Supplementary 3 Summary of PROMs related to Advance Care Planning and their Psychometric Properties

| **Cate-**  **gory** | **Name of Measure** | **Target Population\* (size, mean age, setting)** | **Number of Items**  **[IA] †** | **Domain** | **Response Options** | **Administered Format** | **Original Language**  **[RA]†** | **Psychometiric Properties‡** | **COSMIN Score**  **(Out of 9)** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| A | Cassileth Information Styles Scale | N=256, 55.5 years, cancer patients in hospital | 12 items [32] | Information/ Preference | absolutely need/ would like to have/ do not want  5-point Likert | Self | English [29] | Content | 1 |
| A | CPR Preference | N=150, 62.0 to 63.0 years, older adults in outpatient oncology clinics and general hospital | 1 item [69] |  | CPR: do not attempt/ attempt CPR/ not sure | Self | English [IA] |  | N |
| A | CPR/Goal of Care Preferences | N=220, 69.5 to 67.1 years, patients in primary care outpatient setting | 4 items [30] | CPR/  Goal of care | CPR: do not want/ want /unsure  Goal of care: life-prolonging care/ limited medical care/ comfort care | Researcher | Japanese [IA] | Content | 1 |
| A | Emanuel and Emanuel Medical Directives | N=61, 79.9 to 80.8 years, patients in ambulatory geriatric clinic | 32 items [52] | Goal of care/ Treatment preference | Goal of care: prolong life/ comfort care only  preference: want/ do not want/ undecided | Self | English [46] |  | N |
| A | End-of-life Care Preferences | N=130, 83.5 years, older adults in residential care homes | not described [7] |  | prefer/ not prefer/ uncertain | Self | Chinese [IA] |  | N |
| A | End-of-life preferences | N=117, 86.4 years, older adults in residential care homes | 5 items [5] |  | accept/ reject/ not sure | Self | Chinese [IA] | Responsiveness (+) | 1 |
| A | Preferences for Life-Sustaining Treatments | N=231, 57.9 years, patients in medical centers | 4 items [62] |  | wanted/ did not want/ were undecided about the treatment | Researcher | Taiwanese [IA] |  | N |
| A | Preference for Advance Directives | N=123, 75.7 years, older adults in community centers | 1 item [8] |  | prolong life/ stop treatment only when all treatments have failed/ only noninvasive treatment/ only hospice care | Researcher | Taiwanese [IA] | Content | 1 |
| A | Preference for Goal of Care | N=14, 83.0 years, older adults in geriatric clinics | 1 item [68] |  | life prolonging care/ limited care/ comfort care | Researcher | English [IA] |  | N |
| A | Preference for Goal of Care | N=80, 65.0 years, cancer patients in ambulatory oncology practices and medical center | 1 item [67] |  | life prolonging care/ basic medical care/ comfort care/ not sure | Self | English [IA] |  | N |
| A | Preferences for Dying and Death | N=92, 71.0 years, patients in hospice programs | 31 items [2] |  | NRS | Self | English [2] | Content | 1 |
| A | The Iowa Goals of Care Survey | N=135, 48.2 years, patients in a medical center | not described [1] |  | Yes/ No | Researcher | English [1] | Content  Reliability (inter-rater/intra-rater r.) | 2 |
| A | Treatment Decision-making Role Preference | N=436, 59.0 years, cancer patients in two tertiary clinics | 2 items [4] |  | patient selecting his own treatment to physician alone decision making/ patient's family making the decision alone to physician alone decision making | Researcher | English [5] | Content  Construct (+) | 2 |
| P | ACP Knowledge | N=27, 68.7 years, patients in heart failure, renal dialysis, and cardiovascular surgery clinic | 6 items [4] |  | true/ false/ don't know | Self | English [IA] | Internal consistency (<.60) | 1 |
| P | ACP Knowledge | N=82, 82.8 years, older adults in geriatric wards | 8 items [33] |  | yes/ no/ do not know | Self | Taiwanese [IA] | Content  Internal consistency (KR20=.77)  Construct (+)  Responsiveness (+) | 4 |
| P | Advance Directive Attitude Survey | N=180, 74.2 years, Korean older adults in senior centers | 16 items [Korean, 74] |  | 4-point Likert | Self | English [13]  Korean [63] | Content  Internal consistency (.82)  Construct (+)  Responsibility (+) | 4 |
| N=72, 61.1 years, Chinese in community center | 16 items [Chinese, 18, 47] |  | 4-point Likert | Self | English [13]  Chinese [IA(18)=43] | Content  Internal consistency (.82)  Construct (+)  Responsiveness (+) | 4 |
| N=34, 49 years, patients in medical units of tertiary hospital | 17 items [15, 47-48] |  | 4-point Likert | Self | English [13] | Content  Internal consistency (.74) | 2 |
| N=109, 71.7 to 73.5 years, Latino older adults in home health care agency | 12 items [Spanish, 16] |  | 4-point Likert | Self | English [13]  Spanish [IA] | Content  Structural  Internal consistency (.79)  Construct | 4 |
| P | Advance Directive Knowledge Survey | N=96, 52.3 years, Chinese American in community | 9 items [47] |  | agree/ disagree/ do not know | Self | English/Chinese [44] |  | N |
| P | Advance Directives Knowledge & Attitudes | N=27, 46.5 years, African American in community and organizational events | 12 items [70] |  | Knowledge: true/ false  Attitudes: 4-point Likert | Self | English [IA] | Content  Reliability (kappa=.89) | 2 |
| P | Attitude Test | N=30, 55 to 85 years, older adults in senior center | 13 items [39] |  | 4-point Likert | Self | English [IA] | Internal consistency (.80)  Responsiveness | 2 |
| P | Attitudes toward ACP | N=123, 75.7 years, older adults in community centers | 7 items [8] |  | 7-point Likert | Self | Taiwanese [IA] | Content  Internal consistency (.85)  Responsiveness | 3 |
| P | Behavioral Intention | N=123, 75.7 years, older adults in community centers | 8 items [8] |  | 7-point Likert | Self | Taiwanese [IA] | Content  Internal consistency (.81)  Responsiveness (+) | 3 |
| P | Behavioral Intention | N=82, 82.8 years, older adults in geriatric wards | 4 items [33] |  | 4-point Likert | Self | Taiwanese [IA] | Content  Internal consistency (.77)  Construct (+)  Responsiveness (+) | 4 |
| P | Comfort with Discussing Advance Planning | N=49, 72.37 to 73.6 years, elderly from senior centers | 7 items [15] |  | 4-point Likert | Self | English [14] | Internal consistency (.85) | 1 |
| P | Control Preferences Scale | N=436, not reported, cancer patient in oncology clinics | 1 item [32] |  | active role/ collaborative role/ passive role | Self | English [30] | Content | 1 |
| P | CPR-related Knowledge | N=123, 75.7 years, older adults from community centers | 5 items [8] |  | yes/ no/ not sure | Self | Taiwanese [IA] | Content  Internal consistency (.72)  Construct (+)  Responsiveness (+) | 4 |
| P | Decisional Balance, Beliefs, Processes of Change Survey in ACP | N=304, 75.0 years, adults with chronic conditions | 34 items [60] | Pro & con attitudes/ Process of change | 5-point Likert | Researcher | English [53] | Content  Structural  Internal consistency (.76~.93)  Construct  Responsiveness (+) | 5 |
| P | Decision-making Participation Self-efficacy Scale | N=623, 62.6 years, cancer survivors | 5 items [31] |  | 5-point Likert | Self | English [28] | Structural  Internal consistency (.89) | 2 |
| P | Intention for Advance Directives | N=59, 70 to 69 years, older people in community | 4 items [74] |  | 5-point Likert | Self | Korean [64] | Internal consistency (.89)  Responsiveness | 2 |
| P | Knowledge about Advance Directives | N=61, 65.4 to 67.6 years, oncology outpatients in hospital | 18 items [74] |  | true/ false | Self | Korean [13, 63] | Content  Internal consistency (KR20=.74) | 2 |
| P | Knowledge about ACP | N=200, 70.6 years, elderly with chronic disease in research company | 5 items [43] |  | true/ false | Self | Japanese [IA] |  | N |
| P | Knowledge Assessment | N=50, 54 years, patients in outpatient oncology clinics | 4 items [69] |  | true/ false | Self | English [62] | Internal consistency (.68)  Construct (+)  Responsiveness (+) | 3 |
| 6 items [11, 67] |  | multiple choice  true/ false | Self | English [IA(11)=62] | Construct (+)  Responsiveness (+) | 2 |
| P | Knowledge of ACP | N=32, 69.8 to 68 years, patients in cardiothoracic surgery clinic | 10 items [55] |  | not described | Self | English [IA] | Internal consistency (.76)  Responsiveness | 2 |
| P | Knowledge of CPR | N=150, 62 to 63 years, patients in oncology centers | 5 items [Japanese, 30] |  | true/ false | Self | English [27] | Internal consistency (.81) | 1 |
| P | Knowledge Test | N=30, 55 to 85 years, older adults in senior center | 10 items [39] |  | true/ false | Self | English [IA] | Internal consistency (.79~.80)  Responsiveness (+) | 2 |
| P | Knowledge | N=51, 54 to 56 years, patients in palliative care consult service | 6 items [38] |  | true/ false | Self | English [IA] | Content  Responsiveness | 2 |
| P | Navigational Barriers to ACP Communication | N=74, 65.98 years, older Latinos by convenience and snowball sampling | 6 items [41] | Talking about dying is difficult/  Fear of illness severity | 4-point Likert | Self | English [IA] | Structural  Internal consistency (.77~.79)  Construct  Responsiveness | 4 |
| P | Openness to Discuss Cancer in the Nuclear Family Scale | N=499 (N=133; CFA), breast cancer and Hodgkin's disease patients in medical centers | 8 items [25] |  | 4-point Likert | Self | Dutch [25] | Content  Structural  Internal consistency (.86)  Cross-cultural (+)  Reliability (ICC=.59)  Construct (+)  Responsibility | 7 |
| P | Patient ACP Knowledge Quiz | N=250, 69.8 years, inpatients in a community hospital | 10 items [40] |  | multiple-choice | Self | English [IA] | Responsibility (+) | 1 |
| P | Patient Activation Measure | N=1,469, not reported, telephone survey in US | 13 items [44] |  | 5-point Likert | Researcher | English [39] | Internal consistency (.81) | 1 |
| P | Perceived Behavioral Control of ACP | N=123, 75.7 years, older adults in community centers | 4 items [8] |  | 7-point Likert | Self | Taiwanese [IA] | Content  Internal consistency (.88)  Responsibility (+) | 3 |
| P | Readiness to Engage in ACP Discussion | N=74, 65.98 years, older Latinos by convenience and snowball sampling | 9 items [41] | Doctor/  Family | 4-point Likert | Self | Spanish/ English [IA] | Structural  Internal consistency (.93~.94)  Construct  Responsibility | 4 |
| P | Readiness for ACP | N=220, 69.5 to 67.1 years, elderly patients in outpatient clinics | 4 items [30] |  | 4-point Likert | Self | Japanese [IA] | Internal consistency  (.94) | 1 |
| P | Self-determination | N=17, 60.6 years, patient in a medical center | 8 items [20] |  | 5-point scale | Self | English [IA] |  | N |
| P | Stage of Change for ACP behaviors | N=55, 85.4 to 87.5 years, elderly patients in a veterans hospital | 3 items [Taiwanese, 28] |  | precontemplation/ contemplation/ preparation/ action or maintenance | Researcher | English [26] | Content | 1 |
| N=304, 75 years, older adults in a senior center and primary care | 3 items [25, 60] |  | precontemplation/ contemplation/ preparation/ action or maintenance | Researcher | English [26] | Content  Responsibility | 2 |
| P | Stage of Change Questionnaire | N=566, 19-87 years, random samples in two insurance providers | 4 items [65] |  | precontemplation/ contemplation/ preparation/ action | Researcher | English [61] | Content  Structural | 2 |
| P | Subjective Norms of ACP | N=123, 75.7 years, older adults in community centers | 8 items [8] |  | 7-point Likert | Self | Taiwanese [IA] | Content  Internal consistency (.88)  Responsibility (+) | 3 |
| P | Understanding of Related Terms | N=55, 85.7 to 87.5 years, elderly patients from hospital | 8 items [28] |  | true/false | Self | Taiwanese [IA] |  | N |
| P/A | ACP Engagement Survey | N=50, 69.3 years, adults (55 or older) in hospital, nursing home, community clinics | 49 items [19, 60] | Knowledge/  Self-efficacy/ Readiness/ Contemplation | Knowledge, Self-efficacy, Readiness: 5-point Likert Contemplation: 4-point Likert | Self | English [21] | Content  Internal consistency (.94)  Reliability (ICC=.70 for process/.87 for action)  Criterion  Construct | 5 |
| N=664, 64.9 years, adults in general hospital, primary care setting, outpatient setting. | 82 items [34, 59] | Knowledge/  Self-efficacy/ Readiness/ Contemplation | Knowledge, Self-efficacy, Readiness: 5-point Likert Contemplation: 4-point Likert | Self | English [23] | Content  Structural  Internal consistency (.97/.97/.96)  Reliability  Criterion  Construct  Responsiveness (+) | 7 |
| 55 items [22] | 7 |
| 34 items [64] | 7 |
| 15 items [23,72,73] | Self-efficacy/  Readiness | 5-point Likert | 7 |
| 9 items [36] | 7 |
| 4 items [35, 45, 49, 63] | Readiness | 5-point Likert | 7 |
| N=200, 70.6 years, elderly with chronic disease in research company | 15 items [Japanese , 43] | Self-efficacy Readiness, | 5-point Likert | Self | English [23], Japanese [38] | Content  Structural  Internal consistency (.94)  Reliability (ICC=.88)  Criterion  Construct  Responsiveness (+) | 7 |
| P/A | Advance Directives Questionnaire | N=72, 61.1 years, older adults in community center | 10 items [18] |  | multiple choice questions yes/no 4-point Likert open-ended questions | Self | English/ Mandarin [IA] | Content  Internal consistency (.51) | 2 |
| QOC | Agreement between the dyad | N=55, 65 years or older, patients in the outpatient clinics | 10 items [15] | Five vignettes | yes/no/ do not know | Researcher | English [16] | Content | 1 |
| QOC | Canadian Health Care Evaluation Project Questionnaire | N=361, 76.6 years, patients in various settings | 38 items [40] | Relationship with Doctors/  Illness Management/  Communication/  Decision-Making/  Role of the Family/  Your Well-being | 5-point Likert | Researcher | English/French [35, 36] | Content  Structural  Internal consistency (.69~.94)  Cross-cultural  Criterion  Construct (+)  Responsibility (+) | 7 |
| QOC | Client Satisfaction Questionnaire 8 | N=248, over 24 years, patients in outpatient service settings | 8 items [17] |  | 4-point Likert | Self | English [19] | Content  Structural  Internal consistency (.90~.94)  Cross-cultural  Construct (+) | 5 |
| QOC | Conversation Realism | N=121, 70.1 years, older adults from US | 5 items [64] |  | 7-point Likert | Self | English [58] |  | N |
| QOC | Decisional Conflict Scale | N=909, 50-69 years, women in a community | 16 items [4, 11, 12, 20, 32, 38, 55, 56, 57, 58, 63, 65, 66, 71] | Informed Values clarity  Uncertainty Support Effective decision-making | 5-point Likert | Self | English [6] | Content  Internal consistency (.78~.92)  Cross-cultural  Reliability (ICC=.81)  Construct (+)  Responsibility (+) | 6 |
| N=273, 77.3 years, older adults in a community | 16 items [24] | Value based informed (Informed, Values clarity)  Uncertainty (the other three) | 5-point TLikert | Self | English [6]  Korean [24] | Content  Structural  Internal consistency (.85~87)  Reliability (ICC=.76)  Construct | 5 |
| QOC | SURE test (Decisional Conflict Scale) | 1) N=123, 28.6 years, pregnant women in family medicine clinics  2) N=1474, 59.3 years, patients in a medical center  3) N=696, 42.0 years, patients in family practice units | 4 items [6, 9, 40] | Sure of myself/  Understand Information/  Risk-benefit ratio/  Encouragement | yes/no | Self | English/French [8, 34] | Content  Structural  Internal consistency (KR=.70)  Cross-cultural  Criterion (+)  Construct (+)  Responsiveness (+) | 7 |
| QOC | Discussion with Professionals, Family, and Friends | N=77, 61.6 years, patients in oncology clinics and hospice | 5 items [26] |  | VAS | Self | English [IA] | Content  Internal consistency (.60<) | 2 |
| QOC | European Organization for Research and Treatment of Cancer (EORTC) Inpatient Satisfaction with Care Questionnaire 32 | N=762, 57 years, patients in oncology units | 32 items [3, 31] | Doctors/Nurses/Other hospital staff / Exchange of information/  Waiting time/ Access/ Comfort/ General | 5-point scale | Self | English [4] | Content  Internal consistency (.67~.96)  Reliability (ICC>.66)  Criterion  Construct (+)  Responsibility (+) | 6 |
| QOC | FAMCARE-Patient Scale | N=145, 61.0 years, outpatients | 16 items [54] |  | 5-point Likert | Self | English [47, 48] | Content  Structural  Internal consistency (.94) | 3 |
| QOC | Functional Assessment of Chronic Illness Therapy Treatment Satisfaction General | N=430, 46.8 years, patients in outpatient clinics | 26 items [12] | Communication:physician/staff/nurses Technical competence Confidence and trust | 4-point Likert | Researcher | English [10] | Content  Structural  Internal consistency (.72~.95)  Reliability (ICC=.56~82)  Criterion  Construct (+) | 6 |
| QOC | Game Conversation Satisfaction | N=58 for stage 1. N=73 for stage 2. N=252 for stage 3, students in an university | 16/ 19 items [64] | General affect/  Substance/  Free interaction | 7-point scale | Self | English [59] | Content  Structural  Internal consistency (.96/.97) | 3 |
| QOC | Goal of Care document | N=58, 58 years, patients in dialysis clinics | 2 items [56, 58] | Two scenarios | continue life-sustaining treatment/ do not want life-sustaining treatment/ not sure. | Self | English [IA] | Responsiveness | 1 |
| QOC | Life-Support Preferences Questionnaire | N=50, 78.5 years, elderly adults in a community centers | 36 items [6, 10, 24, 27, 28] | Nine vignettes | 5-point Likert | Self | English [9] | Content  Internal consistency (.86~.96)  Construct (+)  Responsibility (+) | 4 |
| QOC | Net Promoter Score | unpresented | 1 item [64] |  | 11-point Likert | Self | English [60] | Construct | 1 |
| QOC | Patient Experience of Shared Decision Making Questionnaire | N/A | 10 items [42] | Treatment options/ Preferences & reasoning/  Mutual agreement | 5-point Likert or binary scores (1 or 0) | Self | English [37] | Content  Structural  Internal consistency (.85~.89)  Cross-cultural  Construct  Responsibility | 6 |
| QOC | Patient Satisfaction Questionnaire | N=2197, 55.83 years, adults in physicians or mental health providers | 18 items [44] | General satisfaction/ Technical Quality/ Interpersonal manner/ Communication/  Financial aspects/  Time spending/ Accessibility | 5-point Likert | Self | English [40] | Content  Internal consistency (.64~.77)  Criterion | 3 |
| QOC | Patient-clinician Interaction Index | N=6299, 45.4 years, US adults aged 18 years and older | 5 items [57] | Listening/  Explaining/  Participatory decision-making/  Spending time/  Respect | 4-point scale | Researcher | English [50] | Internal consistency (.75~.80)  Construct | 2 |
| QOC | Patient-family Concordance | N=267, 63.8 years, patients in clinics | 6 items [13] |  | Yes/No | Self | English [11] | Construct | 1 |
| QOC | Perceptions of Collaboration Questionnaire | N=300, 32~76 years, married couples | 9 items [63] | Cognitive compensation/  Interpersonal enjoyment/ Frequency of collaboration | 5-point scale | Self | English [56] | Structural  Construct | 2 |
| QOC | Participants' Experiences using PREPARE | N=43, 68.0 years, older adults in senior centers | 20 items [60] | Satisfaction/ Ease-of-understanding/ Usefulness in ACP | NRS (1 to10)  5-point Likert | Researcher | English [54] |  | N |
| QOC | Preferences for End-of-Life Care | N=617, patients, in hospitals | 3 items [63] |  |  | Researcher | Taiwanese [57] |  | N |
| QOC | Quality of Communication | 1) N=83, 70.8 years, patients in hospice 2) N=113, 67.3 years, patients with COPD | 13 items [2, 4, 14, 21, 56, 57] | General communication/ End-of-life care communication | 11-point Likert | Researcher | English [3] | Content  Structural  Internal consistency (.91)  Cross-cultural  Criterion (+)  Construct (+)  Responsiveness (+) | 7 |
| QOC | Quality of Patient-Clinician Communication about End-of-Life Care | N=57, 39.0 years, patient in university-based and private clinics | 4 items [14] |  | no/probably yes/ definitely yes | Researcher | English [12] | Content  Internal consistency (.81)  Reliability (ICC=.74)  Construct (+) | 4 |
| QOC | Satisfaction with Decision Scale | N=252, over 40 years older in a community | 6 items [20, 32] |  | 5-point Likert | Self | English [22] | Structural  Internal consistency (.86)  Construct (+) | 3 |