

Assessing unmet needs in advanced cancer patients: a systematic review of the development, content, and quality of available instruments

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Online Resource 1: Search strategy

Key area	Keywords
1. Cancer	cancer OR neoplasm/
2. Advanced Disease	advanced OR metastatic OR palliative OR chronic OR end of life OR late stage OR terminal
3. Needs	unmet need* OR need* assess* OR perceived need* OR support* care need* OR psycho* need* OR physical need* OR information* need* OR function* need*
4. Instrument	instrument* OR measure* OR scale* OR survey* OR questionnaire* OR tool* OR inventor* OR checklist*

Online Resource 2: Database search example

MEDLINE search (Ovid MEDLINE® 1946 to February Week 4 2020)

<input type="checkbox"/>	# ▲	Searches	Results
<input type="checkbox"/>	1	Neoplasms/	415111
<input type="checkbox"/>	2	cancer.mp.	1445236
<input type="checkbox"/>	3	1 or 2	1629056
<input type="checkbox"/>	4	advanced.mp.	348001
<input type="checkbox"/>	5	metastatic.mp.	188986
<input type="checkbox"/>	6	palliative.mp.	76504
<input type="checkbox"/>	7	chronic.mp.	1188586
<input type="checkbox"/>	8	end of life.mp.	19105
<input type="checkbox"/>	9	late stage.mp.	17948
<input type="checkbox"/>	10	terminal.mp.	397605
<input type="checkbox"/>	11	4 or 5 or 6 or 7 or 8 or 9 or 10	2110788
<input type="checkbox"/>	12	unmet need*.mp.	9913
<input type="checkbox"/>	13	need* assess*.mp.	33079
<input type="checkbox"/>	14	perceived need*.mp.	2615
<input type="checkbox"/>	15	support* care need*.mp.	555
<input type="checkbox"/>	16	psycho* need*.mp.	3041
<input type="checkbox"/>	17	physical need*.mp.	376
<input type="checkbox"/>	18	information* need*.mp.	6554
<input type="checkbox"/>	19	function* need*.mp.	1217
<input type="checkbox"/>	20	12 or 13 or 14 or 15 or 16 or 17 or 18 or 19	54039
<input type="checkbox"/>	21	instrument*.mp.	851230
<input type="checkbox"/>	22	measure*.mp.	2865427
<input type="checkbox"/>	23	scale*.mp.	683385
<input type="checkbox"/>	24	survey*.mp.	895181
<input type="checkbox"/>	25	questionnaire*.mp.	646244
<input type="checkbox"/>	26	tool*.mp.	570111
<input type="checkbox"/>	27	inventor*.mp.	91075
<input type="checkbox"/>	28	checklist*.mp.	32150
<input type="checkbox"/>	29	21 or 22 or 23 or 24 or 25 or 26 or 27 or 28	4997176
<input type="checkbox"/>	30	3 and 11 and 20 and 29	747

Online Resource 3: Dimension definitions

Dimension	Definition	Example items
<i>Physical</i>	Needs relating to a symptom of diagnosis or side effect of treatment.	<ul style="list-style-type: none"> • PCNA-EAV – Dealing with difficulty breathing • SCNS-SF34 – Lack of energy/tiredness
<i>Psychological</i>	Needs relating to feelings and emotions surrounding the cancer journey.	<ul style="list-style-type: none"> • PNAP – Being pain free • YYFcore03 – Feeling down or depressed • NA-ACP – Dealing with anxiety or stress • CNAT – Feelings of anger, irritability, or nervousness
<i>Information</i>	Needs for more information, knowledge, or understanding about all aspects of the cancer journey.	<ul style="list-style-type: none"> • Ndiok – I need more information about my diagnosis • PNI – Information about medication and side effects • SCNS-LF59 – To be given written information about the important aspects of your care
<i>Social</i>	Needs concerning relationships with friends, family, and partners.	<ul style="list-style-type: none"> • PNPC-SV – Problems in the relationship with life companion • 3LNQ – Difficulties with family life and contact to friends • CNQ-SF – Coping with changes in other people’s attitudes and behaviour towards you
<i>Activities of daily living</i>	Needs relating to essential activities necessary for everyday functioning.	<ul style="list-style-type: none"> • PNAP – Being able to take care of your body (washing, dressing, food) • eHNA – Preparing meals or drinks • SPARC – Changes in your ability to carry out your usual household tasks such as cooking for yourself or cleaning the house
<i>Health care</i>	Needs relating to the individual’s access to treatment and/or support services and their relationship with health professionals.	<ul style="list-style-type: none"> • SPEED – How much difficulty are you having getting medical care that fits with your goals? • SCNAT-IP – Having access to professional counselling if you or your family and friends need it • PCNQ V2 – My specialist(s) are very supportive
<i>Spiritual</i>	Needs that relate to finding meaning, purpose, and value in life, though not necessarily religious.	<ul style="list-style-type: none"> • SPARC – Religious or spiritual needs not being met • NA-ACP – Clarifying your spiritual beliefs • PNPC – Difficulties concerning the meaning of death
<i>Sexual</i>	Needs relating to an individual’s intimate relationships and sexual function.	<ul style="list-style-type: none"> • 3LNQ – Difficulties with sex life • SCNS-ST9 – Changes in sexual relationships • CSS-25 – Intimacy, sexual function and/or fertility
<i>Economic</i>	Needs relating to an individual’s finances and resources.	<ul style="list-style-type: none"> • NA-ALCP – Dealing with concerns about your financial situation • NEQ – I need economic help • CSS-25 – Health insurance or money worries
<i>Autonomy</i>	Needs relating to an individual’s ability to do things for themselves.	<ul style="list-style-type: none"> • Ndiok – Frustrations because one can do less than before • CaNDI – Concerns about being unable to take care of myself

Dimension	Definition	Example items
<i>Role</i>	Needs relating to an individual's responsibilities and the part they play at home and in society.	<ul style="list-style-type: none">• PNPC-SV – Difficulties in continuing the usual activities• PNPC – Difficulties in caring for children or babysitting• CaNDI – Managing work, school, or home life• eHNA – Work and education

Online Resource 4: Definitions and COSMIN quality criteria for good measurement properties

Measurement property		Definition ^a	Quality criteria for each property ^{b,c}	
<i>Validity</i>	Content validity	The degree to which the content of a PROM is an adequate reflection of the construct to be measured.	Quality not assessed.	
	Construct validity	Structural validity	The degree to which the scores of a PROM are an adequate reflection of the dimensionality of the construct to be measured.	+: CTT: CFA: CFI or TLI or comparable measure >0.95 OR RMSEA <0.08 IRT/Rasch: No violation of unidimensionality: CFI or TLI or comparable measure >0.95 OR RMSEA <0.06 OR SRMR <0.08 AND no violation of local independence: residual correlations among the items after controlling for the dominant factor <0.20 OR Q3's <0.37 AND no violation of monotonicity: adequate looking graphs OR item scalability >0.30 AND adequate model fit: IRT: $\chi^2 >0.01$ Rasch: infit and outfit mean squares ≥ 0.5 and ≤ 1.5 OR Z- standardized values > -2 and <2. ?: CTT: Not all information for '+' reported. IRT/Rasch: Model fit not reported. -: Criteria for '+' not met.
		Hypotheses testing	The degree to which the scores of the instrument are consistent with the theoretically derived hypotheses.	+: The result is in accordance with the hypothesis. ?: No hypothesis defined (by the review team) -: The result is not in accordance with the hypothesis.
<i>Reliability</i>	Reliability	The proportion of the total variance in the measurements which is due to 'true' differences between patients.	+: ICC or weighted Kappa ≥ 0.70 . ?: ICC or weighted Kappa not reported. -: ICC or weighted Kappa <0.70.	
	Internal consistency	The degree of the interrelatedness among the items.	+: At least low evidence for sufficient structural validity AND Cronbach's alpha(s) ≥ 0.70 for each unidimensional scale or subscale ?: Criteria for "At least low evidence for sufficient structural validity" not met -: At least low evidence for sufficient structural validity AND Cronbach's alpha(s) < 0.70 for each unidimensional scale or subscale	
	Measurement error	The systematic and random error of a patient's score that	+: SDC or LoA < MIC. ?: MIC not defined.	

Measurement property	Definition ^a	Quality criteria for each property ^{b,c}
	is not attributed to true changes in the construct to be measured.	-: SDC or LoA > MIC.
<i>Responsiveness</i>	The ability of a PROM to detect change over time in the construct to be measured.	+: The result is in accordance with the hypothesis OR AUC ≥ 0.70. ?: No hypothesis defined (by the review team). -: The result is not in accordance with the hypothesis ⁷ OR AUC < 0.70.

^aDefinitions of the measurement properties are based on Mokkink et al. (2010).

^bQuality criteria are based on Terwee et al. (2007) and Prinsen et al. (2016).

^c“+” = sufficient, “?” = indeterminate, “-” = insufficient

AUC = area under the curve, CFA = confirmatory factor analysis, CFI = comparative fit index, CTT = classical test theory, DIF = differential item functioning, ICC = intraclass correlation coefficient, IRT = item response theory, LoA = limits of agreement, MIC = minimal important change, RMSEA: Root Mean Square Error of Approximation, SEM = Standard Error of Measurement, SDC = smallest detectable change, SRMR: Standardized Root Mean Residuals, TLI = Tucker-Lewis index

Online Resource 5: GRADE levels of evidence

Quality of evidence	Lower if:
High (†††)	<i>Risk of bias</i> -1 Serious
Moderate (††)	-2 Very serious -3 Extremely serious
Low (†)	<i>Inconsistency</i> -1 Serious
Very low (-)	-2 Very serious
	<i>Imprecision</i> -1 total n=50-100 -2 total n<50
	<i>Indirectness</i> -1 Serious -2 Very serious

n = sample size

Online Resource 6: Instrument purpose, setting and characteristics of the validation study population

Instrument	Instrument purpose	Study setting	Study population
<i>PNAP</i>	To identify the needs of patients receiving palliative care.	Czech Republic	Mixed palliative chronic disease and cancer patients (n = 349): Cancer - n = 225 (64.5%); Chronic disease - n = 124 (35.5%); Mouth, pharynx, gastrointestinal tract - n = 54 (24%); Respiratory - n = 37 (16%); Breast, female reproductive organs - n = 43 (19%); Male reproductive organs - n = 19 (8%); Urinary bladder - n = 10 (4%); Eye, central nervous system - n = 11 (5%); Hematopoiesis - n = 18 (8%); Other cancers - n = 16 (7%)
<i>SPARC</i>	To facilitate the referral of patients with advanced illnesses (regardless of diagnosis) into specialist palliative care.	UK	Patients with an advanced illness (n = 100)
<i>NA-ACP</i>	To measure the perceived needs of patients with advanced, incurable cancer.	Australia	Mixed advanced cancer patients (n = 246): Breast - n = 59 (24%); Bowel/Colon - n = 47 (19%); Lung - n = 26 (11%); Lymph node - n = 25 (10%); Ovary - n = 13 (5%); Prostate - n = 9 (4%); Mouth/throat - n = 8 (3%); Other - n = 51 (21%); Unreported - n = 8 (3%)
<i>NA-ALCP</i>	To assess the needs of patients with advanced, incurable lung cancer.	Australia	Advanced lung cancer patients (n = 108)
<i>PNPC</i>	To investigate problems experienced by patients and (unmet) needs for care.	Netherlands	Mixed palliative cancer patients (those with distant mets) (n = 64): Breast - n = 29 (2 of whom also had cervical cancer) (46%); Lung - n = 3 (4.7%); Esophagus/stomach - n = 1 (1.6%); Colon/ rectum - n = 11 (17.2%); Ovary - n = 5 (7.8%); Malignant melanoma - n = 4 (6.3%); Cervix - n = 3 (2 of whom also had breast cancer) (4.7%); Prostate - n = 2 (3.1%); Neck/ head - n = 1 (1.6%); Hematological/ lymph system - n = 1 (1.6%); Primary liver cancer - n = 1 (1.6%); Pancreas - n = 1 (1.6%); Unknown - n = 4 (6%)
<i>PNPC-sv</i>	To measure all dimensions of palliative care, investigating patients' problems and (unmet) needs	Netherlands	Mixed patients with metastatic cancer (n = 94): Breast - n = 37 (39%); Colorectal - n = 14 (15%); Lung - n = 8 (8%); Prostate - n = 6 (6%); Ovary - n = 5 (5%);

Instrument	Instrument purpose	Study setting	Study population
<i>SPEED</i>	To screen for palliative care needs of patients with cancer presenting to the emergency department.	USA	Malignant melanoma - n = 4 (4%); Unreported - n = 21 (23%) Mixed cancer patients with metastatic disease (n = 49): Breast - n = 8 (16%); Colon - n = 7 (14%); Lung - n = 7 (14%); Lymphoma - n = 6 (11%); Unreported - n = 21 (45%)
<i>3LNQ</i>	To measure palliative needs in three ways: problem intensity, problem burden, and felt need.	Denmark	Advanced cancer patients (n = 74): Stage III - n = 38 (51%); Stage IV - n = 30 (41%); Unreported - n = 6 (8%)
<i>Ndiok</i>	To assess palliative care needs of patients with cancer from the perspective of the patients themselves.	Nigeria	Brain - n = 2 (3%); Gastrointestinal - n = 24 (32%); Gynecological - n = 10 (13%); Head and neck - n = 5 (7%); Breast - n = 17 (23%); Lung - n = 2 (3%); Hematological - n = 5 (7%); Genitourinary - n = 6 (8%) Other - n = 3 (4%) Mixed cancer patients (n = 429): Breast - n = 165 (38.5%); Cervix - n = 44 (10.3%); Prostate - n = 73 (17%); Skin - n = 23 (5.4%); Lung - n = 50 (11.6%); Other - n = 69 (16.1%); Unreported - n = 5 (1.1%)
<i>PCNA-EAV</i>	To measure the health care and support care needs of patients with advanced cancer.	Saudi Arabia	Mixed advanced cancer patients (n = 50): Breast - n = 14 (28%); Lung - n = 4 (8%); Liver - n = 5 (10%); Gastrointestinal - n = 3 (6%); Genitourinary - n = 1 (2%); Lymphoma - n = 9 (18%); Colon - n = 9 (18%); Other - n = 5 (10%)
<i>CaNDI</i>	To identify distressed patients in need of intervention.	USA	Mixed cancer patients (n = 100): Stage I - n = 22 (22%); Stage II - n = 19 (19%); Stage III - n = 27 (27%); Stage IV - n = 19 (19%); Unreported - n = 13 (13%)
<i>CNAT</i>	To cover cancer patients' needs in a comprehensive way throughout all phases	Republic of Korea	Breast - n = 30 (30%); CLL - n = 10 (10%); Colon/rectal - n = 13 (13%); Lung - n = 6 (6%); Myeloma - n = 4 (4%); Ovarian - n = 10 (10%); Other - n = 17 (17%); Multiple site - n = 6 (6%); Missing - n = 4 (4%) Mixed cancer patients (n = 2661): Stomach - n = 399 (15%); Lung - n = 287 (10.8%);

Instrument	Instrument purpose	Study setting	Study population
	of the cancer experience, from diagnosis to recovery or palliative care		Colon/ rectum - n = 324 (12.2%); Breast - n = 325 (12.2%); Cervix - n = 98 (3.7%); Other - n = 1008 (37.9%)
<i>PNI</i>	To identify the psychosocial needs of cancer patients, and the contributory factors to need.	UK	Mixed cancer patients (n = 402): Breast - n = 183 (46%); Colorectal - n = 121 (30%); Lung - n = 62 (15%); Lymphoma - n = 36 (9%)
<i>eHNA</i>	To help people living with cancer express all their needs and help those helping them better target support.	UK	Mixed cancer patients (n = 5421)
<i>SCNS-SF34</i>	To measure cancer patients' perceived needs across a range of domains.	Australia	Three samples of mixed cancer patients (n = 444, 444, 250): Breast - n = 137 (31%), 139 (31%), 14 (6%); Colorectal - n = 74 (17%), 70 (16%), 21 (8%); Prostate - n = 39 (9%), 35 (8%), 82 (33%); Lung - n = 31 (7%), 32 (7%), 23 (9%); Other - n = 137 (31%), 142 (32%), 110 (44%)
<i>SCNAT-IP</i>	To measure indigenous cancer patients' perceived needs across a range of domains.	Australia	Mixed indigenous cancer patients (n = 29): Gynecological - n = 9 (31%); Lung - n = 7 (24%); Breast - n = 5 (14%); Blood - n = 3 (10%); Bowel - n = 2 (7%); Brain - n = 1 (3%); Prostate - n = 1 (3%); Thyroid - n = 1 (3%)
<i>SCNS-ST9</i>	A brief screening tool to assess the perceived needs of people with cancer.	Australia	Two samples of mixed cancer patients (n = 977 (development), 481 (validation)): Current cancer site(s) reported in n = 1345): Breast - n = 232 (25.6%), 117 (26.9%); Bowel/colon/rectum - n = 99 (10.9%), 49 (11.3%); Lung - n = 84 (9.3%), 35 (8%); Prostate - n = 66 (7.3%), 40 (9.2%); Melanoma/skin - n = 42 (4.6%), 14 (3.2%); Cervical/ovarian - n = 33 (3.6%), 15 (3.4%); Brain tumour - n = 28 (3.1%), 13 (3%); Other - n = 323 (35.6%), 152 (34.9%)
<i>SCNS-LF59</i>	To assess the generic needs of patients with cancer.	Australia	Mixed cancer patients (n = 888): Breast - n = 280 (32%); Colon and rectum - n = 150 (17%); Prostate - n = 80 (9%); Lung - n = 67 (8%); Skin/melanoma - n = 43 (5%); Don't know - n = 14 (2%); Other - n = 217 (24%)
<i>NEQ</i>	To evaluate needs expressed by (hospitalised) cancer patients.	Italy	Mixed cancer patients (n = 423): Colon-rectum - n = 114 (27%); Genitourinary - n = 114 (27%); Breast - n = 93 (22%); Not reported - n = 102 (24%)
<i>CNQ-sf</i>	To assess cancer patient's needs across several domains.	Australia	Mixed cancer patients (n = 450): No evidence - n = 193 (43%); Localised, asymptomatic - n = 59 (13%); Localised, symptomatic - n = 68 (15%); Metastatic, asymptomatic - n = 45 (10%);

Instrument	Instrument purpose	Study setting	Study population
			Metastatic, symptomatic - n = 85 (19%)
			Lung - n = 132 (29%); Head and neck - n = 95 (21%); Gynaecological - n = 77 (17%); Haematology/Lymphoma - n = 45 (10%); Melanoma - n = 45 (10%); Other - n = 54 (12%)
CSS-25	To screen for psychosocial distress among cancer patients.	USA	Mixed cancer patients (n = 251): Stage 0 - n = 10 (4%); Stage I - n = 58 (25%); Stage II - n = 57 (24%); Stage III - n = 44 (19%); Stage IV - n = 39 (17%); Do not know - n = 26 (11%)
			Breast - n = 108 (46%); Gynecologic - n = 20 (9%); Blood - n = 17 (7%); Colorectal - n = 14 (6%); Lung - n = 9 (4%); Prostate - n = 9 (4%); Other - n = 43 (18%); Multiple reported - n = 16 (7%)
BCNAS-32	To provide a comprehensive assessment of the multi-dimensional impact of bladder cancer on patients' outcomes and their current needs for support.	USA	Bladder cancer patients (n = 159): Stage 0 - n = 29 (18%); Stage I - n = 59 (37%); Stage II - n = 40 (25%); Stage III - n = 13 (8%); Stage IV - n = 10 (6%); Do not know - n = 5 (3%)
PCNQ V2	To measure the perceived needs of men diagnosed with prostate cancer.	Australia	Prostate cancer patients (n = 300): Localised - n = 172 (57%); Advanced - n = 50 (17%); Do not know - n = 78 (26%)
YYFcore03	To screen for biopsychosocial distress of newly diagnosed cancer patients in the outpatient setting.	USA	Mixed cancer patients (n = 608): Breast - n = 262 (43%); Genitourinary - n = 77 (13%); Other organs - n = 80 (13%); Prostate/testes - n = 59 (10%); Benign/non-neoplasm - n = 130 (21%)

Online Resource 7: Validation studies in languages other than English

Instrument ^a	Language	Reference
<i>SPARC</i>	Polish	Leppert W, Majkowicz M, Ahmedzai SH. The adaptation of the Sheffield Profile for Assessment and Referral for Care (SPARC) to the Polish clinical setting for needs assessment of advanced cancer patients. <i>J Pain Symptom Manage</i> . 2012 Dec 1;44(6):916-22. https://doi.org/10.1016/j.jpainsymman.2011.12.286
<i>PNPC-sv</i>	Chinese	Wang T, Molassiotis A, Chung BP, Tan JY. Psychometric assessment of the Chinese version of the Problems and Needs in Palliative Care questionnaire-short version in advanced cancer patients. <i>BMC Palliat Care</i> . 2019 Dec;18(1):1-2. https://doi.org/10.1186/s12904-019-0450-5
<i>CaNDI</i>	Turkish	Beyhun NE, Can G, Tiryaki A, Karakullukcu S, Bulut B, Yesilbas S, Kavgaci H, Topbas M. Validity and Reliability of the Turkish Version of Needs Based Biopsychosocial Distress Instrument for Cancer Patients (CANDI). <i>Iran Red Crescent Med J</i> . 2016 Jun;18(6). https://doi.org/10.5812/ircmj.27352
<i>CNAT</i>	Chinese	Zhang YP, Wei HH, Zhao XS, Zhang Y, Xu YQ, Porr C. Cross-Cultural Adaptation and Validation of the Comprehensive Needs Assessment Tool (CNAT) for Chinese Cancer Patients. <i>Eur J Pers Cent Healthc</i> . 2016 Jun 24;4(1):241-9. http://dx.doi.org/10.5750/ejpc.v4i1.1078
<i>SCNS-SF34</i>	Dutch	Li WW, Lam WW, Shun SC, Lai YH, Law WL, Poon J, Fielding R. Psychometric assessment of the Chinese version of the Supportive Care Needs Survey short-form (SCNS-SF34-C) among Hong Kong and Taiwanese Chinese colorectal cancer patients. <i>PLoS one</i> . 2013 Oct 11;8(10):e75755. https://doi.org/10.1371/journal.pone.0075755
	French	Bredart A, Kop JL, Griesser AC, Zaman K, Panes-Ruedin B, Jeanneret W, DELALOYE JF, Zimmers S, Jacob A, Berthet V, Fiszer C. Validation of the 34-item Supportive Care Needs Survey and 8-item breast module French versions (SCNS-SF34-Fr and SCNS-BR8-Fr) in breast cancer patients. <i>Eur J Cancer Care</i> . 2012 Jul;21(4):450-9. https://doi.org/10.1111/j.1365-2354.2012.01356.x
	German	Lehmann C, Koch U, Mehnert A. Psychometric properties of the German version of the short-form supportive care needs survey questionnaire (SCNS-SF34-G). <i>Support Care Cancer</i> . 2012 Oct;20(10):2415-24. https://doi.org/10.1007/s00520-011-1351-1
	Italian	Zeneli A, Fabbri E, Donati E, Tierney G, Pasa S, Berardi MA, Maltoni M. Translation of supportive care needs survey short form 34 (SCNS-SF34) into Italian and cultural validation study. <i>Support Care Cancer</i> . 2016 Feb 1;24(2):843-8. https://doi.org/10.1007/s00520-015-2852-0
	Japanese	Okuyama T, Akechi T, Yamashita H, Toyama T, Endo C, Sagawa R, Uchida M, Furukawa TA. Reliability and validity of the Japanese version of the Short-form Supportive Care Needs Survey Questionnaire (SCNS-SF34-J). <i>Psychooncology</i> . 2009 Sep;18(9):1003-10. https://doi.org/10.1002/pon.1482
	Mandarin and Cantonese	Au A, Lam WW, Kwong A, Suen D, Tsang J, Yeo W, Suen J, Ho WM, Yau TK, Soong I, Wong KY. Validation of the Chinese version of the short-form Supportive Care Needs Survey Questionnaire (SCNS-SF34-C). <i>Psychooncology</i> . 2011 Dec;20(12):1292-300. https://doi.org/10.1002/pon.1851
	Mandarin	Han Y, Zhou Y, Wang J, Zhao Q, Qin H, Fan Y, Song Y, Boyes A, Cui S. Psychometric testing of the Mandarin version of the 34-item Short-Form Supportive Care Needs Survey in patients with cancer in mainland China. <i>Support Care Cancer</i> . 2017 Nov;25(11):3329-38. https://doi.org/10.1007/s00520-017-3750-4

Instrument ^a	Language	Reference
	Mexican	Doubova SV, Aguirre-Hernandez R, Gutiérrez-de la Barrera M, Infante-Castañeda C, Pérez-Cuevas R. Supportive care needs of Mexican adult cancer patients: validation of the Mexican version of the Short-Form Supportive Care Needs Questionnaire (SCNS-SFM). <i>Support Care Cancer</i> . 2015 Sep;23(9):2711-9. https://doi.org/10.1007/s00520-015-2634-8
	Nepali	Dhakal K, Wang P, Mboineki JF, Getu MA, Chen C, Boyes A, Sharma C, Ghimire BR, Adhikari A, Adhikari B. Translation of Supportive Care Needs Survey Short Form 34 (SCNS-SF34) into Nepali Language with Cultural Validation. Pre-print. https://doi.org/10.21203/rs.3.rs-213979/v1
	Traditional Chinese	Li WW, Lam WW, Shun SC, Lai YH, Law WL, Poon J, Fielding R. Psychometric assessment of the Chinese version of the Supportive Care Needs Survey short-form (SCNS-SF34-C) among Hong Kong and Taiwanese Chinese colorectal cancer patients. <i>PLoS one</i> . 2013 Oct 11;8(10):e75755. https://doi.org/10.1371/journal.pone.0075755
	Turkish	Özbayır T, Geçkil ÖS, Aslan A. An adaptation of the short-form supportive care needs survey questionnaire (SCNS-SF 34) into Turkish. <i>Eur J Breast Health</i> . 2017 Oct;13(4):183. https://dx.doi.org/10.5152%2Ftjhb.2017.3266
<i>SCNS-ST9</i>	Chinese	Chan-Chuan HU, Kai-Lin YO, Li-Yun TS, Yuan-Yuan FA, Jhang SY, Pei-Jen LO, Cheng-Ping WA, Jenq-Yuh KO, Yun-Hsiang LE, Yeur-Hur LA. Validation of the Supportive Care Needs Survey Screening Tool Chinese Version for Patients With Head and Neck Cancer in Taiwan. <i>J Nurs Res</i> . 2019 Dec 1;27(6):e50. https://doi.org/10.1097/jnr.0000000000000360
<i>NEQ</i>	Greek	Konstantinidis TI, Samonis G, Sarafis P, Philalithis A. Assessment of needs of hospitalized cancer patients with advanced cancer. <i>Glob J Health Sci</i> . 2017;9:184-4. http://dx.doi.org/10.5539/gjhs.v9n6p184
<i>CNQ-sf</i>	Arabic	Sharour LA. Translation and Validation of the Arabic Version of the Cancer Needs Questionnaire-Short Form. <i>Asia Pac J Oncol Nurs</i> . 2021 Jan;8(1):74. https://dx.doi.org/10.4103%2Fapjon.apjon_33_20
	Chinese	Chen SC, Lai YH, Cheng SY, Liao CT, Chang JT. Psychometric testing of the Chinese-version cancer needs questionnaire short form head and neck cancer-specific version in oral cavity cancer patients. <i>Support Care Cancer</i> . 2011 May;19(5):647-56. https://doi.org/10.1007/s00520-010-0877-y

^aThough the review included 24 instruments, this table only includes those with an additional language validation.

Online Resource 8: Other techniques used in instrument development

Instrument	Item generation	Item reduction
SPARC		Cognitive interviews with professionals; item analysis
NA-ALCP		Test-retest reliability
PNPC	Caregiver interviews	
PCNA-EAV	Author knowledge	
CaNDI		Health professional focus group
SCNS-SF34		Floor/ceiling effects; Item-total correlations; Author review (for “clinical relevance”)
SCNAT-IP	Key informant focus groups	Key informant focus groups
SCNS-ST9		Sensitivity and specificity; Item variation explained; ROC curve analysis; Positive and negative predictive value
NEQ		Problematic items eliminated after initial field-testing; Test-retest reliability
YYFcore03	Patient data	

Online Resource 9: References to support development quality appraisal

Instrument	Reference
<i>SPARC</i>	Bestall JC, Ahmed N, Ahmedzai SH, Payne SA, Noble B, Clark D. Access and referral to specialist palliative care: patients' and professionals' experiences. <i>Int J Palliat Nurs</i> . 2004 Aug;10(8):381-9. https://doi.org/10.12968/ijpn.2004.10.8.15874
<i>PNPC</i>	Osse BH, Vernooij-Dassen MJ, Schadé E, de Vree B, van den Muijsenbergh ME, Grol RP. Problems to discuss with cancer patients in palliative care: a comprehensive approach. <i>Patient Educ Couns</i> . 2002 Jul 1;47(3):195-204. https://doi.org/10.1016/S0738-3991(02)00019-8
<i>CaNDI</i>	Clark K, Bardwell WA, Arsenault T, DeTeresa R, Loscalzo M. Implementing touch-screen technology to enhance recognition of distress. <i>Psychooncology</i> . 2009 Aug;18(8):822-30. https://doi.org/10.1002/pon.1509
<i>SCNS^a</i>	Foot G, Sanson-Fisher R. Measuring the unmet needs of people living with cancer. <i>Cancer Forum</i> 1995 (Vol. 19, No. 2, pp. 131-135).
<i>BCNAS-32</i>	Mohamed NE, Herrera PC, Hudson S, Revenson TA, Lee CT, Quale DZ, Zarcadoolas C, Hall SJ, Diefenbach MA. Muscle invasive bladder cancer: examining survivor burden and unmet needs. <i>J Urol</i> . 2014 Jan 1;191(1):48-53. https://doi.org/10.1016/j.juro.2013.07.062
<i>YYFcore03</i>	Loscalzo MJ, Clark KL. Problem-related distress in cancer patients drives requests for help: a prospective study. <i>Oncology</i> . 2007 Aug 1;21(9):1133.

^aReferences listed for SCNS are applicable to the LF59, SF34, and ST9.

Online Resource 10: Dimension development

Instrument	Dimension development	Dimensions (as described by authors of the validation study(ies) included in the review)
<i>PNAP</i>	Confirmatory factor analysis; Health professional focus group	Physical symptoms; Social area; Respect and support from health professionals; Meaning of life and reconciliation; Autonomy; Chance to share emotions; Religious needs
<i>SPARC</i>	Literature; Author grouped	Communication and information issues; Physical symptoms; Psychological issues; Religious and spiritual issues; Independence and activity; Family and social issues; Treatment issues
<i>NA-ACP</i>	Principal component analysis; Literature	Medical communication/information; Psychological/Emotional; Daily living; Financial; Symptom; Spiritual; Social
<i>NA-ALCP</i>	Existing instrument	Medical communication; Psychological/emotional; Daily living; Financial; Symptom; Spiritual/existential; Social
<i>PNPC</i>	Literature; Patient interviews	Activities of daily living; Physical symptoms; Role activities; Financial and administrative issues; Social issues; Psychological issues; Spiritual issues; Autonomy; Information needs; Problems in consultations; Overriding problems in quality of care; Concerning the GP; Concerning the specialist
<i>PNPC-sv</i>	Existing instrument	Daily activities; Physical symptoms; Autonomy; Social issues; Psychological issues; Spiritual issues; Financial issues; Need of information
<i>SPEED</i> <i>3LNQ</i>	Literature; Expert panel Literature; Existing instrument	Physical; Spiritual; Social; Therapeutic; Psychological Physical function; Role function; Depression; Worry; Concentration; Social function; Fatigue; Nausea; Pain; Dyspnea; Reduced appetite; Sexuality; Feeling as a burden; Loneliness
<i>Ndiok</i>	Conceptual needs model	Information needs; Spiritual issues; Psychological issues; Activities of daily living; Physical symptoms; Financial issues; Social issues; Self-sufficiency; Problems in consultations; Problems in quality of care; Concerning the nurses
<i>PCNA-EAV</i>	Literature; Review of existing instruments	Physical/functional; Social; Psychological/emotional; Information; Communication; Helpful resources; Financial; Religious/spiritual; Priority of need; Preference for care
<i>CaNDI</i>	Biopsychosocial model	Depression; Anxiety; Emotion; Social; Health care; Practical; Physical
<i>CNAT</i>	Exploratory factor analysis	Health care staff; Psychological problems; Physical symptoms; Information; Social/religious/spiritual support; Practical support; Hospital facilities and services;
<i>PNI</i>	Author grouped	Health professional; Information; Support network; Identity; Emotional and spiritual; Practical; Practical: child
<i>eHNA</i>	Exploratory factor analysis; Principal component analysis	Emotional/spiritual; Oral effects; Activities of daily living; Caring/relationships; Surgery; Physiological effects; Toilet/pain; Gut; Treatment outcomes; Practical; Sexuality; Weight
<i>SCNS-SF34</i>	Exploratory factor analysis; Confirmatory factor analysis; Existing instrument	Psychological; Health systems and information; Patient care and support; Physical and daily living; Sexuality
<i>SCNAT-IP</i>	Existing instrument	Physical and Psychological; Health care; Practical and Cultural; Information and Communication

Instrument	Dimension development	Dimensions (as described by authors of the validation study(ies) included in the review)
<i>SCNS-ST9</i>	Existing instrument	Psychological; Health systems and information; Patient care and support; Physical and daily living; Sexuality
<i>SCNS-LF59</i>	Principal component analysis; Existing instrument	Psychological; Health systems and information; Patient care and support; Physical and daily living; Sexuality
<i>NEQ</i>	Exploratory factor analysis; Confirmatory factor analysis	Tamburini: Information (diagnosis & prognosis); Information (exams & treatment); Communicational; Relational Annunziata: Informative; Assistance/care related, Relational; Psycho-emotional support; Material
<i>CNQ-sf</i>	Principal component analysis	Psychological; Health information; Physical and daily living; Patient care and support; Interpersonal communication needs
<i>CSS-25</i>	Exploratory factor analysis; Confirmatory factor analysis	Emotional wellbeing; Symptom burden and impact; Body image and healthy lifestyle; Health care team communication; Relationships and intimacy
<i>BCNAS-32</i>	Exploratory factor analysis	Psychological; Health system; Physical and daily living; Patient care and support; Sexuality; Logistics; Communication (spouse/partner); Communication (medical providers)
<i>PCNQ V2</i>	Principal component analysis	Part 1 (past issues and experiences): Specialist support; Anxiety and urgency; Confidence in treatment preparation and recovery; Knowledge and understanding; GP support; Informed choice; Other support for diagnosis and treatment Part 2 (current issues and experiences): Role limitations; GP ongoing support; Impotence and sexual issues; Incontinence; Personal integration and control; Specialist ongoing support
<i>YYFcore03</i>	Exploratory factor analysis	Psychological distress; Logistics of medical care; Somatization (physical, practical, psychological, social problems)

Online Resource 11: Overall methodological quality appraisal

See ‘Online Resource clinimetrics’ spreadsheet - worksheet ‘Online Resource 11’.

^aOriginal development was not accessible for CNQ-SF and not available for eHNA.

^bIn COSMIN, an item can be rated as *inadequate* if it has not been done, not been reported, or done inadequately.

Online Resource 12: GRADE levels of evidence with reasons

See ‘Online Resource clinimetrics’ spreadsheet – worksheet ‘Online Resource 12’.

Online Resource 13: Quality appraisal with reasons

See ‘Online Resource clinimetrics’ spreadsheet – worksheet ‘Online Resource 13’.

^aAs long as at least one of the ICCs/Kappa’s was >0.70 , the instrument was rated as sufficient.

Online Resource 14: Instrument feasibility

Instrument	<i>Patient's comprehensibility</i>	<i>Clinician's comprehensibility</i>	<i>Type and ease of administration</i>	<i>Length of the instrument (items)</i>	<i>Completion time (mins)</i>	<i>Patient's required mental and physical ability level</i>
<i>PNAP</i>	Not reported	Not reported	Not reported	40	45	Not reported
<i>SPARC</i>	Items and response options were edited in response to patient feedback to improve understanding.	Not reported	Moderate - Interviewer-administered	46	15 to 20	Not reported
<i>NA-ACP</i>	86% found instrument clear and understandable. Flesch score of 76.9, understandable by 90% of people 25-64 years old.	Not reported	Easy - Self-administered	132	76	Understandable by 90% of people 25-64 years old.
<i>NA-ALCP</i>	Items and response options considered "understandable".	Not reported	Easy - Self-administered	38	Not reported	Not reported
<i>PNPC</i>	Not reported	Not reported	Easy - Self-administered	138	Not reported	Not reported
<i>PNPC-sv</i>	Not reported	Not reported	Easy - Self-administered	33	10	Not reported
<i>SPEED</i>	Not reported	Not reported	Moderate - Interviewer-administered	13	Not reported	Not reported
<i>3LNQ</i>	"Questions understood in same way by researcher and patient"	Not reported	Easy - Self-administered	35	Not reported	Not reported
<i>Ndiok</i>	Not reported	Not reported	Moderate - Interviewer-administered	104	Not reported	Not reported
<i>PCNA-EAV</i>	Considered by clinicians to be comprehensible for target population.	Not reported	Moderate - Interviewer-administered	116	40	Not reported
<i>CaNDI</i>	5.5 reading grade level calculated by Flesch-Kincaid.	Not reported	Easy - Self-administered	39	8	Understandable by >90% of people 25-64 years old.
<i>CNAT</i>	Not reported	Not reported	Moderate - Interviewer-administered	59	Not reported	Not reported
<i>PNI</i>	Not reported	Not reported	Easy - Self-administered	48	Not reported	Not reported

Instrument	<i>Patient's comprehensibility</i>	<i>Clinician's comprehensibility</i>	<i>Type and ease of administration</i>	<i>Length of the instrument (items)</i>	<i>Completion time (mins)</i>	<i>Patient's required mental and physical ability level</i>
<i>eHNA</i>	Not reported	Not reported	Easy - Self-administered	48	7	Not reported
<i>SCNS-SF34</i>	Favourable comprehensibility reported by patients. Can be understood by people with a seventh grade level of education.	Not reported	Easy - Self-administered	34	10	Not reported
<i>SCNAT-IP</i>	Item wording simplified to increase understanding.	Not reported	Moderate - Interviewer-administered	27 (26 and 1 open ended question)	15	Not reported
<i>SCNS-ST9</i>	Favourable comprehensibility reported by patients. Can be understood by people with a fourth to fifth grade reading level.	Not reported	Easy - Self-administered	9	Not reported	Not reported
<i>SCNS-LF59</i>	Favourable comprehensibility reported by patients. Can be understood by people with a fourth to fifth grade reading level.	Not reported	Easy - Self-administered	59	20	Not reported
<i>NEQ</i>	Good patient comprehensibility indicated by low missing scores and high satisfaction.	Not reported	Easy - Self-administered	23	5	Not reported
<i>CNQ-sf</i>	Not reported	Not reported	Easy - Self-administered	32	Not reported	Not reported
<i>CSS-25</i>	Not reported	Not reported	Easy - Self-administered	25	5 to 10	Not reported
<i>BCNAS-32</i>	Not reported	Not reported	Easy - Self-administered	32	Not reported	Not reported
<i>PCNQ V2</i>	Demonstrated to be understandable to the target population.	Not reported	Easy - Self-administered	69 (part 1: 39; part 2: 30)	30	Not reported
<i>YYFcore03</i>	Not reported	Not reported	Easy - Self-administered	31	Not reported	Not reported

Instrument	<i>Ease of standardisation</i>	<i>Ease of score calculation</i>	<i>Copyright</i>	<i>Cost of an instrument</i>	<i>Required equipment</i>	<i>Availability in different settings</i>	<i>Regulatory agency's requirement for approval</i>
<i>PNAP</i>	Not reported	Easy - scoring of individual items and total sum of item scores.	None reported (not reported)	None reported	Pen and printed instrument	Clinical and research	None reported
<i>SPARC</i>	Not reported	Easy - sum of item scores for each subscale and scoring of individual items.	None reported (downloadable from the web)	None	Pen and printed instrument	Clinical and research	None reported
<i>NA-ACP</i>	Not reported	Moderate - simple formula - need to transform scoring data so not applicable (=0), satisfied need (=2), high need (=3), before summing items for each subscale.	None reported (email authors)	None reported	Pen and printed instrument	Clinical and research	None reported
<i>NA-ALCP</i>	Not reported	Moderate - simple formula - sum scores for items in each domain and divide by total number of items.	None reported (paper appendix)	None reported	Pen and printed instrument	Clinical and research	None reported
<i>PNPC</i>	Not reported	Easy - scoring of individual items/ sum of item scores for each subscale.	None reported (paper appendix)	None reported	Pen and printed instrument	Clinical and research	None reported
<i>PNPC-sv</i>	Not reported	Easy - scoring of individual items.	None reported (paper appendix)	None reported	Pen and printed instrument	Clinical and research	None reported
<i>SPEED</i>	Not reported	Easy - scoring of individual items.	None reported (within paper)	None reported	Pen and printed instrument	Clinical	None reported
<i>3LNQ</i>	Not reported	Moderate - simple formula, but subscales have different response options. Some question responses can be dichotomized into "unmet need" or "no need".	None reported (paper appendix)	None reported	Pen and printed instrument	Clinical and research	None reported
<i>Ndiok</i>	Not reported	Easy - scoring of individual items.	None reported (within paper)	None reported	Pen and printed instrument	Clinical and research	None reported

Instrument	<i>Ease of standardisation</i>	<i>Ease of score calculation</i>	<i>Copyright</i>	<i>Cost of an instrument</i>	<i>Required equipment</i>	<i>Availability in different settings</i>	<i>Regulatory agency's requirement for approval</i>
<i>PCNA-EAV</i>	Not reported	Easy - sum of item scores for each subscale and scoring of individual items.	Copyright 2011 by ProQuest LLC. (paper appendix)	None reported	Pen and printed instrument	Not reported	None reported
<i>CaNDI</i>	Not reported	Easy - total sum of item scores and sum of item scores for each subscale.	None reported (paper appendix)	None reported	Pen and printed instrument/ Touchscreen computer	Clinical and research	None reported
<i>CNAT</i>	Not reported	Easy - total sum of item scores.	None reported (within paper)	None reported	Pen and printed instrument	Clinical and research	None reported
<i>PNI</i>	Not reported	Easy - sum of item scores for each subscale.	None reported (within paper)	None reported	Pen and printed instrument	Clinical	None reported
<i>eHNA</i>	Not reported	Easy - scoring of individual items/ total sum of item scores.	Macmillan Cancer Support 2020 (sign up on Macmillan website)	None	Touchscreen computer	Clinical	None reported
<i>SCNS-SF34</i>	Complex - summing the individual items, subtracting m, and then multiplying the resulting value by $100/(m \times (k-1))$ for each subscale.	Complex - summing the individual items, subtracting m, and then multiplying the resulting value by $100/(m \times (k-1))$ for each subscale.	Supportive Care Needs Survey – Long Form 59 @ Centre for Health Research & Psycho-oncology, 2003, all right reserved (downloadable from the web)	None	Pen and printed instrument/ Touchscreen computer	Clinical and research	None reported
<i>SCNAT-IP</i>	Complex - (domain total score- $m \times 100 / (m \times (k-1))$), in which m is the number of questions in a domain and k is the value of the maximum response for each item.	Easy - sum of item scores for each subscale/ total sum of item scores.	None reported (downloadable from SCNAT-IP website once completed training)	None	Pen and printed instrument/ Computer	Clinical	None reported

Instrument	<i>Ease of standardisation</i>	<i>Ease of score calculation</i>	<i>Copyright</i>	<i>Cost of an instrument</i>	<i>Required equipment</i>	<i>Availability in different settings</i>	<i>Regulatory agency's requirement for approval</i>
<i>SCNS-ST9</i>	Not reported	Easy - scoring of individual items.	Supportive Care Needs Survey – Long Form 59 @ Centre for Health Research & Psycho-oncology, 2003, all right reserved (within paper)	None	Pen and printed instrument/ Touchscreen computer	Clinical and research	None reported
<i>SCNS-LF59</i>	Complex - summing the individual items, subtracting m, and then multiplying the resulting value by $100/(m \times (k-1))$ for each subscale.	Complex - summing the individual items, subtracting m, and then multiplying the resulting value by $100/(m \times (k-1))$ for each subscale.	Supportive Care Needs Survey – Long Form 59 @ Centre for Health Research & Psycho-oncology, 2003, all right reserved (within paper)	None	Pen and printed instrument/ Touchscreen computer	Clinical and research	None reported
<i>NEQ</i>	Not reported	Easy - scoring of individual items/ sum of item scores for each subscale.	In the public domain (within paper)	None	Pen and printed instrument	Clinical and research	None reported
<i>CNQ-sf</i>	Not reported	Complex - scores converted to a score ranging from 0 to 100, but formula not reported. Sum of converted item scores for each subscale.	None reported (within paper)	None	Touchscreen computer	Clinical and research	None reported
<i>CSS-25</i>	Not reported	Moderate - total sum of item scores rated at or above two.	None reported (downloadable from the web)	None	Computer	Clinical, research and community	None reported
<i>BCNAS-32</i>	"Computed as recommended for the SCNS-LF59"	"Computed as recommended for the SCNS-LF59"	None reported (within paper)	None reported	Computer	Clinical	None reported
<i>PCNQ V2</i>	Not reported	Easy - scoring of individual items.	None reported (within paper)	None	Pen and printed instrument	Clinical	None reported
<i>YYFcore03</i>	Not reported	Easy - scoring of individual items.	None reported (within paper)	None reported	Touchpad	Clinical	None reported

Online Resource 15: Instrument interpretability

Instrument	<i>Distribution of scores in the study population</i>	<i>Percentage of missing items and percentage of missing total scores</i>	<i>Floor and ceiling effects</i>	<i>Scores and change scores available for relevant (sub)groups</i>	<i>Minimal important change (MIC) or minimal important difference (MID)</i>	<i>Information of response shift</i>
<i>PNAP</i>	Not reported.	Not reported.	Not reported.	Not reported.	Not reported.	Not reported.
<i>SPARC</i>	Not reported.	At least one question missing in 32 (51%) of 63 patients assessed.	Items exhibiting floor or ceiling effects were deleted or amended.	Not reported.	Not reported.	Not reported.
<i>NA-ACP</i>	Not reported.	Not reported.	Not reported.	Not reported.	Not reported.	Not reported.
<i>NA-ALCP</i>	Not reported.	<0.01%	Not reported.	Not reported.	Not reported.	Not reported.
<i>PNPC</i>	Yes - Frequency	Not reported.	Not applicable.	Not reported.	Not reported.	Not reported.
<i>PNPC-sv</i>	Yes - Frequency	Not reported.	Not applicable.	Not reported.	Not reported.	Not reported.
<i>SPEED</i>	Not reported	Not reported	Not reported.	Not reported.	Not reported.	Not reported.
<i>3LNQ</i>	Yes - Means	Not reported.	Not reported.	Not reported.	Not reported.	Not reported.
<i>Ndiok</i>	Yes - Frequency	Not reported.	Not applicable.	Not reported.	Not reported.	Not reported.
<i>PCNA-EAV</i>	Yes - Mean and SD	0-8% for most individual items. Two items missing 16%, one item missing 26%.	Not reported.	Yes - scores for subgroups (gender, age, location of residence, and ECOG)	Not reported.	Not reported.
<i>CaNDI</i>	Yes - Mean and SD; median and range	0-7% for individual items.	No ceiling effects were observed.	Yes - scores for subgroups (infusion and multidisciplinary clinic)	Not reported.	Not reported.
<i>CNAT</i>	Yes - Frequency & median	Not reported.	Considerable floor effect and little ceiling effect reported.	Yes - scores for subgroups (Karnofsky performance status, inpatient and outpatient, socio-demographics, treatment, stage, and cancer type)	Not reported.	Not reported.

Instrument	<i>Distribution of scores in the study population</i>	<i>Percentage of missing items and percentage of missing total scores</i>	<i>Floor and ceiling effects</i>	<i>Scores and change scores available for relevant (sub)groups</i>	<i>Minimal important change (MIC) or minimal important difference (MID)</i>	<i>Information of response shift</i>
<i>PNI</i>	Yes - Frequency	Not reported.	Not reported.	Yes - scores for subgroups (tumour type, critical moment, and global health status)	Not reported.	Not reported.
<i>eHNA</i>	Yes - Frequency	Not reported.	Not reported.	Yes - scores for subgroups (gender and curative)	Not reported.	Not reported.
<i>SCNS-SF34</i>	Yes - Mean and SD	Not reported.	No floor or ceiling effects observed.	Yes - scores for subgroups (remission or not)	Not reported.	Not reported.
<i>SCNAT-IP</i>	Yes - Mean, SD, Median and IQR	0.4-1.6% for each item.	Seven items with floor effects were removed. No ceiling effects observed.	Not reported.	Not reported.	Not reported.
<i>SCNS-ST9</i>	Yes - Frequency	Not reported.	Not reported.	Not reported.	Not reported.	Not reported.
<i>SCNS-LF59</i>	Not reported.	Not reported.	Not reported.	Not reported.	Not reported.	Not reported.
<i>NEQ</i>	Yes - Frequency	0-2% for each item.	Not applicable.	Yes - scores for subgroups (inpatients and outpatients)	Not reported.	Not reported.
<i>CNQ-sf</i>	Yes - Mean and SD	Not reported.	Not reported.	Yes - scores for subgroups (disease state, gender, ECOG performance status, treatment, fatigue, and age)	Not reported.	Not reported.
<i>CSS-25</i>	Yes - Mean and SD	<2% for each item.	Not reported.	Not reported.	Not reported.	Not reported.
<i>BCNAS-32</i>	Yes - Mean and SD	6-18% for all subscales.	Not reported.	Not reported.	Not reported.	Not reported.
<i>PCNQ V2</i>	Not reported.	43% of the sample missed at least one item.	Not reported.	Not reported.	Not reported.	Not reported.
<i>YF-core03</i>	Not reported.	Not reported.	Not reported.	Not reported.	Not reported.	Not reported.