



## CALIDAD DE VIDA

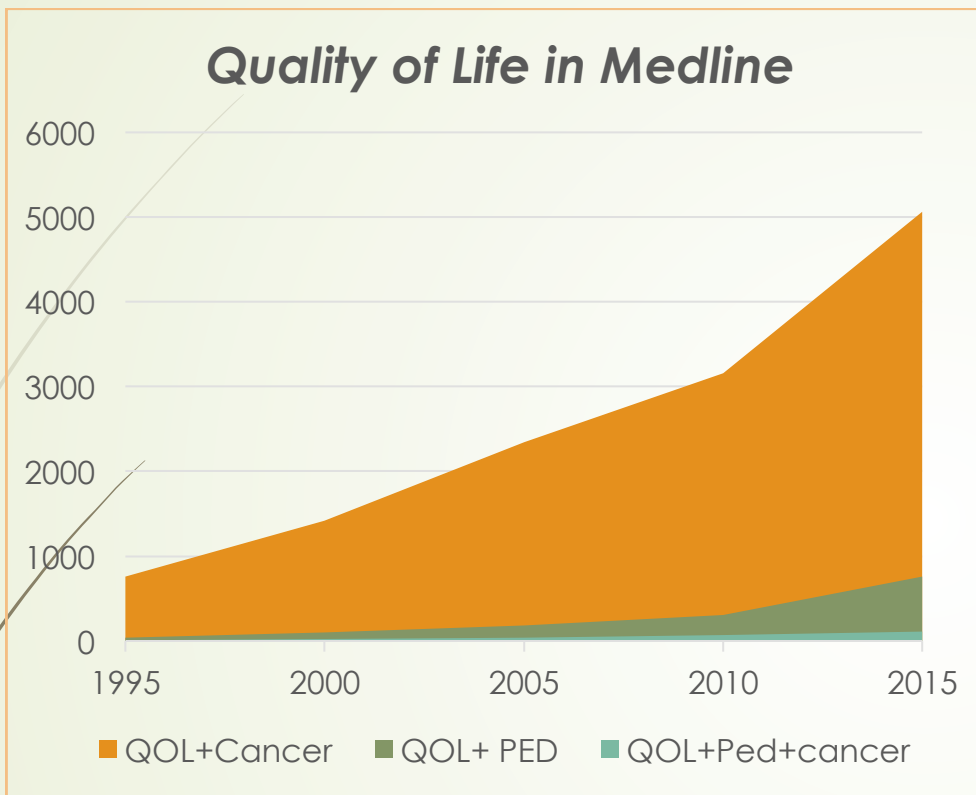
CARLOTA CALVO  
SEVILLA 2016

# QUALITY OF LIFE

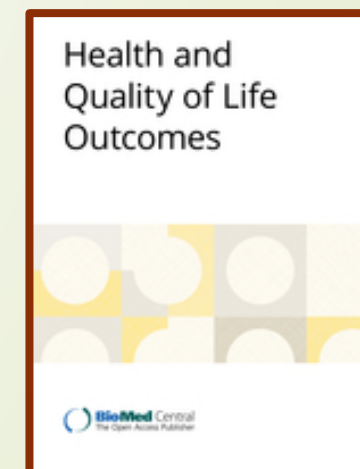
Quality of life (QOL) is a broad multidimensional concept that usually includes subjective evaluations of both positive and negative aspects of life. Although health is one of the important domains of overall quality of life, there are other domains as well—for instance, jobs, housing, schools, the neighbourhood. Aspects of culture, values, and spirituality are also key domains of overall quality of life that add to the complexity of its measurement.



# QUALITY OF LIFE



	QOL	QOL+Cancer	QOL+PED	QOL+Ped+Cancer
1995	3195	943	45	14
2005	10734	2344	184	42
... 2015	285148	61301	6094	1273



## THE ERICE STATEMENT

The long-term goal of the cure and care of the child with cancer is that he/she become a resilient, fully functioning, autonomous adult with an optimal health-related quality of life, accepted in the society at the same level of his/her age peers.

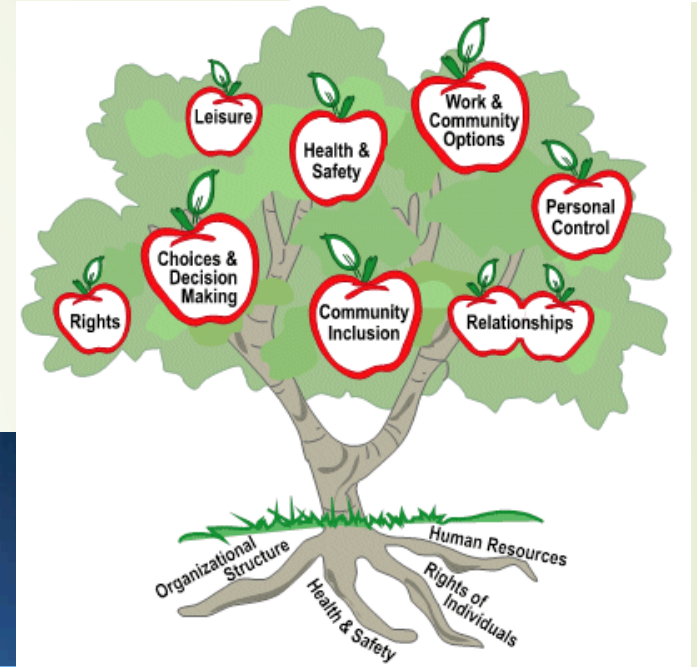
Erice (Sicily) 2006  
EJC 2007;43:1778-1780



A word cloud of various terms related to quality of life, arranged in a circular pattern. The words include: QUALITY OF LIFE, Happiness, Caring OF LIFE, Freedom, Support, Interactions, Satisfaction, Inclusion, Creativity, Interest, Social, Health, Joy, Friendship, Harmony, Community, Leisure, Engagement, Choice, Independence, Identity, Goals, Love, Passion, and Health.



A word cloud of various terms related to quality of life, arranged in a circular pattern. The words include: QUALITY OF LIFE, Happiness, Caring OF LIFE, Freedom, Support, Interactions, Satisfaction, Inclusion, Creativity, Interest, Social, Health, Joy, Friendship, Harmony, Community, Leisure, Engagement, Choice, Independence, Identity, Goals, Love, Passion, and Health.



# QUALITY OF LIFE

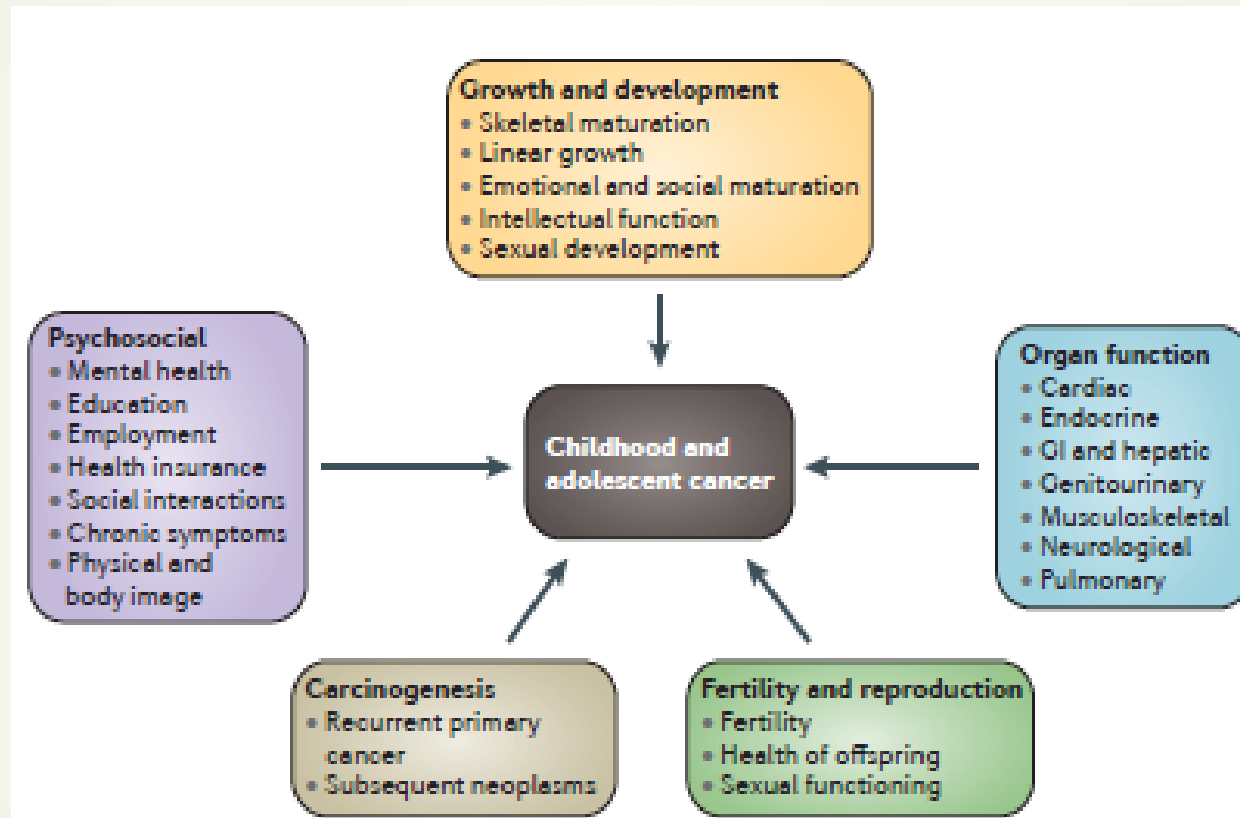
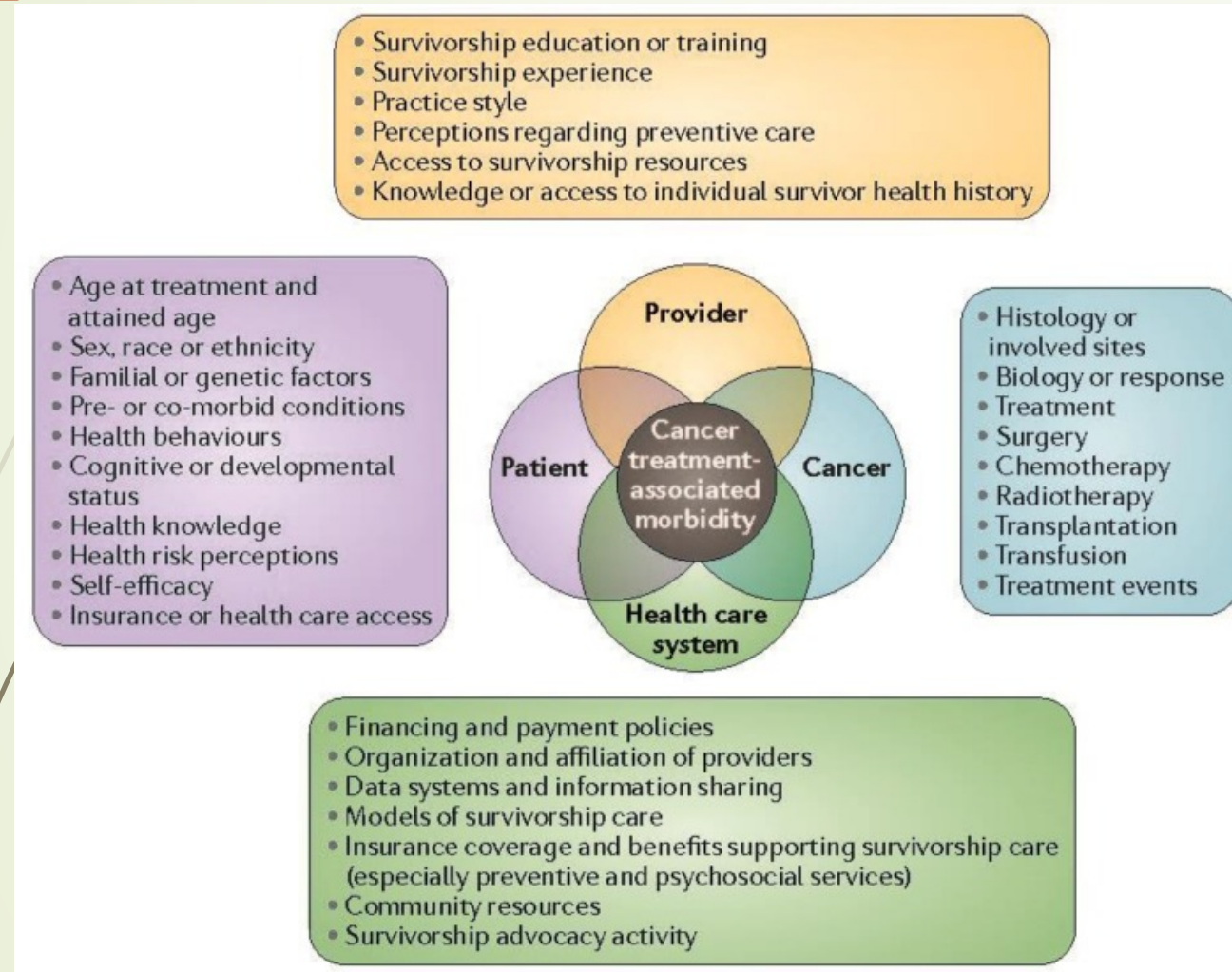


Figure 2 | Range of health-related and quality-of-life outcomes among long-term survivors of childhood and adolescent cancers. This figure shows some of the issues that are faced by survivors of childhood and adolescent cancers. GI, gastrointestinal.

# QUALITY OF LIFE



**Inter-relationships.** This figure shows patient-, cancer-, health care system- and provider-related issues that affect cancer treatment-associated morbidity among the long-term survivors of childhood and adolescent cancer

# QUALITY OF LIFE OF CHILDHOOD AND ADOLESCENTS WITH CANCER

## QUESTIONS:

- ❑ **What are measuring:**
  - **Physical functioning**
  - **Psychological functioning**
  - **Social functioning**
  - **Symptoms and late effects**
  
- ❑ **When:**
  - **Diagnosis**
  - **End of treatment**
  - **Relapse**
  - **Progression**
  - **End of life**
  - **Survivorship ( early or late)**



# QUALITY OF LIFE OF CHILDHOOD AND ADOLESCENTS WITH CANCER

## QUESTIONS:

### To whom:

- parents
- professionals
- subjects

### how:

- Generic instruments
- Cancer specific instruments
- Interviews
- Cross sectional or longitudinal studies

### Related to:

- Type of tumour
- Type of treatment
- Specific population

# Psychosocial Outcomes of sharing a diagnosis of cancer with a pediatric patient

## Two Faces of the Cancer Experience

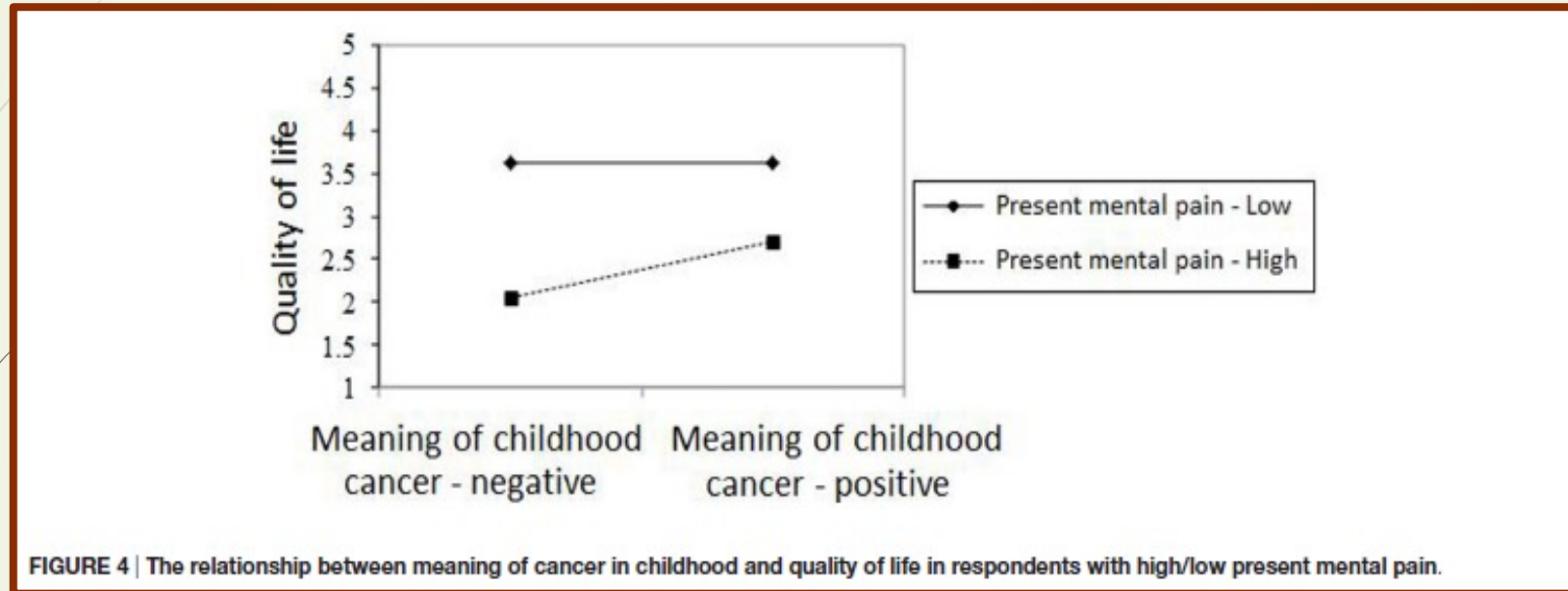


Haase & Rostad, 1994

## CANCER IS A DOUBLE-EDGED SWORD

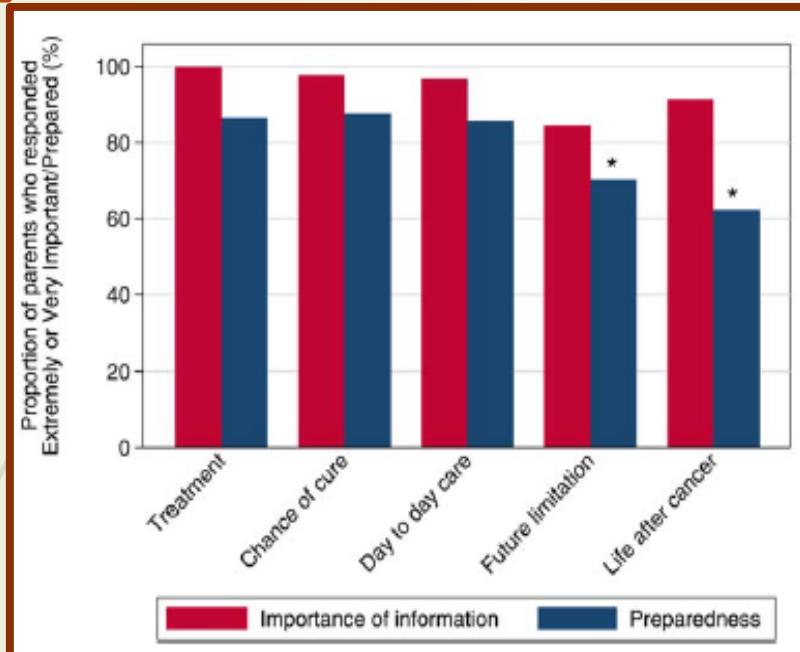
- Gains and losses
- Growing up ‘faster’ perhaps offset by loss of childhood
- Hope and fear – anxiety/sadness and appreciation of life
- Celebrations of cure or going off treatment, but uncertainty
- Balancing of loss and gain

## Psychosocial Outcomes of sharing a diagnosis of cancer with a pediatric patient



In the group diagnosed at a younger age, those who had received “good information” were found to have better quality of life, lower mental pain, and higher mental pain tolerance than did those in the same group (diagnosed at a younger age) who received “not good information.” By contrast, in the group diagnosed during adolescence, those who had received “not good information” scored higher on these measures than did their counterparts who had received “good information.”

## QUALITY OF LIFE. INFORMATION AND COMMUNICATION



Parents and physicians underestimated children's risks of the late effects of cancer therapy. Given the discrepancy between parent expectations of late effects and children's experiences of late effects, it is not surprising that parents felt unprepared for their child's life after cancer treatment.

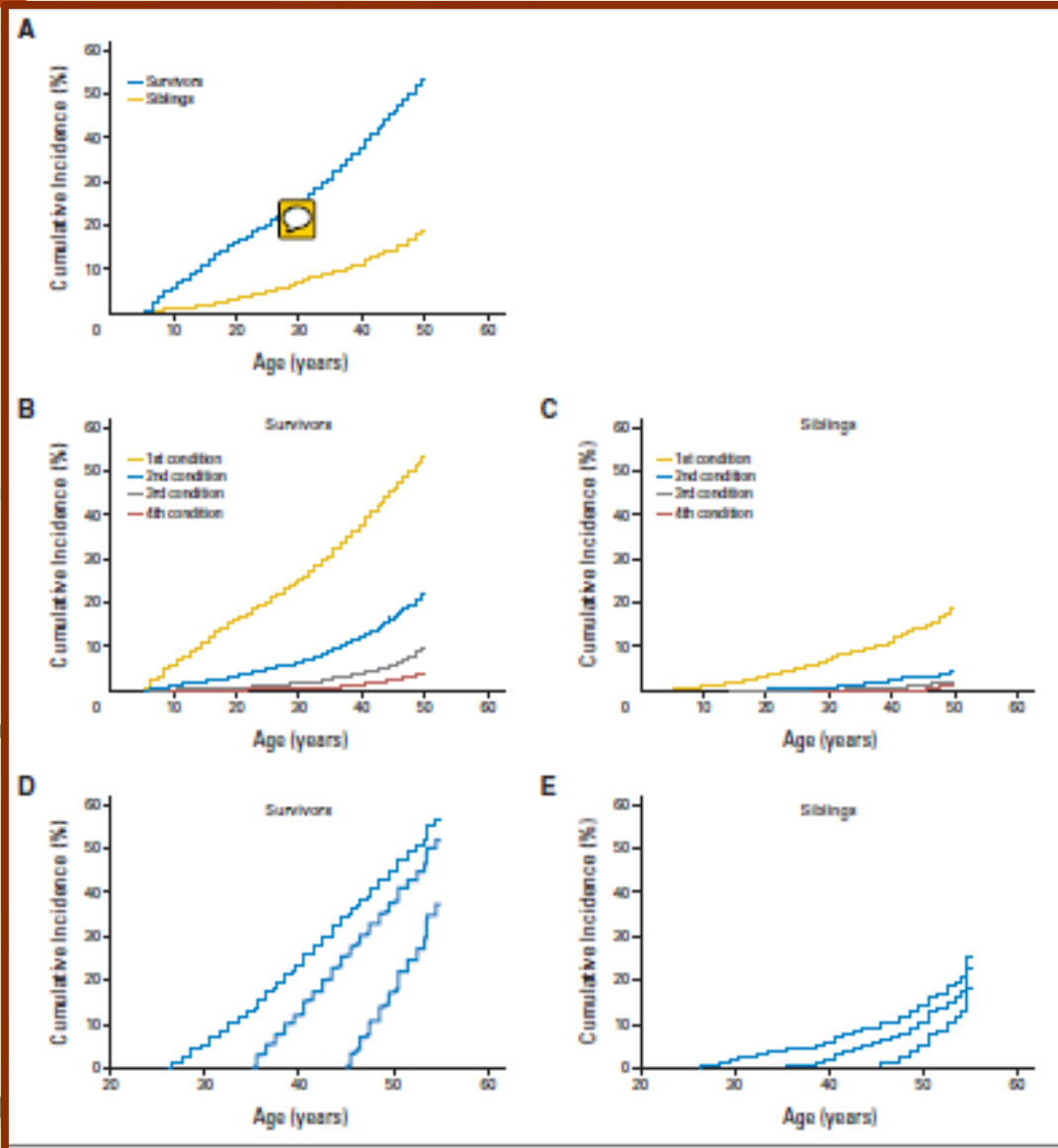
**TABLE 3.** Relationship Between Parent and Physician Predictions of Late Effects at Diagnosis and Experience of Late Effects at Least 5 Years Later

	No. of Patients <sup>a</sup>	Parent Prediction at Diagnosis No. (%)	Physician Prediction at Diagnosis No. (%)	Parents Reporting Child Limitations $\geq 5$ Years Later No. (%)	Parents With Accurate Predictions <sup>b</sup> No. (%)	Physicians With Accurate Predictions <sup>b</sup> No. (%)
Limitations in physical abilities	67	18 (27)	11 (16)	30 (45)	39 (58)	42 (63)
Limitations in intelligence	66	21 (32)	17 (26)	32 (48)	37 (56)	37 (56)
Limitations in QOL	67	11 (16)	7 (10)	20 (30)	48 (72)	48 (72)
Limitations in any domain	64	29 (45)	25 (39)	46 (72)		

## The Cornerstone of Survivorship

*“Regardless of the type of cancer or the extent of survival, all persons diagnosed with cancer must manage the enduring and complex ways in which cancer transforms the self and everyday life.”*

# QUALITY OF LIFE. AGING



Risk for morbidity and mortality continues across the life span for cancer survivors and actually increases beyond age 35 years when compared with a population of siblings. By age 50 years, more than half of survivors have experienced a severe, disabling, or life-threatening event, including death. These data raise concerns for acceleration of the aging process in this population.

# QUALITY OF LIFE. AGING

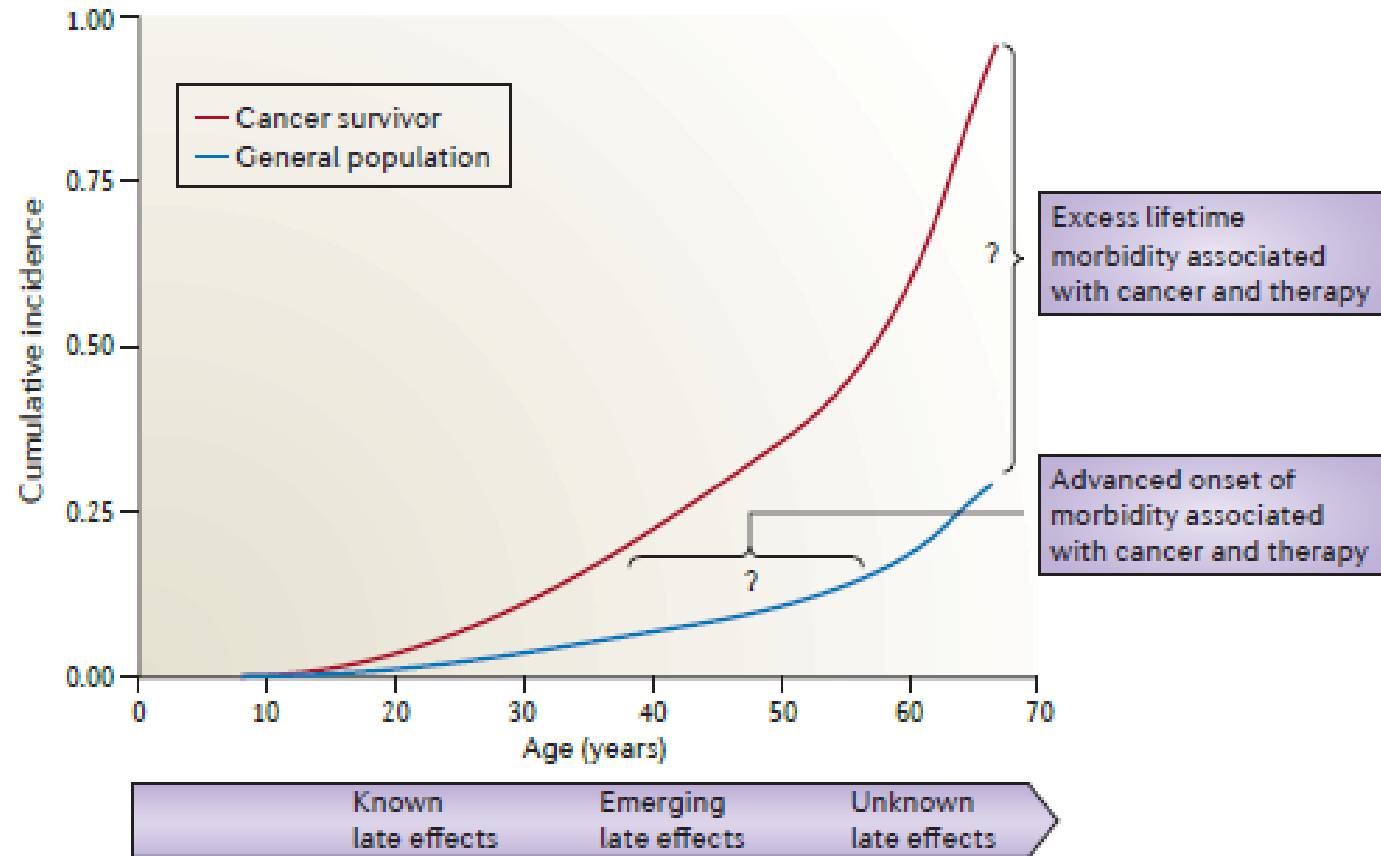
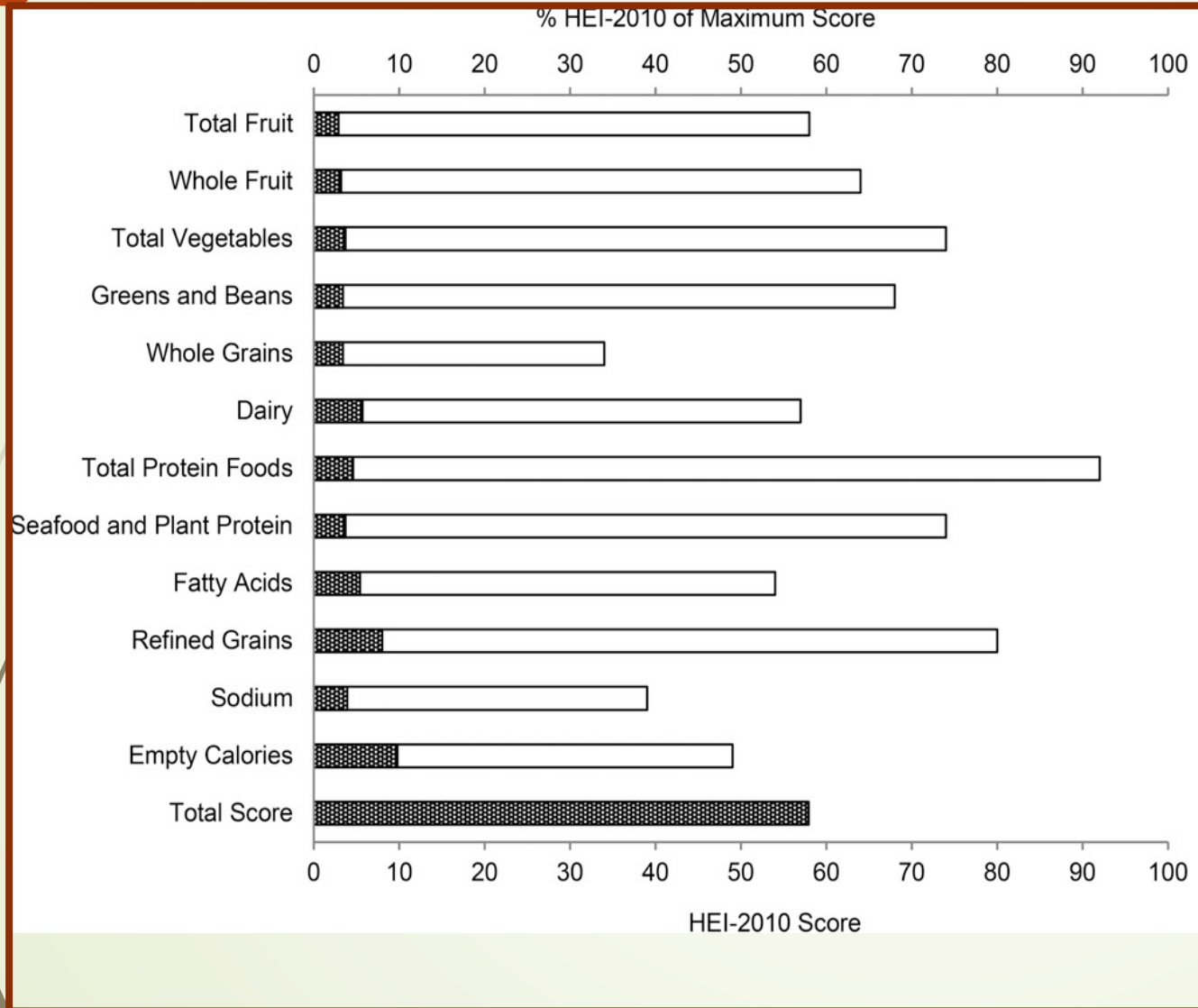


Figure 4 | A theoretical framework. This figure shows the gaps in knowledge regarding the long-term outcomes among ageing childhood and adolescent cancer survivors.

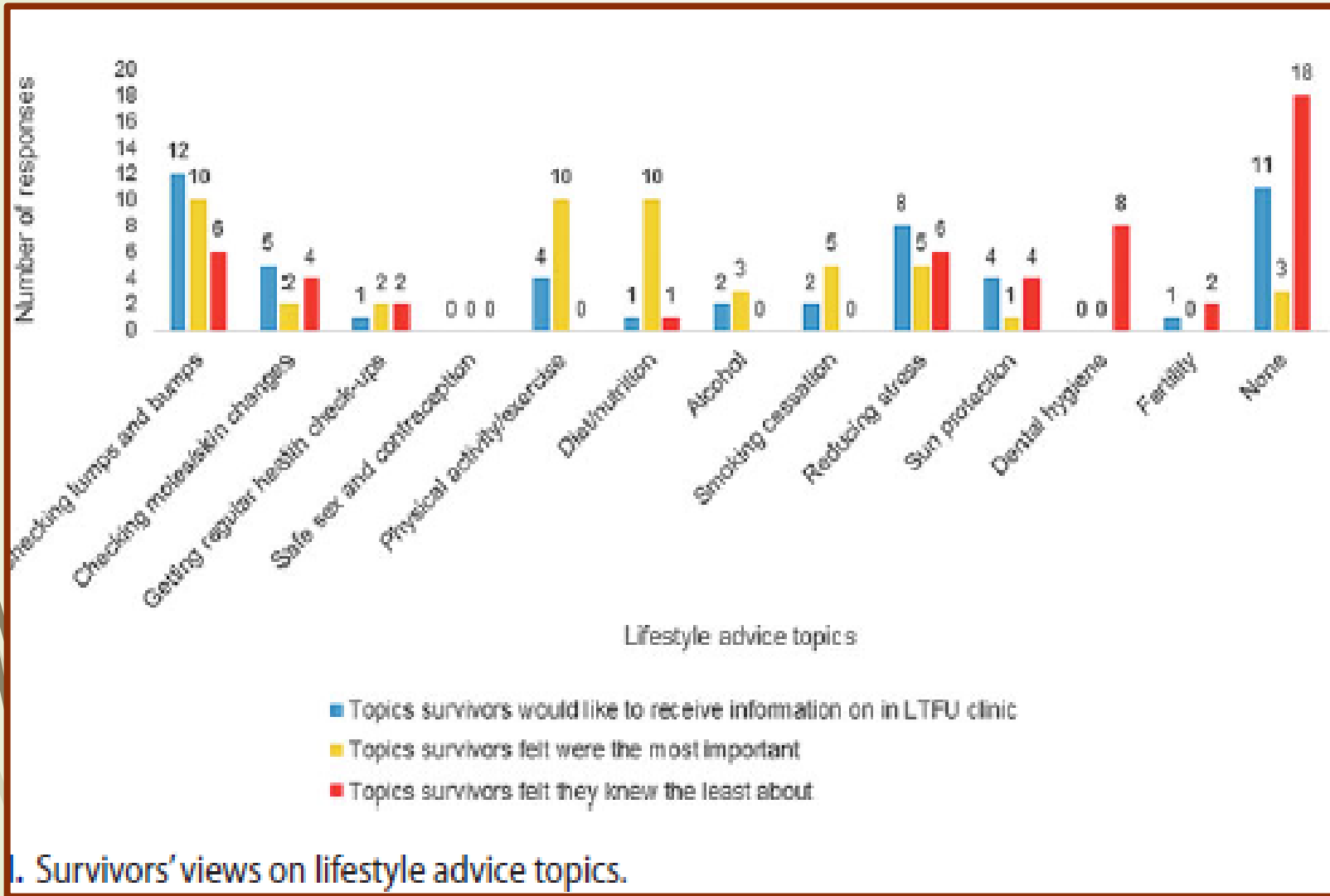
# QUALITY OF LIFE. NUTRITION



Nutrition plays an important role in chronic disease prevention. Evidence of poor dietary intake in childhood cancer survivors calls for actions to be taken to incorporate nutrition support as an integral part of cancer care for survivors and families. The early onset of chronic health conditions in childhood cancer survivors reinforces the need for dietary interventions early in survivorship care to avoid long-term morbidity in this vulnerable population.



# HEALTH PROMOTION AND LIFESTYLE ADVICE



Health promotion and lifestyle advice is now generally considered to be a vital part of medical care of CCS. However, no guidelines currently give recommendations for how best to communicate this information to CCS to aid sustainable adoption of positive health behaviors by these patients.

## 1. Survivors' views on lifestyle advice topics.

## HOW TO MEASURE THE QUALITY OF LIFE OF CHILDHOOD CANCER SURVIVORS



### *Generic*

*CHIP* Child Health and Illness Profile

*CHQ* Child Health Questionnaire

*DISABKIDS* Instrument

*DISQUOL* Questionnaire

*HUI* Health Utilities Index

*ITQOL* Infant Toddler Quality of Life Inventory

*Kidscreen* Questionnaire

*KINDL* Questionnaire

*PedsQL* Pediatric Quality of Life Inventory

*TACQOL/TAPQOL* TNO-AZL Child Quality of Life

The assessment of quality of life (QOL) is key within pediatric oncology and requires a clearly defined construct of QOL.

Our research highlights important problems with content validity of existing PRO scales, indicating that the tools we have to date have limited utility in research and clinical practice.

# HOW TO MEASURE THE QUALITY OF LIFE OF CHILDHOOD CANCER SURVIVORS



## PRO instruments

### *Cancer-specific*

*AQOL* Adolescent Quality of Life Questionnaire

*MMQL* Minneapolis-Manchester Quality of Life Instrument

*MPQOLQ* Miami Pediatric Quality of Life Questionnaire

*PEDQOL* Quality of Life in Children and Adolescents with Cancer

*Peds-FACT-Brs* Pediatric Functional Assessment of Cancer Therapy Childhood Brain Tumor Survivor

*PedsQL Brain* Pediatric Quality of Life Inventory—Brain Tumor Module

*PedsQL Cancer* Pediatric Quality of Life Inventory—Cancer Module

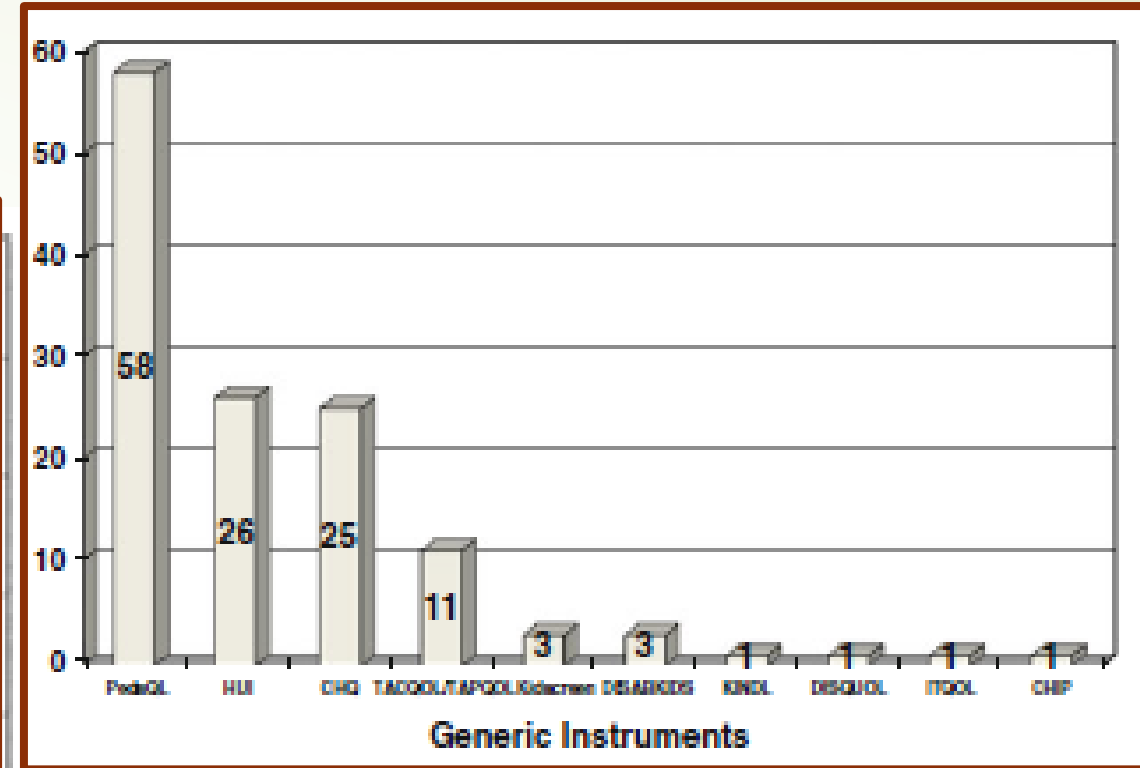
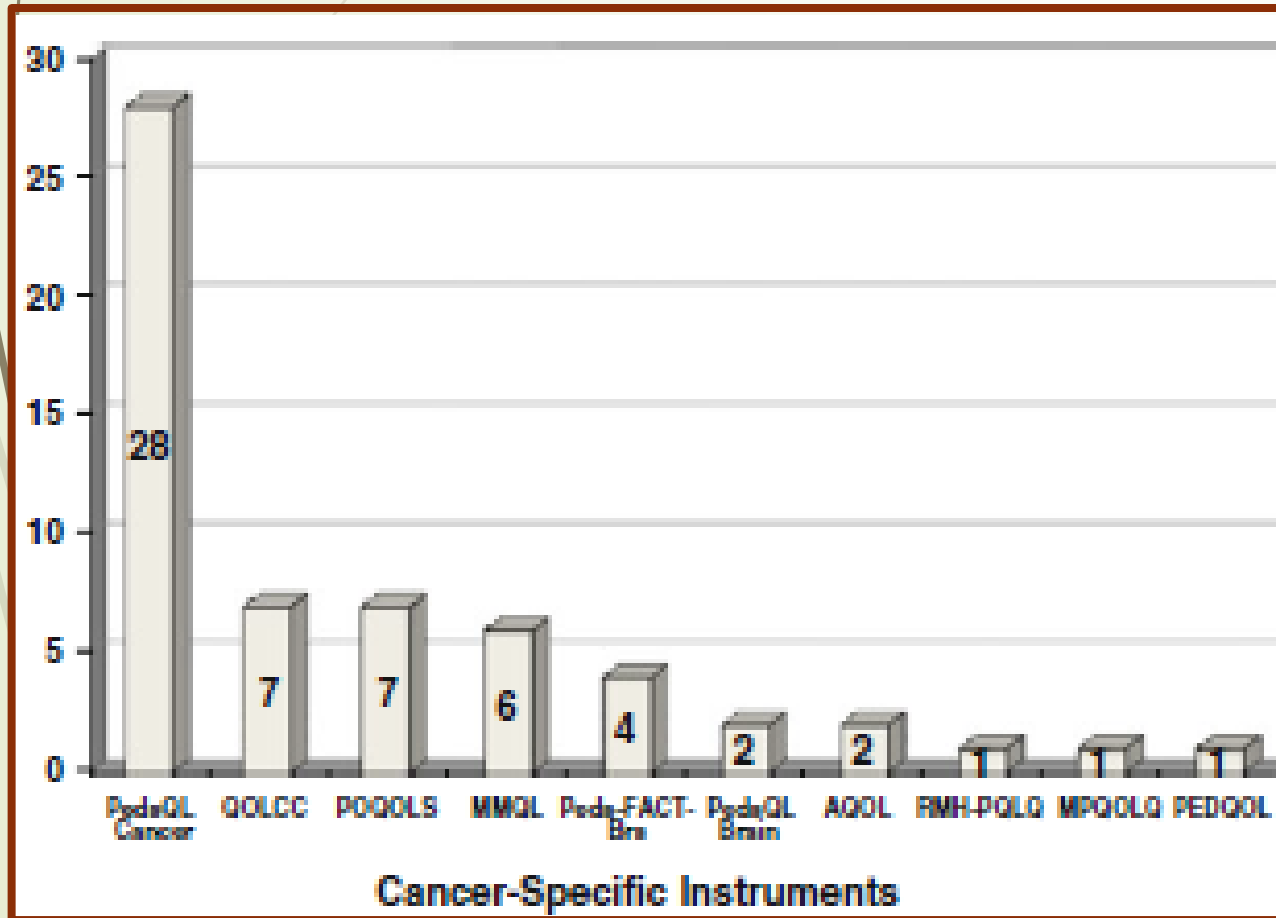
*POQOLS* Pediatric Oncology Quality of Life Scale

*QOLCC* Quality of Life for Cancer Children

*RMH-PQLQ* Royal Marsden Hospital Pediatric Oncology Quality of Life Questionnaire

Measuring health status and QOL is important for understanding the impact of cancer in the lives of children. Inconsistencies in definitions or conceptual understanding of QOL have led to confusion about how to select or use instruments designed to measure this multidimensional concept.

# HOW TO MEASURE THE QUALITY OF LIFE OF CHILDHOOD CANCER SURVIVORS



# HOW TO MEASURE THE QUALITY OF LIFE OF CHILDHOOD CANCER SURVIVORS



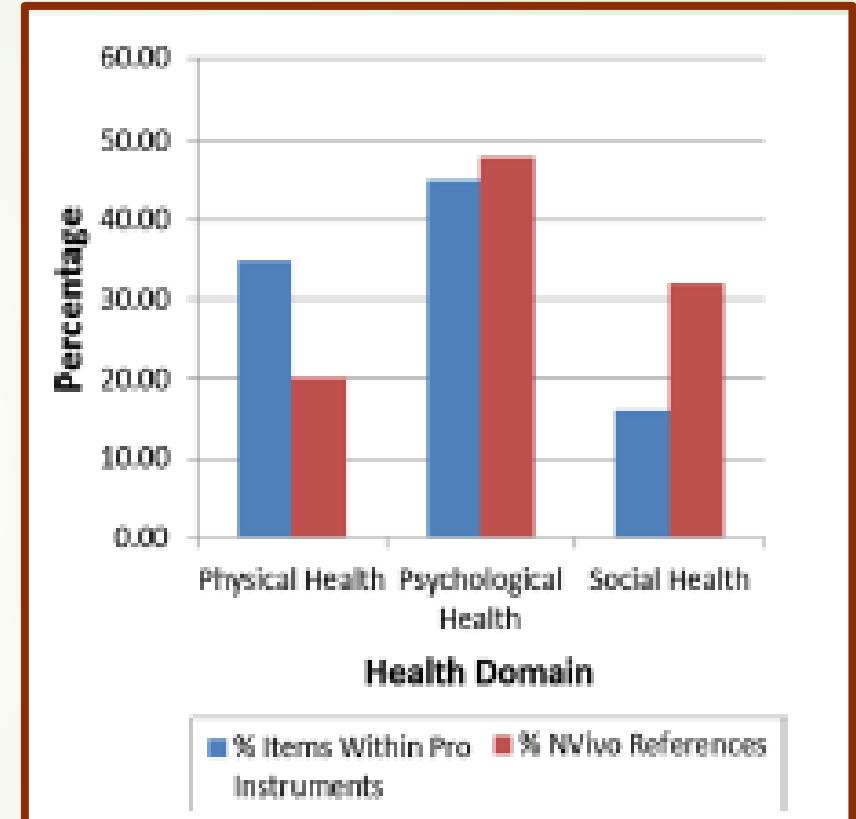
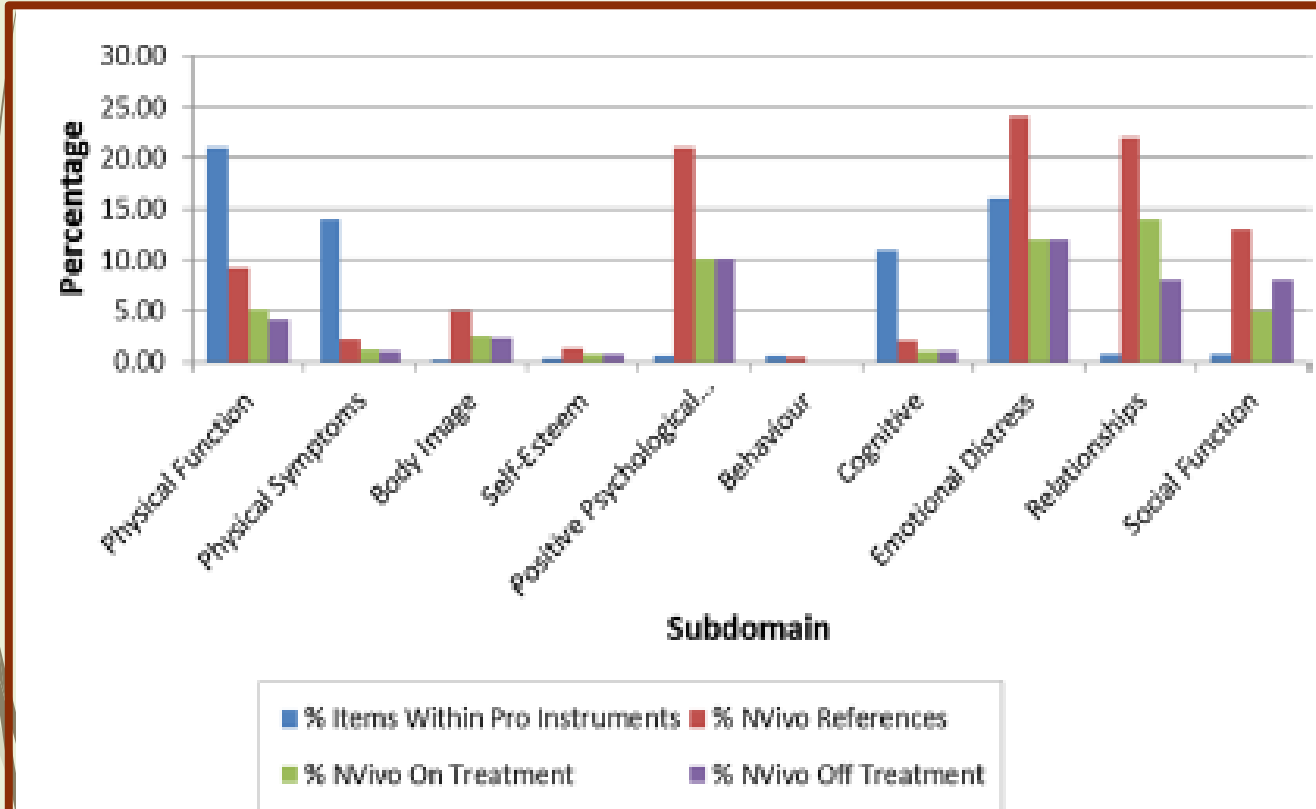
**Table 5** Initial agreement between raters of ICF categories in the first round of content analysis

	Percentage agreement (%)	Kappa coefficient	Bootstrapped confidence interval
CHQ-87	69.43	0.68	0.60–0.75
HUI-III	68.29	0.67	0.59–0.75
PedsQL 4.0	62.07	0.61	0.46–0.81
All generic instruments combined	68.28	0.67	0.62–0.73
PedsQL 3.0 cancer module (all age versions)	74.07	0.71	0.58–0.83
MMM-QOL (all age versions)	84.80	0.83	0.75–0.90
POQOL	62.50	0.60	0.43–0.79
Cancer-specific combined	78.67	0.77	0.71–0.82

The ICF-CY is a uniform terminology, and classification system developed by the WHO that can classify biopsychosocial health content found in health status and QOL instruments

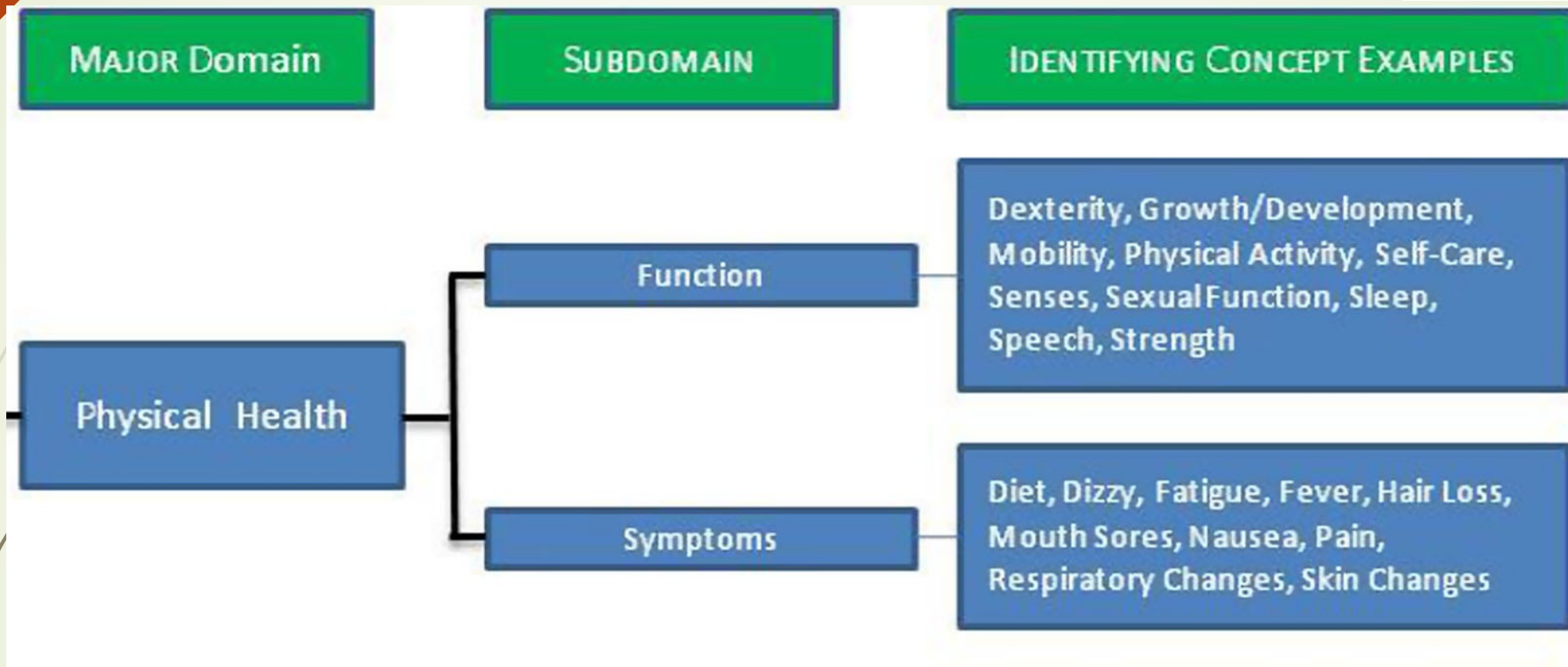
Our analysis of commonly used generic and cancer specific instruments in childhood cancer research showed that the popular measures used to assess QOL reflect a variety of health and health-related domains but consistently use a health status approach as opposed to a QOL approach.

# HOW TO MEASURE THE QUALITY OF LIFE OF CHILDHOOD CANCER SURVIVORS



Childhood cancer is a complex, multi-layered process of difficulty, adjustment and growth. Our findings suggest that existing PRO instruments contain content that does not reflect the QOL experiences and perspectives of childhood cancer patients and survivors.

# HOW TO MEASURE THE QUALITY OF LIFE OF CHILDHOOD CANCER SURVIVORS

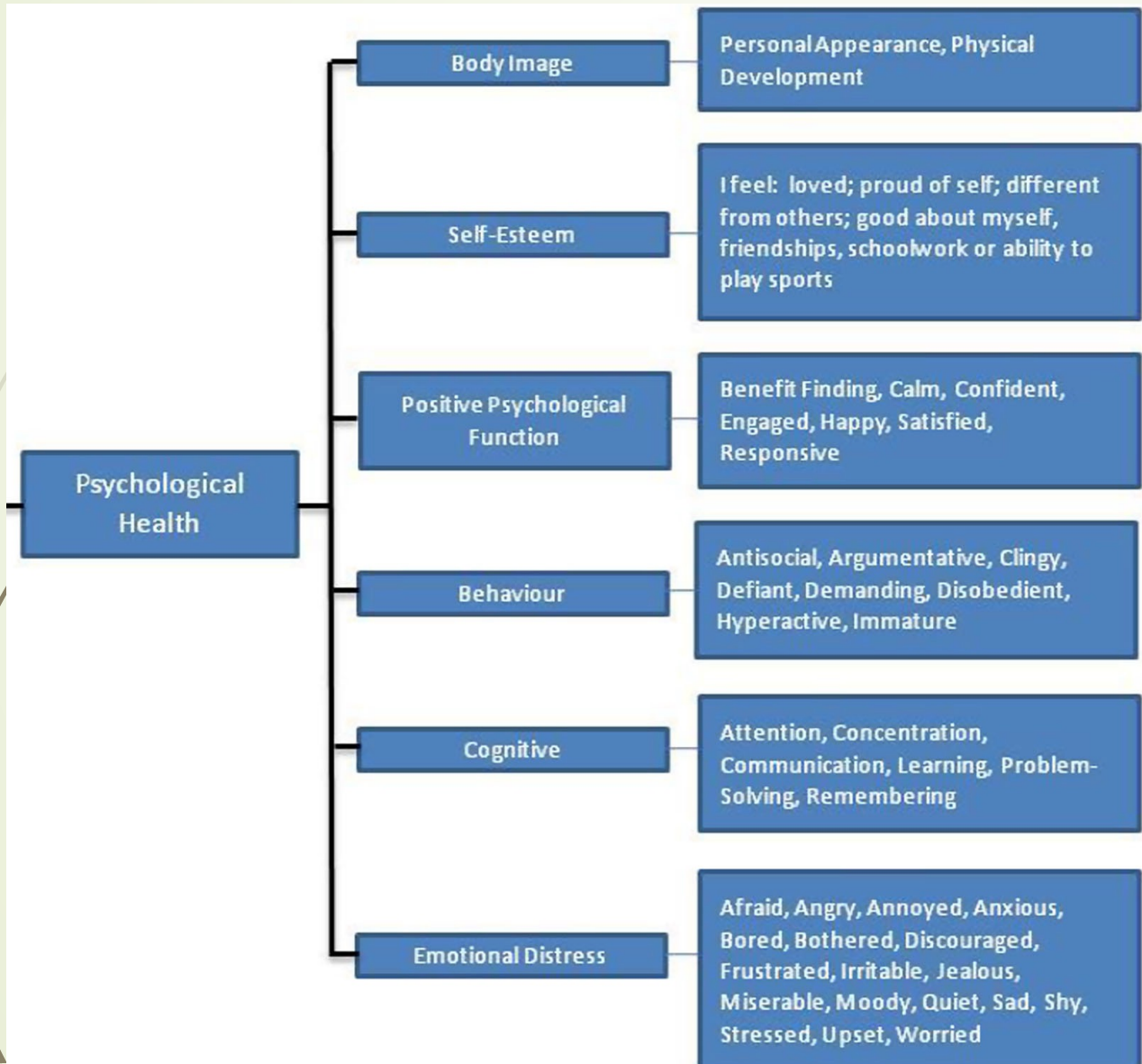


A comprehensive conceptual framework provides the necessary foundation for the development of theoretical models and the progression toward interventional studies aimed at improving the QOL for children with cancer and childhood cancer survivors.

# HOW TO MEASURE THE QUALITY OF LIFE OF CHILDHOOD CANCER SURVIVORS

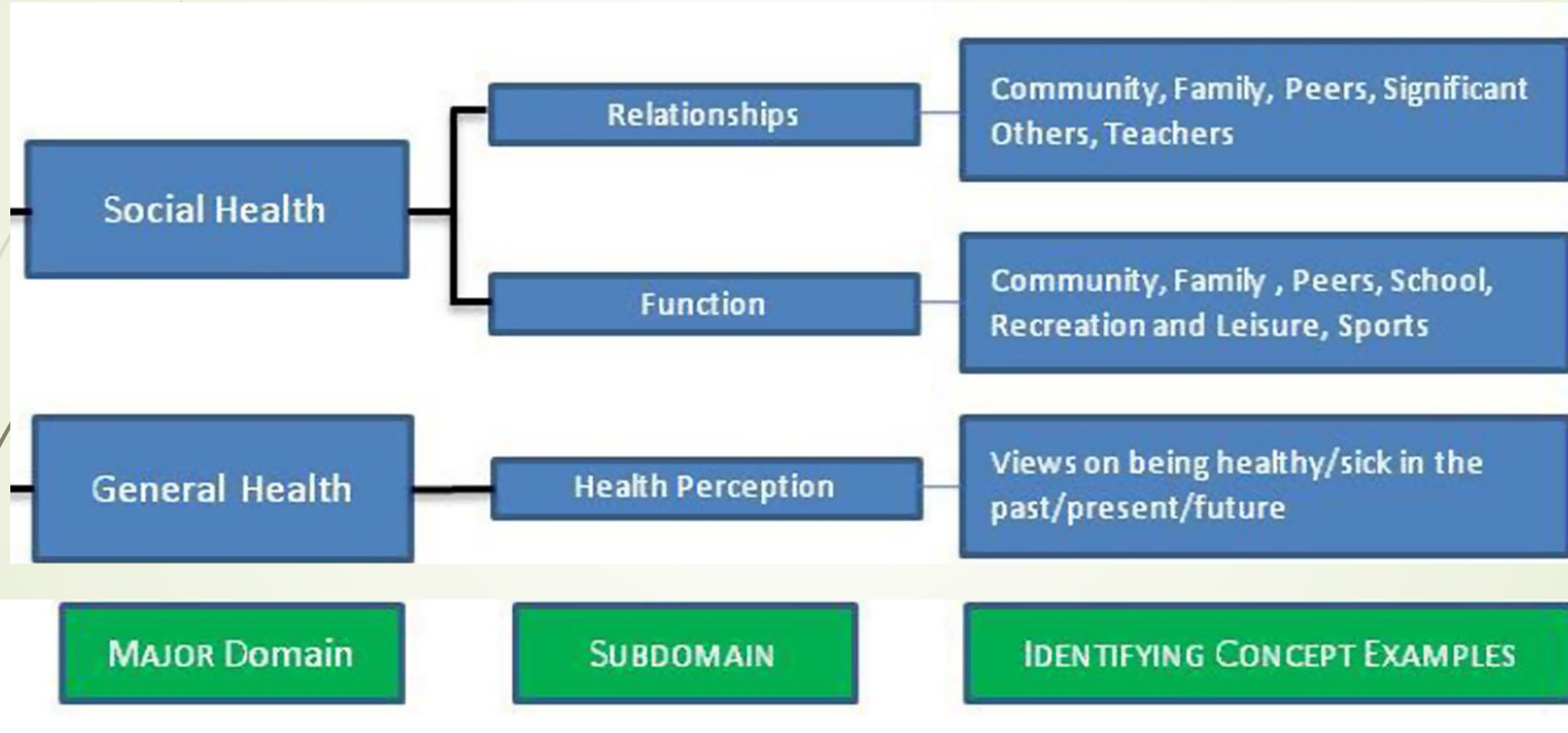


MAJOR DOMAIN      SUBDOMAIN      IDENTIFYING CONCEPT EXAMPLES





# HOW TO MEASURE THE QUALITY OF LIFE OF CHILDHOOD CANCER SURVIVORS



# QUALITY OF LIFE EVALUATION



Report of 30 studies about QOL done in the USA

Despite the heterogeneity in study procedures and the methodological shortcomings the results suggest the following:

- Physical functioning

1. The majority of survivors reported they were in apparently good health, with the exception of bone tumour survivors, who were more likely to perceive their health as fair or poor.
2. Some studies mentioned fatigue as a residual effect of treatment.

- Psychological functioning

1. Most long-term survivors functioned well psychologically and did not have significantly more emotional problems than controls. ( mood disturbances, tension, anger, confusion and anxiety).

Support Care Cancer (2002) 10:579–600  
DOI 10.1007/s00520-002-0388-6

REVIEW ARTICLE

N.E. Langeveld  
H. Stam  
M.A. Grootenhuis  
B.F. Last

**Quality of life in young adult survivors  
of childhood cancer**

# QUALITY OF LIFE EVALUATION



## ● Social functioning

1. Survivors of CNS tumours and survivors of ALL seemed to be at risk for educational deficits.
2. The majority of survivors old enough to be in the workforce were employed.
3. Survivors seem to stay at home longer after reaching adulthood and leave home at an older age than their controls.
4. There is a lower prevalence of marriage among survivors, particularly in male survivors with a diagnosis of CNS tumours.
5. The percentage of survivors with children seems lower.

Support Care Cancer (2002) 10:579–600  
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# QUALITY OF LIFE EVALUATION

Scale			≤25 years		≥ 26 years	
	Survivors (n = 400)	controls (n = 560)	Survivors (n = 272)	controls (n = 258)	survivors (n = 128)	controls (n = 302)
Physical functioning <sup>a</sup>	87.7 (23.8) <sup>#</sup>	90.8 (19.8) <sup>#</sup>	88.3 (23.2) <sup>#</sup>	92.0 (18.0) <sup>#</sup>	86.5 (25.0)	89.8 (21.3)
Role functioning <sup>a</sup>	90.8 (26.3)	91.2 (26.5)	93.8 (22.3)	91.7 (25.7)	84.4 (32.5) <sup>#</sup>	90.7 (27.3) <sup>#</sup>
Social functioning <sup>a</sup>	91.5 (19.6)	91.9 (15.1)	92.4 (17.6)	92.4 (14.8)	89.4 (23.1)	91.5 (15.4)
Mental health <sup>a</sup>	79.0 (16.5)	78.5 (14.7)	79.4 (15.9)	78.5 (15.1)	78.0 (17.6)	78.6 (14.3)
Vitality <sup>a</sup>	71.5 (19.7) <sup>#</sup>	68.1 (16.6) <sup>#</sup>	72.5 (19.6) <sup>#</sup>	69.3 (16.9) <sup>#</sup>	69.6 (19.9)	67.1 (16.3)
Bodily pain <sup>b</sup>	14.6 (24.7) <sup>*</sup>	23.6 (19.7) <sup>*</sup>	13.8 (23.9) <sup>*</sup>	23.9 (25.1) <sup>*</sup>	16.2 (26.4) <sup>#</sup>	23.3 (25.4) <sup>#</sup>
General health perception <sup>a</sup>	80.7 (19.4) <sup>*</sup>	76.6 (18.4) <sup>*</sup>	81.7 (17.9) <sup>#</sup>	77.7 (18.6) <sup>#</sup>	78.6 (22.2)	75.7 (18.2)
Self-esteem	32.1 (4.9)	32.3 (4.6)	32.1 (5.1)	32.4 (4.8)	32.2 (4.8)	32.3 (4.5)

<sup>a</sup>High scores = good health.  
<sup>b</sup>High scores = poor health.

The present findings indicate that QL and level of self-esteem in young adult survivors of childhood cancer is not significantly different from their healthy peers. Female gender, age at follow-up, unemployment, years since completion of therapy, severe late effects/health problems and self-esteem could explain variations in QL and worries only to a limited extent.

## QUALITY OF LIFE EVALUATION

**TABLE 4.** Scores of PedsQL Subscales According to Parent Proxy and Child Self-reports and Global Severity Index of Parents in Survivor and Control Groups

PedsQL Scores	Survivors (Mean ± SD)	Controls (Mean ± SD)
Child self-report		
Physical functioning subscale	77.35 ± 20.31	81.01 ± 13.24
Emotional functioning subscale	75.03 ± 18.87	76.11 ± 16.46
Social functioning subscale	88.61 ± 17.22	91.04 ± 12.14
School subscale	70.26 ± 20.91	78.52 ± 14.09
Parent proxy-report		
Physical functioning subscale	72.49 ± 21.88	77.91 ± 16.77
Emotional functioning subscale	70.62 ± 20.32	74.34 ± 17.38
Social functioning subscale	82.50 ± 20.50	88.32 ± 15.68
School subscale	70.82 ± 22.05	77.74 ± 16.63
Global severity index of parents	298 ± 0.72	269 ± 0.50

Tumor type is one of the most important factors affecting HRQOL. We found significantly lower scores on the social, physical, and school functioning subscales of CNS tumor survivors than the survivors of other tumours according to child self-reports. Despite all negative effects of cancer and its treatment, survivors seem to have a good overall HRQOL.

# QUALITY OF LIFE EVALUATION

**Table 4. Level of education of survivors compared with the French population of the same age, same gender, adjusted on paternal occupation**

Outcome	All diagnoses				All but CNS tumour and leukaemia survivors				CNS tumour and leukaemia survivors			
	Observed	Expected		P-value <sup>a</sup>	Observed	Expected		P-value <sup>a</sup>	Observed	Expected		P-value <sup>a</sup>
	(O)	(E)	O/E		(O)	(E)	O/E		(O)	(E)	O/E	
	N (%)	N (%)	(95% CI)		N (%)	N (%)	(95% CI)		N (%)	N (%)	(95% CI)	
Educational level <sup>b</sup>				<0.001				<0.001				<0.001
< Middle school	161 (9.8)	271 (16.5)	0.6 (0.5–0.7)	<sup>c</sup>	99 (7.1)	234 (16.8)	0.4 (0.3–0.5)	<sup>c</sup>	62 (24.9)	37 (14.9)	1.7 (1.3–2.2)	<sup>c</sup>
Middle school	103 (6.3)	133 (8.1)	0.8 (0.6–0.9)	<sup>d</sup>	70 (5.0)	114 (8.2)	0.6 (0.5–0.8)	<sup>c</sup>	33 (13.3)	18 (7.4)	1.8 (1.3–2.6)	<sup>c</sup>
Vocational school	416 (25.4)	367 (22.4)	1.1 (1.0–1.3)	<sup>d</sup>	354 (25.4)	315 (22.5)	1.1 (1.0–1.3)	<sup>d</sup>	62 (24.9)	54 (21.5)	1.2 (0.9–1.5)	
High school	268 (16.3)	290 (17.7)	0.9 (0.8–1.0)		238 (17.1)	245 (17.6)	1.0 (0.9–1.1)		30 (12.0)	46 (18.5)	0.7 (0.4–0.9)	<sup>d</sup>
College	693 (42.2)	579 (35.3)	1.2 (1.1–1.3)	<sup>c</sup>	631 (45.3)	486 (34.9)	1.3 (1.2–1.4)	<sup>c</sup>	62 (24.9)	94 (37.7)	0.7 (0.5–0.9)	<sup>c</sup>

Compared with national statistics adjusted on age and sex, we found that most survivors of childhood cancer had a significantly higher educational level and occupational class than expected, even when controlling for their socioeconomic background. Unemployment and health-related unemployment were higher than expected for CNS tumour survivors, but not for survivors of other diagnoses.

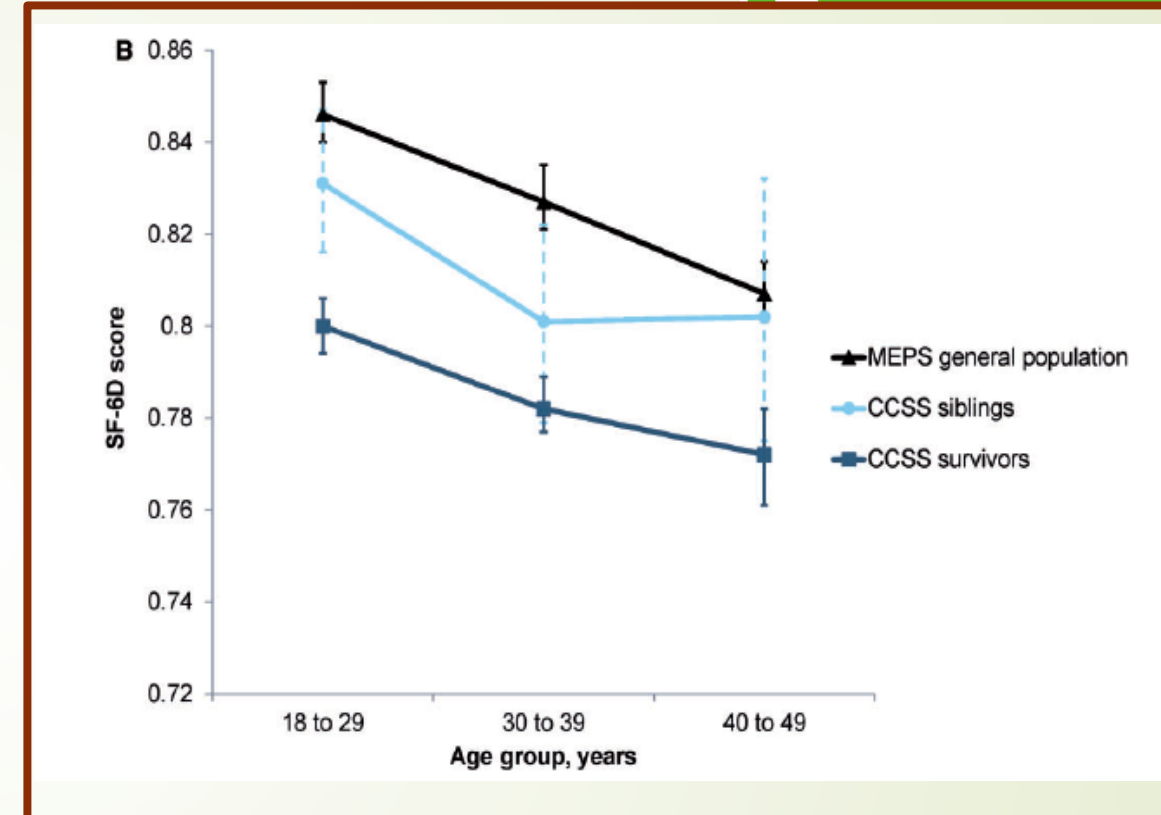
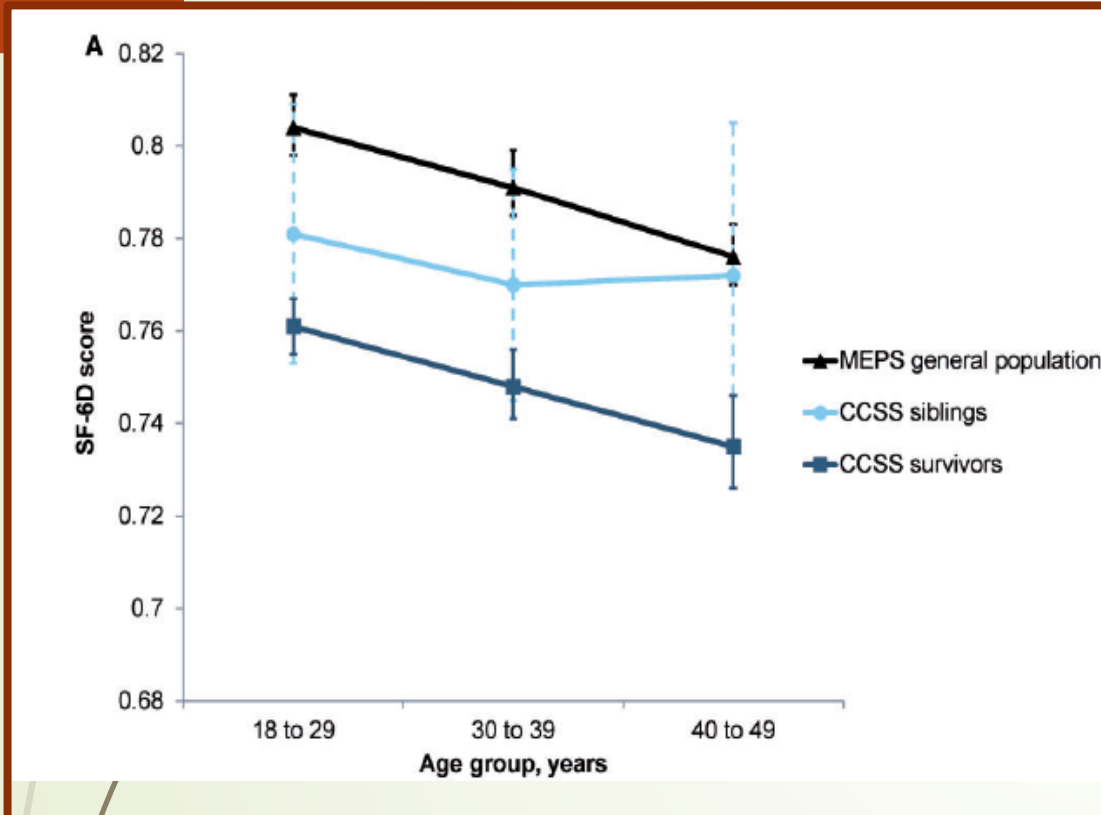
# QUALITY OF LIFE EVALUATION



	Parents										Children									
	Reference group (n = 1318) Mean (SD) <sup>+</sup>	Cohort 2004 (n = 29) Median (IQR) <sup>+</sup>	Cohort 2004 vs. Reference group		Cohort 2014 (n = 35) Median (IQR) <sup>+</sup>	Cohort 2014 vs. Reference group		Cohort 2004 vs. Cohort 2014		Reference group (n = 860) Mean (SD) <sup>+</sup>	Cohort 2004 (n = 21) Median (IQR) <sup>+</sup>	Cohort 2004 vs. Reference group		Cohort 2014 (n = 31) Median (IQR) <sup>+</sup>	Cohort 2014 vs. Reference group		Cohort 2004 vs. Cohort 2014			
TACQOL-PF 6-15			Z	P		Z	P	U	P	TACQOL-CF 8-15		Z	P		Z	P	U	P		
Physical	50 (10)	51.08 (42.95-56.50)	-.51	.61	51.08 (42.95-56.50)	-.10	.92	477	.68	Physical	50 (10)	51.39 (48.41-58.33)	1.48	.14	49.60 (43.65-55.56)	-.61	.54	275	.35	
Motor		48.68 (47.03-50.00)	-3.86	<.001 <sup>y</sup>	45.60 (27.97-50.00)	4.02	<.001 <sup>y</sup>	276	.003 <sup>a</sup>	Motor		49.69 (48.89-50.32)	-1.79	.07	50.03 (37.33-56.38)	-.91	.37	325	.99	
Autonomy		49.04 (46.73-50.42)	-2.79	.005 <sup>y</sup>	47.76 (34.94-54.17)	1.74	.08	474	.82	Autonomy		50.38 (49.04-50.38)	-.41	.68	53.82 (43.06-53.82)	.14	.89	272	.31	
Cognition		49.69 (48.34-50.50)	-2.24	.025 <sup>y</sup>	41.60 (33.35-52.27)	3.36	.001 <sup>y</sup>	302	.015 <sup>a</sup>	Cognition		49.86 (49.35-50.88)	-.40	.69	48.63 (35.27-56.26)	-1.00	.32	288	.60	
Social		49.57 (49.14-50.22)	-1.68	.09	50.04 (37.11-54.35)	-.77	.44	480	.71	Social		50.09 (49.15-50.65)	-.19	.85	50.86 (47.12-58.35)	1.64	.10	183	.007 <sup>b</sup>	
Positive emotions		50.01 (48.07-50.57)	-.30	.77	50.11 (44.56-55.67)	.50	.62	445	.39	Positive emotions		49.75 (48.55-50.96)	-1.52	.07	51.53 (43.49-59.56)	.10	.92	230	.92	
Negative emotions		49.71 (49.07-50.56)	-0.88	.38	51.37 (47.09-64.19)	1.41	.16	378	.08	Negative emotions		50.10 (48.97-50.84)	-.61	.54	54.72 (47.23-62.21)	2.14	.032 <sup>x</sup>	197	.032 <sup>b</sup>	

The impairments of brain tumor survivors influence quality of life particularly regarding motor, cognitive, and social functioning. Children impeded in their autonomy may develop a delay in their social capacities. This is affirmed by their parents, who reported more social problems. Early detecting of such problems is important, as timely interventions can prevent aggravation of such problems and will enhance the child's coping capacities.

# QUALITY OF LIFE EVALUATION



Our findings, which represent the first use of utility scores to illuminate quality-of-life differences among adult survivors of childhood cancer and nonsurvivors, highlight the importance of chronic conditions on health-related quality of life for childhood cancer survivors and provide encouraging results on the impact of the cancer experience on long-term sibling wellbeing.



# QUALITY OF LIFE EVALUATION

Los adolescentes que han tenido cáncer y en la actualidad se encuentran en remisión manifiestan una calidad de vida satisfactoria y similar a la que se observa en su grupo de referencia de la población general sin historia previa de cáncer

**Tabla 1**

Comparación de medias entre grupos para los componentes mental y físico del cuestionario de salud SF-12<sub>v2</sub>\*

Variable	Grupo	Media (desviación típica)	p
Componente mental (MCS)	Grupo normativo (n = 338)	47,85 (9,17)	0,004
	Supervivientes (n = 34)	52,60 (8,60)	
Componente físico (PCS)	Grupo normativo (n = 338)	52,72 (6,15)	NS
	Supervivientes (n = 34)	54,03 (8,43)	

El SF- 12v 2 es un instrumento de evaluación de calidad de vida en relación con la salud formado por un subconjunto de 12 ítems del SF-367. La información de estos 12 ítems se utiliza para construir las dimensiones de )componente físico\* (PCS) y de )componente mental\* (MCS) del SF-12v2,

## QUALITY OF LIFE . CONCLUSIONS

- We need a consensus definition of QOL .
- We need a new tool to measure QOL that include all the relevant domains.
- In general terms QOL of childhood cancer survivors is good and no different from their peers.
- There is a role not only for researchers and health care providers but also for survivors and their families, governing bodies and advocacy groups in helping to understand and overcome the barriers that prevent survivors from receiving optimal care to minimize adverse health-related outcomes and to maximize quality-of-life outcomes.

