0.112	-0.134	-0.123	-0.100
Level 5	-0.386	-0.127	-0.287	-0.106	-0.212	-0.219	-0.160	-0.143

Conclusion

The largest impacts on utility for respondents from the general population included three generic dimensions (i.e., pain, support, work) and nausea, a symptom caused by cancer and by common treatments (e.g., chemotherapy, radiotherapy). This may make the FACT-8D more informative for CUA evaluating cancer therapies, an assertion that must now be tested empirically in head-to-head comparisons with generic utility measures.

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