



Guide on how to use the Cancer Prevention Literacy Questionnaire (CPL-Q)

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1. Overview and purpose

Understanding and improving cancer prevention literacy is a key component of public health strategies aimed at reducing cancer incidence and promoting health equity. In this context, the Cancer Prevention Literacy Questionnaire (CPL-Q) is a theory-based validated questionnaire that has been developed to assess individuals' **"cancer prevention literacy"**, understood here as a unifying umbrella term that includes: (1) cognitive-attitudinal or proximal factors (*i.e. beliefs about cancer, risk perception, awareness about cancer prevention, knowledge of cancer prevention and risk factors, intention to change behaviours*), and (2) literacy-enacted or distal factors (*i.e. adherence to behaviours*), through which educational exposure is theorised to produce or maintain behavioural change (Figure 1).

The CPL-Q has been developed under the World Code Against Cancer Framework, an International Agency for Research on Cancer (IARC/WHO)-led collaborative multi-stakeholder initiative to promote cancer prevention globally by developing Regional Codes Against Cancer. These Codes are region-specific educational tools on primary and secondary prevention of cancer, mainly for the general public, that comprise the prevention priorities for a given region: such as the European Union (EU) (<https://cancer-code-world.iarc.who.int/ecac/>), or Latin America and the Caribbean (<https://cancer-code-lac.iarc.who.int/en/>) and provide recommendations that are feasible and implementable.

This document offers a concise overview that covers: an outline of the purpose of the CPL-Q; the underlying theoretical framework; a summary of the development and validation process; a detailed description of the CPL-Q; draft guidelines for data analysis and reporting; recommended citation to acknowledge the CPL-Q; guidance on translation and cultural adaptation; information on where the CPL-Q and supporting materials can be accessed; and the accompanying annexes.

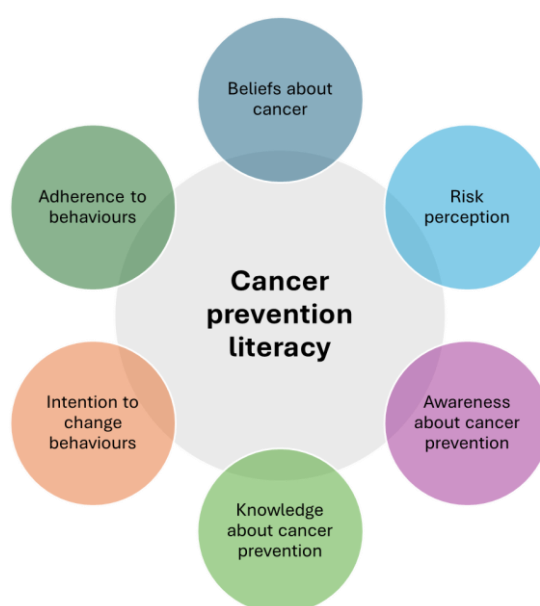


Figure 1: Selected constructs influencing behaviours that frame our conceptualization of "cancer prevention literacy"



2. Theoretical Framework

The development of the CPL-Q is grounded in the Integrative Model of Behavioural Prediction,¹ among other (the Health Behaviour Model², the Preventive Health Care Behaviour Model³ and the Tripartite Model of Risk Perception⁴). This model describes that intention to perform a behaviour follows from specific beliefs that people hold about the behaviour, and it postulates that intention is a function of three types of perceptions: attitude, perceived norm, and self-efficacy (Figure 2).

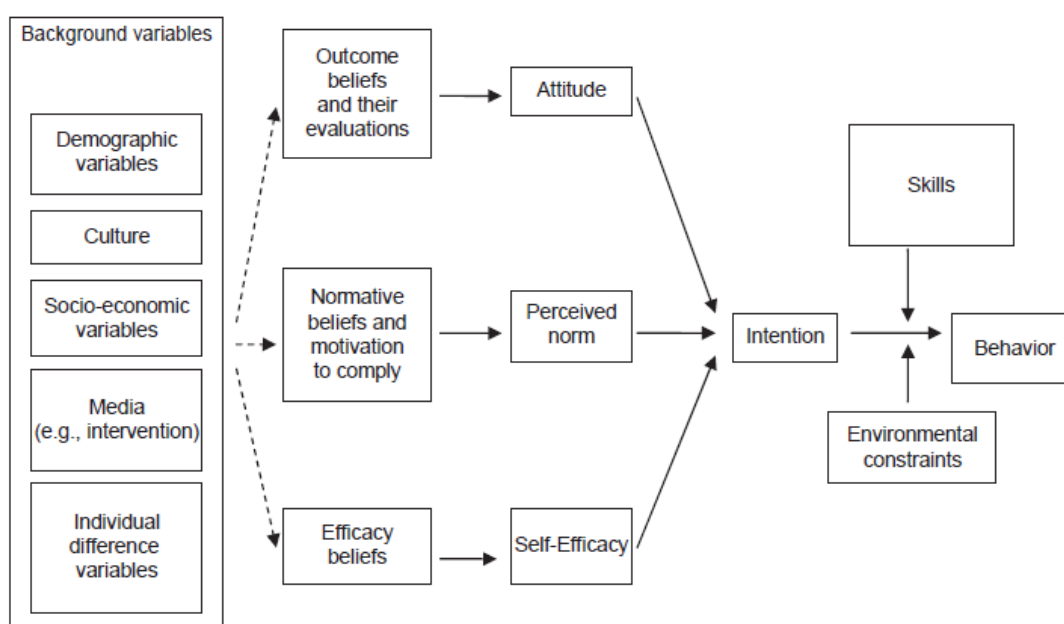


Figure 2. Integrative Model of Behavioural Prediction¹.

Recognising the interrelated nature of the variables influencing behaviour, the concept of **“cancer prevention literacy”** is used as a comprehensive unifying umbrella term encompassing various constructs related to health literacy (see Table 1 for definitions), which set the conceptual foundation upon which the CPL-Q was envisaged.

¹ Fishbein, M., & Yzer, M. C. (2003). Using theory to design effective health behavior interventions. *Communication Theory*, 13(2), 164–183. <https://doi.org/10.1093/ct/13.2.164>

² Becker MH. The health belief model and sick role behavior. *Health Educ Monogr.* 1974;2(4):409–19.

³ Jayanti RK, Burns AC. The antecedents of preventive health care behavior: an empirical study. *J Acad Mark Sci.* 1998;26(1):6–15.

⁴ Ferrer RA, Klein WMP, Persoskie A, Avishai-Yitshak A, Sheeran P. The tripartite model of risk perception (TRIRISK): distinguishing Deliberative, Affective, and experiential components of perceived risk. *Annals of behavioral medicine. Ann Behav Med.* 2016;50(5):653–63.



Table 1: Selected constructs and definitions

Construct	Definition
Beliefs about cancer	Beliefs are the tenets or convictions that people hold to be true, including about the causes, symptoms, timeline, consequences, and treatment of a given disease or illness. The set of beliefs subsumed by the illness representation motivates, guides, and shapes an individual's health-related behaviours (Alyafei & Easton-Carr, 2024; Lykins et al., 2008).
Risk perception	Risk perception is defined as people's judgments and assessment of hazards that might pose immediate or long-term threats to their health and well-being (Ferrer et al., 2016).
Awareness about cancer prevention	Awareness about cancer prevention refers to having a basic understanding or recognition of risk and protective factors related to cancer. It reflects a state of being conscious or cognizant of relevant information, practices, or recommendations associated with cancer prevention (Trevethan, 2017).
Knowledge about cancer prevention	Knowledge of cancer prevention refers to having detailed and specific information about risk factors, behaviours, and recommendations related to cancer prevention. It goes beyond awareness and involves a deeper understanding of the subject (Trevethan, 2017).
Intention to change behaviours	Intention to change behaviours refers to an individual's conscious decision or commitment to adopt, modify, or maintain actions aimed at reducing cancer risk. It reflects motivational readiness to translate knowledge and awareness into future preventive behaviours (Yzer, 2012). This includes intention to change unhealthy behaviours and to uptake cancer prevention interventions, such as vaccination and cancer screening.
Adherence to behaviours	Adherence is a term used to describe the extent to which an individual's behaviour coincides with health-related instructions or recommendations given by a health care provider (Howren, 2013).

3. Summary of development and validation process

The questionnaire was developed using a three-stage process: 1) a literature review and two-round Delphi process to select and refine questionnaire items; 2) a third Delphi round, together with readability checks, face-validity assessment and cognitive testing to assess item relevance, clarity and representativeness; and 3) psychometric analysis to evaluate construct validity.²

² Feliu, A., Islam, R., Romeo-Cervera, P., Bouaoun, L., Whitelock, V., et al. (2026). Cancer Prevention Literacy Questionnaire (CPL-Q): development and validation within the World Code Against Cancer Framework. *BMC Public Health*, 26:1052, 1-16. <https://doi.org/10.1186/s12889-026-26641-9>



3.1 Literature review

A literature review was conducted to identify instruments (validated or not) including the selected constructs related to **“cancer prevention literacy”**. Priority was given to validated and periodically administered questionnaires. Seventeen questionnaires were identified, of which, nine were selected as sources of relevant items.

3.2 Delphi panel process

The Delphi method involved multiple rounds of expert consultations to refine the content and ensure consensus on the most relevant questions.

Panellists were selected from research centres, universities, and national health and cancer institutes in Europe and Latin America, corresponding to the regions where a Regional Code Against Cancer currently exists. The panel included 15 experts: seven from Europe (Spain, Portugal, and Romania) and eight from Latin America (Argentina, Brazil, Chile, Colombia, Costa Rica, and Peru). They were asked to review the questionnaire items, the order, and assess the suitability of the proposed response format, and assess the relevance and representativeness of the questions and prioritise them (as part of the content validity process).

Consensus was defined as $\geq 70\%$ agreement, a threshold commonly used in Delphi studies. The process included three rounds of feedback, during which participants received anonymised summaries of peer responses to reconsider and refine their views.

3.3. Validation

Content validity

Content validation aims to assess whether the items in the questionnaire adequately represent the theoretical construct that they are intended to measure. Content validity was evaluated through three steps: first, the Delphi panel (see details above). Second, a readability test that was conducted to ensure comprehensibility for the general public, with reading age threshold set at 10 years. And third, cognitive testing that was carried out using qualitative interviews to explore how respondents interpreted the questions and instructions, and to assess their understanding of the intended meaning.

Face validity

Face validity refers to how much an instrument appears to measure what it is supposed to measure. Face validity was quantitatively assessed through an external expert review aimed to evaluate the clarity, comprehensibility and appropriateness to the target population.

Construct validity

Construct validity aims to assess the degree to which the questionnaire accurately captures the constructs that intends to measure. Construct validity was tested through a factor analysis to explore the underlying



dimensions explaining relationships among multiple questionnaire items, using data from a pre-test of the questionnaire in the target population.

4. Description of the CPL-Q

The CPL-Q is a concise questionnaire consisting of **ten core questions** that are meant to appear, with identical wording, in studies that aim to monitor and evaluate the dissemination of Regional Codes Against Cancer over time, in regions where such a Code exists, while measuring (1) cognitive-attitudinal or proximal factors impacting “**cancer prevention literacy**” (*i.e. beliefs about cancer, risk perception, awareness about cancer prevention, knowledge of cancer prevention and risk factors, intention to change behaviours*), and (2) literacy-enacted or distal factors (*i.e. adherence to behaviours*), through which educational exposure is theorised to produce or maintain behavioural change (see Annex 1).

The response items of the questions 4, 6, 7, 8 and 9 have been validated using the verbatim wording of the risk factors, behaviours and interventions included in the 4th edition of the European Code Against Cancer. These items would require minor adaptations to reflect the nuances on the different risk factors, behaviours and interventions included in the region-specific recommendations of other Regional Codes Against Cancer, as it has been already done by IARC for the 5th edition of the European Code Against Cancer and the 1st edition of the Latin American and the Caribbean Code Against Cancer. Similarly, when a new Code will be developed or updated, the IARC research team will make the required small adjustments to the CPL-Q and will publish the updated version of the questionnaire online in English (and other languages, if available) in: <https://cancer-code-world.iarc.who.int/literacy/>.

Those using the CPL-Q are free to add additional questions should they wish to do so: a database of additional optional questions is provided for this purpose (See *CPL-Q and related materials section* in <https://cancer-code-world.iarc.who.int/literacy/>), while maintaining the integrity of the ten core questions.

4.1 Methodological considerations

Preserving fidelity to the CPL-Q questions in their original form ensures comparability across studies, especially when comparing the impact of the dissemination of Regional Codes Against Cancer across regions of the world on the constructs mentioned above. Any additional question could be added as long as the ten core questions will be kept. To strengthen comparative analyses, it is strongly recommended that at least six standard socio-demographic variables are collected—age, sex, race/ethnicity, education, employment status, and area of residence (see Annex 2). The CPL-Q may be administered face-to-face, by telephone, online, or as a self-completed survey, and is intended for members of the general population aged 18 years or older without prior diagnosis of cancer.

4.2 Potential applications

The CPL-Q can be used in a variety of studies related to cancer prevention and health literacy, including monitoring and evaluating the dissemination of a Regional Code Against Cancer; conducting population-based research into cancer prevention; implementing public-health surveys and interventions; carrying out health-



education and literacy assessments; and undertaking comparative studies of cancer literacy across different regions.

5. CPL-Q's acknowledgement

Those intending to use the CPL-Q are kindly asked to acknowledge its use by citing the following reference:

Feliu, A., Islam, R., Romeo-Cervera, P., Bouaoun, L., Whitelock, V., et al. (2026). Cancer Prevention Literacy Questionnaire (CPL-Q): development and validation within the World Code Against Cancer Framework. BMC Public Health, 26:1052, 1-16. <https://doi.org/10.1186/s12889-026-26641-9>

Findings are encouraged to be reported transparently and in alignment with the best practices guidelines (e.g., STROBE or Consort checklists).

To facilitate collaboration and knowledge exchange, we kindly ask researchers to share via e-mail [cancer-code@iarc.who.int] the peer-reviewed publications where the CPL-Q is used.

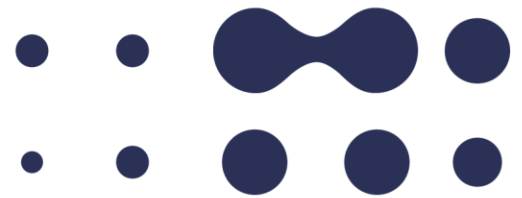
6. Translation and cultural adaptation

Translation and minimal adaptation of the CPL-Q are essential to maintaining data consistency and comparability across various cultural and linguistic contexts. The CPL-Q's main purpose is to monitor and evaluate the dissemination of Regional Codes Against Cancer and measure the **“cancer prevention literacy”** constructs related to them. The CPL-Q is currently available in English for the European Code Against Cancer 5th edition (see <https://cancer-code-world.iarc.who.int/literacy/>), and of the Latin America and the Caribbean Code Against Cancer 1st edition. The questionnaire for the latter is available in the three most widely spoken languages in the region: Spanish, Portuguese, and English (see <https://cancer-code-world.iarc.who.int/literacy/>).

To ensure appropriate use in the context of Regional Codes Against Cancer:

1. For studies conducted in the EU or in Latin America and the Caribbean, researchers should use the questionnaires already available on the website: <https://cancer-code-world.iarc.who.int/literacy/>.
2. If the questionnaire is not available in the required language and translation is necessary:
 - The English version corresponding to the relevant Regional Code should be used as the source text.
 - The official verbatim of the corresponding Regional Code in the target language should be used for the response options in questions 4, 6, 7, 8 and 9.

For accurate translation and cross-cultural adaptation, it is recommended to follow the ISPOR guidelines and established translation, and linguistic validation methodologies see: [https://www.ispor.org/heor-resources/good-practices/article/principles-of-good-practice-for-the-translation-and-cultural-adaptation-process-for-patient-reported-outcomes-\(pro\)-measures](https://www.ispor.org/heor-resources/good-practices/article/principles-of-good-practice-for-the-translation-and-cultural-adaptation-process-for-patient-reported-outcomes-(pro)-measures).



7. Access to the CPL-Q and related materials

The following materials are placed in <https://cancer-code-world.iarc.who.int/literacy/>:

1. Guide on how to use the Cancer Prevention Literacy Questionnaire (CPL-Q), including the validated CPL-Q as an Annex, and supporting materials
2. The adapted CPL-Q for the 5th edition of the European Code Against Cancer (in English)
3. The adapted CPL-Q for the 1st edition of the Latin America and the Caribbean Code Against Cancer:
 - a. in Spanish and demographic questions regionally adapted
 - b. in Portuguese (Brazil) and demographic questions regionally adapted
 - c. in English and demographic questions
4. Methodological peer-reviewed publication
5. Extended database including additional questions on constructs related to “cancer prevention literacy”.



Annexes

Annex 1. CPL-Q Core questions

SA= Single Answer; MA= Multiple Answer; OE= Open Ended

SA PER ROW

1. Please, indicate your level of agreement or disagreement with the following statements:	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
a) It seems like everything causes cancer					
b) When I think about cancer, I automatically think about death					
c) There is not much that you can do to lower your chances of getting cancer					
d) There is so much information out there about the causes of cancer that it is hard to know what to do					

SA PER ROW

2. How often do you worry about getting cancer?	Never (1)	Rarely (2)	Sometimes (3)	Often (4)	All the time (5)

SA PER ROW

3. How do you think your chance of getting cancer in the future compares to others of your gender and age?	Much lower (1)	Lower (2)	About the same (3)	Higher (4)	Much higher (5)



4. Which of the following, if any, increases a person's chance of getting cancer? SA PER ROW	Yes (1)	No (0)	Don't Know (99)
a) Smoking			
b) Using other forms of tobacco			
c) Exposure to another person's smoking			
d) Being overweight			
e) Not being physically active			
f) Spending too much time sitting			
g) Not eating enough of whole grains (e.g., whole-grain bread, brown rice)			
h) Not eating many fruits and vegetables			
i) Not eating enough legumes (e.g., pulses, beans, lentils)			
j) Drinking sugary-drinks			
k) Eating too much high-calorie food			
l) Eating processed meat (e.g., sausages, ham, bacon, salami, pate)			
m) Eating too much red meat			
n) Feeling stressed			
o) Eating too much food high in salt			
p) Drinking alcohol			
q) Not breastfeeding			



r) Too much sun exposure			
s) Using sunbeds			
t) Exposure to harmful substances at work (e.g., asbestos, diesel exhaust, silica)			
u) Exposure to high radon levels in one's home			
v) Using mobile phones			
w) Infection with Hepatitis B Virus			
x) Infection with Human Papillomavirus (HPV)			
y) Unnecessary use of Hormonal Replacement Therapy			

5. What percentage of all cancer cases do you think could be prevented? SA

- a) Cancer cannot be prevented (0%)
- b) 10%
- c) 20%
- d) 30%
- e) 40%
- f) 50%
- g) 60%
- h) 70%
- i) 80%
- j) 90%
- k) All cancers can be prevented (100%)
- l) Don't know



SA PER ROW

6. To prevent cancer, I intend to make changes by: [Select 'Not applicable' only if you already practice one of the healthy behaviours listed below and don't need to change it (e.g. do not smoke or drink)].	No (0)	Not sure (1)	Yes (2)	Not applicable (999)
a) Quitting smoking or any other form of tobacco				
b) Being a healthy body weight				
c) Being more physically active in everyday life				
d) Having a healthier diet				
e) Limiting my alcohol intake				
f) Avoiding too much sun				

SA PER ROW

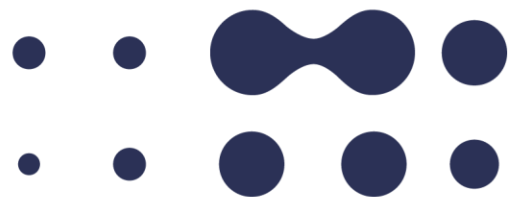
7. If your children were offered to have the following vaccines to prevent cancer, would you agree to them getting vaccinated?	Definitely not (1)	Probably not (2)	Not sure (3)	Yes probably (4)	Yes definitely (5)
a) Hepatitis B virus vaccine					
b) HPV (Human Papillomavirus) vaccine					

8. Is there anything that you do regularly to consciously prevent cancer? [Select below all the items that apply to you] MA
a) Do not smoke, refrain from smoking or from using any other form of tobacco



b) Take action to be a healthy body weight
c) Be physically active in everyday life
d) Have a healthy diet
e) Limit my alcohol intake or not drink at all
f) Avoid too much sun
g) I do regularly at least one of the actions above but for reasons other than to prevent cancer (e.g., general health, feeling good)
h) There is nothing in particular I regularly do to prevent cancer (cannot be selected with items a to f, and i)
i) Others (specify) _____ OE

9. In the last 12 months, I have started doing the following actions to prevent cancer: [Select below all the items that apply to you] MA
a) Refraining from smoking or from using any other form of tobacco
b) Taking action to be a healthy body weight
c) Being physically active in everyday life
d) Having a healthy diet
e) Limiting my alcohol intake
f) Avoiding too much sun
g) Taking at least one of the actions above but for reasons other than to prevent cancer (e.g., general health, feeling good)
h) I have been doing at least one of the actions above to prevent cancer for longer than 12 months



i) I have not started doing anything to prevent cancer (cannot be selected with items a to f, and j)

j) Others (specify)_____OE

SA

10. Are you familiar with the European Code Against Cancer?

Yes (1)

No



Annex 2. Sociodemographic questions

11. What is your age in years?

_____ (number only)

12. What was your sex at birth?

- Male
- Female

13. Which of this best describes your ethnic group?

- White
- Mixed / multiple ethnic groups
- Indigenous / Native
- Asian
- Black
- Middle Eastern or North African
- Other

14. What is your highest educational level?

- ☐ No education or less than 1 year of schooling
- ☐ Incomplete elementary school
- ☐ Complete elementary school
- ☐ Incomplete high school
- ☐ Complete high school
- ☐ Incomplete Technical education (post-secondary, non-university)
- ☐ Complete Technical education (post-secondary, non-university)
- ☐ Incomplete higher education
- ☐ Complete higher education
- ☐ Post-graduate education (Masters, PhD)
- ☐ Prefer not to say

15. What is your current work status?

- ☐ Employed
- ☐ Self-Employed
- ☐ Unemployed (less than a year)
- ☐ Unemployed (1 year or more)
- ☐ Retired
- ☐ Unable to work due to disability or illness
- ☐ Student
- ☐ Homemaker
- ☐ Other

16. Would you say you live in a:

- Rural area or village
- Small or mid-sized town
- City