

# Canadian Indigenous Cognitive Assessment (CICA)

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## Instruction booklet

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For information on the development of the CICA please visit [www.i-caare.ca](http://www.i-caare.ca). Any questions or comments should be directed to:

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**Acknowledgments**

This work was supported by the Canadian Institute of Health Research [CIHR] (Canadian Consortium on Neurodegeneration in Aging grant number 37794, 2014 to KJ), Indigenous Health Research Development Program (to KJ and WW), a CIHR meeting grant (grant number FRN 129605, 2013 to KJ), a CIHR Operating Grant (FRN 150743, 2016-2021 to JW), and in-kind support from McMaster University (CP).

The CICA was adapted from the Kimberly Indigenous Cognitive Assessment (KICA). The adaptation process in Ontario was guided by Project Elder, Jerry Otowadjiwan, a Community Advisory Council, an Expert Anishinaabemwin Language Group, an expert panel of health care providers, and the authors of the KICA. The validation was completed with assistance from Dr. Christopher Patterson, Dr. Cheryl Allaby, and Rosanna Petrangeli. The work is supported by the local First Nations Health Authorities and Chief and Council. Our community partners include: Wikwemikong Unceded Territory; Noojmowin Teg Health Access Center; Mnaamodzawin Health Services (on behalf of Aundeck Omni Kaning, Sheguiandah, Sheshegwaning, Whitefish River, Zhiibaahaasing); and M'Chigeeng First Nation.

Technically, the CICA is a case-finding tool to facilitate the assessment of mild cognitive impairment and dementia in Indigenous people. However, we also refer to the CICA as a 'screening tool' for dementia in recognition that these terms are sometimes used interchangeably.

## Background

Dementia is a growing public health issue in older Indigenous people. Based on our previous research (Perceptions of Alzheimer’s Disease and Related Dementia Among Aboriginal Peoples in Ontario 2009-2014), we found that current cognitive assessment tools are not culturally appropriate. Current screening tools that assess dementia such as the Mini-Mental State Examination (MMSE) or the Montreal Cognitive Assessment (MoCA) do not pay enough attention to culture, education or health inequalities in their assessment process. So, those tools often lead to misdiagnosis and may mistakenly say that people have cognitive impairment when they are actually cognitively well. Because many Indigenous older people are not properly assessed, their cognitive concerns are less likely to be recognized by health care professionals.

Our research partners and advisory boards stressed the importance of having a culturally appropriate screening and assessment tool to use with Indigenous people in Canada. After examining a number of cognitive assessment tools, we decided to take a closer look at the Kimberly Indigenous Cognitive Assessment (KICA).

Adapting the KICA was a multistep process involving a group of expert language speakers, an adaptation working group consisting of researchers, physicians, geriatricians and a neuropsychologist, focus groups with health care professionals working with older Indigenous adults, and ongoing consultations with the principal authors of the KICA. The adapted tool was piloted, tested for reliability, and validated for use by health care professionals with Anishinaabe people ages 45 and older on Manitoulin Island, in northern Ontario (The CICA Tool is available on the I-CAARE website [www.i-caare.ca](http://www.i-caare.ca)).

The resulting instrument, the Canadian Indigenous Cognitive Assessment (CICA), is a case-finding tool, where a score of 34/39 and below may indicate possible dementia. Those with a CICA score of 34 or lower should be referred to a doctor / nurse practitioner or to their local health centre for further medical testing to rule out any other causes of cognitive impairment. There may be different reasons for a low test score, such as depression, delirium, urinary tract infections, or other treatable conditions.

It should be noted that in the CICA, we use the term “loved one” to describe the individual who is being assessed. The term “loved one” was adopted after consultation with Elder Jerry Otowadjiwan, who indicated that the term “loved one” was appropriate to describe a person with memory loss or a person receiving care in the Anishinaabe context. The term has been used in lieu of “patient” or “client” throughout the CICA, this guide and the accompanying training. More information on appropriate language can be found in the Guidebook (1.1 Key Terms).

## Tools Required

The below listed common objects are required for the cognitive assessment.

- A piece of paper
- Spoon
- Matches
- Cup
- Plastic bottle with water or other liquid and lid
- Watch/timer for verbal fluency question

Copies of the validated drawings found at [www.i-caare.ca](http://www.i-caare.ca), are also required.

- The **leaf, tree, bird, kettle, flower,** and **horse** drawings are for the visual naming and the free recall questions and should be presented in that order with the leaf drawing being used as an example page.
- The drawings with 3 options to a page are for the cued recall question.
- If drawings need to be modified for your region or Nation, this may influence the reliability and validity of the tool and the cut-off score. Please contact us to discuss this further.

## Interpreter

If the loved one indicates that they are more comfortable speaking Anishnaabemwin, the test should be conducted by either a fluent language speaker or with the assistance of an interpreter, using the Anishnaabemwin version of the tool. The interpreter should follow the questions as closely as possible, changing as little phrasing as possible to ensure continued sensitivity of the tool. Similarly, the interpreter should translate the loved one's responses to the questions as closely as possible. For example, how a loved one makes an error may be as important as whether or not they make one. The interpreter should be as specific as possible in translating an error and report as much detail as possible. Interpreters should review the training materials prior to the assessment.

## Cognitive Assessment Section

We have worked with language experts and an advisory council to ensure the wording is appropriate to use with Anishinaabe older adults. Both groups stressed the importance of softening the tone of the language used and making the questions more specific, but less direct. Please read the question as stated. If the person needs further clarification, you can rephrase the question at that time.

## Approach

The CICA can be used by formal and informal caregivers, health care providers, and allied health staff in the client's home, community, or health care setting. The Project Elder, along with the Advisory Council and the Expert Anishinaabemwin Language Group all stressed the importance of approaching older Indigenous adults in the right way. The assessor or assessment team will need to allow ample time to build trust and develop the relationship in a gentle way. This may include sharing information about yourself with the loved one,

such as who you are, who your parents are, where you are from, and/or what you do. The assessor will then need to explain what the assessment is and why they are going to ask these questions.

## Starting the Assessment

Use clear, simple and easy to understand instructions to start the assessment. We used the following instructions during the pilot, reliability and validity testing of the CICA:

*I would like to ask you a few questions about your memory. Some will be easy or simple. Answer as best you can.*

## The Assessment

This section provides chapter-by-chapter instructions. Wherever possible, specific considerations or instructions are highlighted for individual questions. This information is highlighted in **bolded text**.

### Chapter one - Orientation: (Section out of /3)

- 1) What time of day is it right now? /1

**Acceptable answers include, exact time of day, as well as, “morning”, “breakfast time”, “afternoon”, or “lunch time” plus or minus 1 hour of that time.**

- 2) What time are we in right now; is it spring, summer, fall or winter? /1

**Make note of the answer given; in between seasons is acceptable. For example, if it is October, but there is snow on the ground, “winter” would be an acceptable answer.**

- 3) Do you know where you are right now, what is this place? /1

**Check with interpreter or family member if answers are correct.**

### Chapter two - Recognition and naming: (Section out of /6)

- 1) What is the name of this: *hold up spoon* (1)
- 2) What is the name of this: *hold up cup* (1)
- 3) What is the name of these: *hold up matches* (1)

**If the loved one has poor vision, put each item in their hand and ask them to recognize it. If unable to identify the items, name each item and place it in their hand.**

For the below questions in Chapter Two, hold up each item as you ask the respondent:

- 4) What is the purpose of this? *Hold up spoon* (1)
- 5) What is the purpose of this? *Hold up cup* (1)
- 6) What is the purpose of these? *Hold up matches* (1)

If the loved one has poor vision, put each item in their hand and ask them what the purpose of the item is for.

After the loved one describes the purpose of the object the assessor will then hide the objects around themselves and state:

***I AM GOING TO PLACE THESE THINGS AROUND ME. TRY TO REMEMBER WHERE I PUT THEM. I WILL ASK AGAIN LATER ON.***

The assessor will then place each object around their personal space and out of the direct eyesight of the loved one. Do not get up and place them around the room as this may upset the loved one.

Simply place the items around you. For example: placing the spoon under a piece of paper on a table, placing the cup in a handbag next to a chair, and putting the matches in a jacket pocket. It is important to verbalize where you are putting each item. Hold up each object and say, "I'm going to place this one here" and then place the object around yourself.

### **Chapter three – Registration:** (Section out of /3)

- 1) Okay, now tell what those things were?

Give one point for each correct item the loved one remembers.

### **Chapter four - Verbal comprehension:** (Section out of /3)

- 1) Pick up this paper, fold it once, and give it to me.

For this question, you must ask the loved one to complete the three-step task all at once. Do not prompt. Score one point for each step completed.

**Chapter five - Verbal fluency:** (Section out of a maximum of /5)

- 1) Next, I (we) will ask you to name as many animals as you can in one-minute, wild animals or domesticated animals. Start (or please start now).

**Time for 1 minute. If needed, prompt after 15 seconds of silence: How about birds? How about fish?**

**How to score:**

<u>Response</u>	<u>Score</u>
1-4 animals	1 point
5-8 animals	2 points
9 or more animals	3 points

**In this chapter, you will need to time the loved one for one minute. For timing, a watch or a stopwatch is preferred. Cell phones were distracting and concerning for loved ones during the piloting of the CICA. For example, loved ones worried that they were being recorded or that assessors were not paying attention to them. This distracted them from the task and made them uncomfortable.**

**If the loved one is silent for 15 seconds, you may prompt them. If they appear to be really enjoying naming animals, you may let them continue past the one-minute mark, but stop counting animals at that point. Animals that are named both in Anishinaabemwin and in English only count as one animal for scoring purposes.**

**Chapter six – Recall:** (Section out of /3)

- 1) Where did I put the spoon?
- 2) Where did I put the matches?
- 3) Where did I put the cup?

**Score one point for each object that is correctly located. The location must be specific and could either be verbally described or motioned towards.**

**Chapter seven - Visual naming:** (Section out of /5)

- 1) I will show you some drawings, like this leaf (*Point to example drawing*). Tell me what is drawn. Your task is to remember these, I will ask you one other time.

**Show the leaf drawing first, using it as an example, but don't count it in the score. Tell them that they have to say what the drawing is and remember all of the drawings for later on. Once they understand this continue with the rest of the drawings.**

Open book/printed copies and point to each drawing, one at a time. Ask: “What is drawn here?” for each drawing.

In translation, be aware of all the possible names of black birds (i.e. raven, crow) and trees (i.e. spruce and pine), as these are all considered correct.

Remember to remind the loved one that you will ask them about these pictures one other time (e.g., “Remember, I will ask about these one other time”).

#### Chapter eight - Frontal/Executive function: (Section out of /1)

Show alternating crosses and circles – XOXOXXOO

- 1) Copy these letters that you see here (*show or point*) on this piece of paper (*show or point*).

The aim of this exercise is to have the loved one copy the Xs and Os in the correct order on the blank piece of paper. Neatness and size are not scored.

#### Chapter nine - Free recall: (Section out of /5)

- 1) Do you remember those drawings I showed you? In any order, tell me what was drawn? (*Show example drawing (e.g., the leaf) as a prompt, don't count in the final score*).

If they get all the answers correct (5/5), automatically give a free recall score of 5/5

Points are given if the loved one's response is generally correct (e.g., “bird” instead of “crow” and “tree” instead of “pine tree”). The example drawings used to demonstrate understanding of the task (e.g., the leaf) does not count towards points.

If the loved one remembers all five drawings, skip Chapter 10 and proceed directly to Chapter 11. If they do not remember all five pictures, complete Chapter 10.

#### Chapter ten - Cued recall: (Section out of /5)

- 1) Choose the one I showed you at first. (*one of three drawings on a page; repeat with all 5 items*)

Use the leaf page as an example only (don't count in the score). Continue when they understand to point to only one object out of the three shown on the page. In Anishinaabemwin, there is a difference when asking an animate or inanimate question.



**Chapter eleven – Praxis:** (section out of /2)

Questions asked

- 1) I have already loosened this small bottle. Pour however much you want into the small cup.

**Make sure to loosen the cap on bottle. If the loved one still has trouble taking the cap off, undo it and set the cap on top of the bottle and ask them to take it off and pour the contents into the cup. For loved ones who are experiencing issues with hand strength or joint pain, you may consider using a bottle that is only half or a quarter full as it will be lighter for them to pick up.**

- 2) Show me how to use this spoon. **Do not prompt or give an example.**

### *Modifications for Poor Vision*

**Chapter 2: Recognition and naming:** Place each object in the loved one's hand and ask them what it is and what it is used for. Ask them to remember the objects for later on.

**Chapter 6: Recall:** Ask them "tell me those 3 things I showed you."

**Chapter 7: Visual naming:** Name pictures for them to remember.

**Chapter 8: Frontal executive function:** Write **XOXOXXOO** in larger letters for them to copy. If they have significant visual impairment, omit this question.

**Chapter 10: Cued recall:** Tell them the 3 options that they can choose from. For example, "Which one did I tell you to remember: item, item, or item?"

### *Interpreting Results*

The CICA is scored out of 39 possible points. A score of 34/39 or less indicates possible dementia. A loved one scoring 34 or less should be referred to a doctor/nurse practitioner or to the local health centre for a full dementia medical assessment to rule out any other causes of cognitive impairment. There may be different reasons for a low test score, such as depression, delirium, or other treatable conditions.

## Additional Resources

Indigenous specific dementia factsheets can be found at <https://www.i-caare.ca/factsheets>.

In addition to these resources, general information related to dementia and/or cognitive impairment can be found at the following websites:

- Indigenous Inuit Home and Community Care [www.hc-sc.gc.ca](http://www.hc-sc.gc.ca)
- Alzheimer's Society of Canada [www.alzheimer.ca](http://www.alzheimer.ca)
- Alzheimer's Association <https://www.alz.org/>
- Government of Canada [www.seniors.gc.ca](http://www.seniors.gc.ca)
- End-of-Life Care in Indigenous Communities <http://eolfn.lakeheadu.ca/>
- Overcoming barriers to culturally safe and appropriate dementia care services and supports for Indigenous peoples in Canada <https://www.nccah-ccnsa.ca/docs/emerging/RPT-Culturally-Safe-Dementia-Care-Halseth-EN.pdf>
- Wellness in Early Onset Familial Alzheimer Disease: Experiences of the Tahltan First Nation <http://med-fom-neuroethics.sites.olt.ubc.ca/files/2015/08/GTP-Wellness-in-EOFAD-s.pdf>
- RaDAR Resources for Dementia Care <https://cchsaccssma.usask.ca/ruraldementiacare/Resources.php>

## References

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- Jacklin, K., Warry, W. and Blind, M. Perceptions of Alzheimer's Disease and Related Dementias in Aboriginal Peoples in Ontario: Six Nations Community Report (57 pages). Submitted to: Six Nations Health Services
- Jacklin, K., Warry, W. and Blind, M. Perceptions of Alzheimer's Disease and Related Dementias in Aboriginal Peoples in Ontario: Ottawa Community Report (54 pages). Submitted to: Odawa Friendship Centre, Ottawa.
- Jacklin, K., Warry, W. and Blind, M. Perceptions of Alzheimer's Disease and Related Dementias in Aboriginal Peoples in Ontario: Moose Cree First Nation Community Report (58 pages). Submitted to: Moose Cree First Nations Health Services
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