



IHS Division of Oral Health
PROJECT REPORT
Implementation of a Cognitive Assessment in a Dental Setting
July 31, 2023



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A. Background

In 2016, the IHS began an ambitious, innovative demonstration project to implement depression screenings in a dental setting, realizing that some of our patients do not routinely see a primary care provider. This was an important part of integrating primary care activities into dentistry, just as important as integrating oral health into primary care. After being approached by Dr. Bruce Finke, former IHS Elder Care Consultant, about spreading a cognitive assessment through dental screenings, the Division of Oral Health reached out to the 12 sites that participated in the depression screening project to see which would be interested in participating in a cognitive assessment project; five opted in.

Estimates vary, but experts report more than 7 million people ages 65 or older had dementia in 2020. If current demographic and health trends continue, more than 9 million Americans could have dementia by 2030 and nearly 12 million by 2040 (<https://www.prb.org/resources/fact-sheet-u-s-dementia-trends>). With the aging population – according the U.S. Census, by 2034 there will be more adults 65 years and older than 18 years and younger for the first time – a multi-disciplinary approach at cognitive assessment will be required in the future, especially with 29.3 million Americans visiting a dentist each year but not a medical provider (Manske and Ricks, AHRQ Statistical Brief #544, https://meps.ahrq.gov//data_files/publications/st544/stat544.shtml).

In addition, while the U.S. Preventive Services Task Force does not yet have enough evidence to conclude that a cognitive screening by clinicians either is needed or warranted



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(<https://www.uspreventiveservicestaskforce.org/uspstf/recommendation/cognitive-impairment-in-older-adults-screening>), the Alzheimer’s Association states that “individuals with memory concerns or other cognitive complaints should be evaluated for cognitive impairment. Non-memory triggers include personality change, depression, deterioration of chronic disease without explanation, and falls or balance issues” (<https://www.alz.org/professionals/health-systems-medical-professionals/cognitive-assessment>).

B. Purpose/Objectives

The purpose of this project was to determine if cognitive assessments could be done in dental settings for patients presenting with symptoms of cognitive decline (apparent memory loss, non-compliance in oral hygiene not explained by other factors, non-compliance or non-understanding of treatment not explained by other factors, difficulty communicating to the dental provider not explained by other factors, etc.). The project period was set to be January – June 2023.

C. Collaborators

The Division of Oral Health collaborated with the Division of Clinical and Community Services for this project, and specifically Dr. Jolie Crowder, IHS National Elder Services Consultant; Dr. Bruce Finke, IHS Elder Care Consultant; and Valerie Jones, IHS Elder Health Care Data Coordinator. All served as technical experts for the duration of the project.

D. Initiative Participants

Participating programs were:

1. Acoma-Canoncito-Laguna Hospital Service Unit, Albuquerque Area
2. Consolidated Tribal Health Dental Program, California Area
3. Crow Service Unit, Billings Area
4. Jicarilla (Dulce) Service Unit, Albuquerque Area
5. Western Oregon (Chemawa) Service Unit, Portland Area

Dr. Tim Ricks served as the project lead, with Dr. Nathan Mork as the co-lead.



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E. Data Analysis

Prior to this project, none of the programs had completed a cognitive assessment on a dental patient using the Mini-Cog®.

F. Components/Timeline

This project technically kicked off in 2022 with the presentation of two Alzheimer’s Disease webinars by Dr. Bruce Finke. The first webinar, “Alzheimer’s Disease and Related Dementias and Oral Health,” was presented on April 27, 2022 by Dr. Blythe Winchester (Cherokee Indian Hospital) and Dr. Eric Jewell, IHS National Periodontal Consultant. This introductory webinar provided an overview of AD and related dementias and implications on oral health, as well as introducing the idea and value of performing a cognitive assessment in a dental setting. The second webinar, held June 15, 2022, was co-presented by Dr. Finke and Dr. Soo Borson, developer of the Mini-Cog. This webinar focused on the assessment tool itself. A total of 74 dental staff participated in the live webinars, while 30 listened to the recorded webinars later, thus providing a total CE benefit of over \$20,000.

Zoom meetings were generally held the first Friday of each month with the participating sites (as many dental staff from those sites as possible) and with the technical experts.

1. Meeting 1, January 6, 2023 – the purpose of this meeting was to provide an overview of cognitive impairment by our subject matter experts and to provide the parameters for the six-month project.
2. Meeting 2, February 3, 2023 – the purpose of this meeting was to provide a more detailed overview of some of the resources available including webinars, the Mini-Cog tool, and flyers for American Indian Elders.
3. Meeting 3, March 3, 2023 – the purpose of this meeting was to provide a presentation on available resources through the Alzheimer’s Association, as presented by Edie Yau, Director of Diversity, Equity and Inclusion Engagement for the Association.
4. Meeting 4, April 14, 2023 – the purpose of this meeting was to discuss how dental treatment could or should change as a result of cognitive decline.
5. Meeting 5, May 5, 2023 – the purpose of this meeting was to further discuss dental care for patients with cognitive decline, including an interactive discussion on clinical decision making and a presentation by Allyson Lee, Associate Director of Health System Solutions from the Alzheimer’s Association, on how and when to engage caregivers of patients with cognitive decline.



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6. Meeting 6, June 2, 2023 – the purpose of this meeting was to discuss lessons learned and how we could collectively spread this initiative across I/T/U dental programs.

The timeline for the project was as follows:

Component	Responsible	Start Date	Completion Date
Initial discussions to set up project with Dr. Finke	Dr. Ricks	May 16, 2022	May 16, 2022
Create and send funding opportunity to 12 sites that participated in 2016-17 depression project	Dr. Ricks	Sep 23, 2022	Oct 5, 2022
Select participating programs and do funds transfer to support participation	Dr. Ricks Dr. Lozon	Dec 27, 2022	Dec 30, 2022
Create screening report template and distribute	Dr. Mork Dr. Ricks	Jan 6, 2023	Jan 19, 2023
Project period	5 participating sites	Jan 19, 2023	Jun 30, 2023
Final project reports	5 participating sites	Jun 12, 2023	Jun 30, 2023

G. Resources

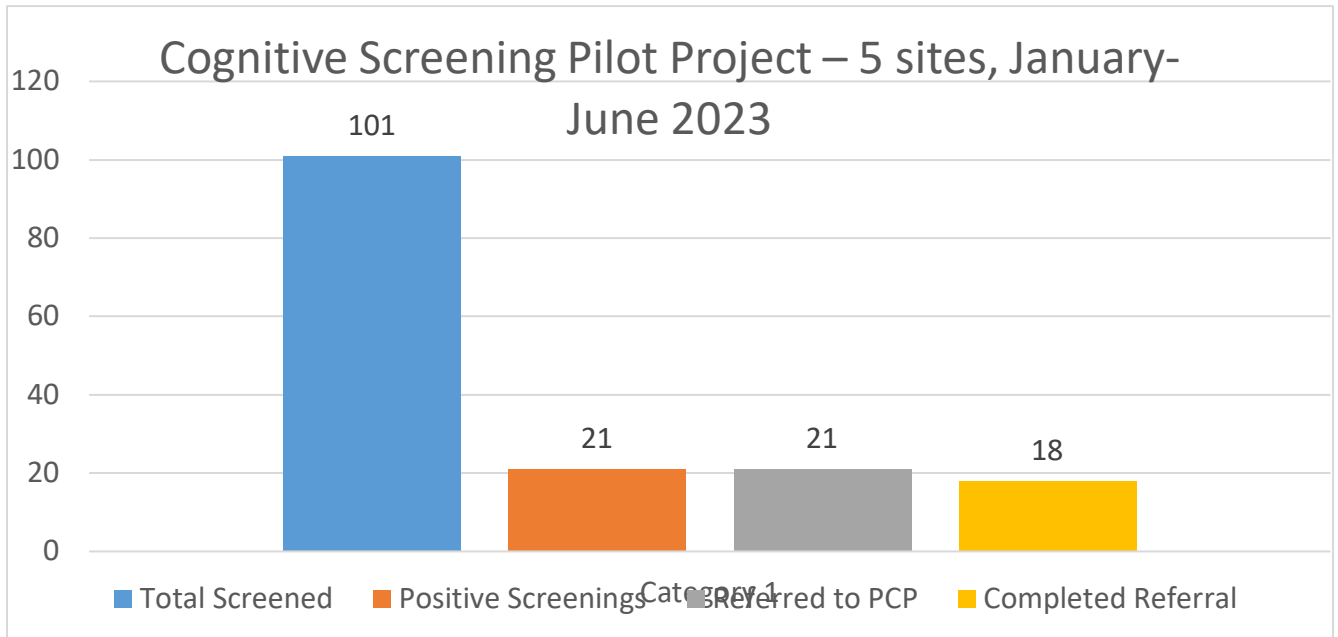
A total of \$25,000 was spent to carry out this project, \$5,000 transferred to each of the five participating programs.

H. Project Outcomes

The five participating programs submitted reports monthly, describing what prompted screenings, how many patients were referred to a behavioral health or primary care provider for follow-up evaluation, and how many completed those referrals. As shown below, collectively 101 patients were screened over the six months, with about 1/5th being referred due to a positive Mini-Cog score and 18 of those 21 (85%) completing the referrals.



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Individual program participation varied site to site and month to month, depending on a variety of factors such as staffing and concurrent duties.

Program Name	Screenings	Positives	Referrals	Completed Referrals
ACL	23	0	10	9
January	8	0	3	5
February	5	0	3	2
March	1	0	0	0
April	6	0	3	1
May	4	0	1	1
Consolidated Tribal Health	24	0	10	9
January	2	0	0	0
February	5	0	3	2
March	7	0	3	2
April	5	0	2	3
May	5	0	2	2
Crow	27	5	4	0
January	0	0	0	0
February	5	0	0	0



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March	5	1	1	0
April	9	2	1	0
May	8	2	2	0
Jicarilla	23	0	0	0
January	1	0	0	0
February	4	0	0	0
March	4	0	0	0
April	8	0	0	0
May	6	0	0	0
Western Oregon	3	0	0	0
January	0	0	0	0
February	2	0	0	0
March	1	0	0	0
April	0	0	0	0
May	0	0	0	0

Totals	101	5	21	18
January	11	0	3	5
February	21	0	6	4
March	18	1	1	2
April	28	2	6	4
May	23	2	5	3

I. Future Implications/Recommendations

Although this initiative received a lot of interest at our biennial IHS Dental Updates Conference on July 24th, getting dental professionals to understand the value of a cognitive assessment will require a paradigm shift towards bi-directional integrated care. Some possibilities of spread are additional webinars with experiences shared by the participating programs, additional funding to encourage participation, and placement of various materials – those developed by the IHS Elder Care Program prior to this initiative – on the IHS Dental Portal at www.ihs.gov/doh. In addition, dental hygienists may be the most comfortable dental professionals to perform the cognitive assessment, based upon the participants in this project.



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Appendix A – Mini-Cog® Tool



Instructions for Administration & Scoring

ID: _____ Date: _____

Step 1: Three Word Registration

Look directly at person and say, "Please listen carefully. I am going to say three words that I want you to repeat back to me now and try to remember. The words are [select a list of words from the versions below]. Please say them for me now." If the person is unable to repeat the words after three attempts, move on to Step 2 (clock drawing).

The following and other word lists have been used in one or more clinical studies.⁹³ For repeated administrations, use of an alternative word list is recommended.

Version 1	Version 2	Version 3	Version 4	Version 5	Version 6
Banana	Leader	Village	River	Captain	Daughter
Sunrise	Season	Kitchen	Nation	Garden	Heaven
Chair	Table	Baby	Finger	Picture	Mountain

Step 2: Clock Drawing

Say: "Next, I want you to draw a clock for me. First, put in all of the numbers where they go." When that is completed, say: "Now, set the hands to 10 past 11."

Use preprinted circle (see next page) for this exercise. Repeat instructions as needed as this is not a memory test. Move to Step 3 if the clock is not complete within three minutes.

Step 3: Three Word Recall

Ask the person to recall the three words you stated in Step 1. Say: "What were the three words I asked you to remember?" Record the word list version number and the person's answers below.

Word List Version: _____ Person's Answers: _____

Scoring

Word Recall: _____ (0-3 points)	1 point for each word spontaneously recalled without cueing.
Clock Draw: _____ (0 or 2 points)	Normal clock = 2 points. A normal clock has all numbers placed in the correct sequence and approximately correct position (e.g., 12, 3, 6 and 9 are in anchor positions) with no missing or duplicate numbers. Hands are pointing to the 11 and 2 (11:10). Hand length is not scored. Inability or refusal to draw a clock (abnormal) = 0 points.
Total Score: _____ (0-5 points)	Total score = Word Recall score + Clock Draw score. A cut point of <3 on the Mini-Cog™ has been validated for dementia screening, but many individuals with clinically meaningful cognitive impairment will score higher. When greater sensitivity is desired, a cut point of <4 is recommended as it may indicate a need for further evaluation of cognitive status.

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Appendix B – Monthly Reporting Tool

Clinic Name: _____

Process	Number of Patients in Previous Month
Screenings	
Positive Screenings Possible Mini-Cog© Scores: 0-2 = higher likelihood of clinically important cognitive impairment (positive screening) 3-5 = lower likelihood of dementia but does not rule out some degree of cognitive impairment (negative screening)	
Referrals	
Completed Referrals (i.e. patients who attended medical consult appointment)	
Referred patients who received confirmed medical diagnosis of cognitive impairment (if known)	

What factors (e.g. history of missed appointments) prompted you to screen patients this month?

Lessons learned? (e.g. What went well? What could be improved upon?)



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References

Included within the document.