Section C

Cognitive Patterns (BIMS)
Objectives

• State the intent of Section C.
• Explain the importance of using a performance-based assessment to determine a resident’s cognitive status.
• List the steps comprising the BIMS assessment.
• Define a category cue.
• Explain how to conduct a BIMS.
• Code BIMS interview questions correctly.
Intent of Section C

• Determine resident’s:
  o Attention
  o Orientation
  o Ability to register and recall new information
Importance

• Crucial factors in care planning decisions made by the interdisciplinary team and resident.

• Misdiagnosis may result in appropriate communication, activities, and therapies not being offered.
Difficulty Assessing Status

• Cognitively intact residents may appear to be cognitively impaired because of:
  o Extreme frailty
  o Hearing impairment
  o Lack of interaction

• Residents may appear to be more cognitively intact than they actually are.
Performance-Based Assessment

- Decreases chance of incorrect labeling of cognitive ability.
- Improves detection of delirium.
- Performance on cognitive tests should be compared over time.
- Consider an assessment for delirium or depression if performance worsens.
MDS Assessment Based on Brief Interview for Mental Status

- Consists of a structured resident interview.
- Opportunity to observe for signs and symptoms of delirium.
- Can be completed or attempted for most residents.
- Complete the staff assessment as an alternative.
- Do not conduct both an interview and a staff assessment.
Accuracy & Reliability

- Structured test is more accurate and reliable than observation alone.
- Prevents mislabeling based on appearance or assumed diagnosis.
- Provides insight into resident’s current condition that will enhance care.
- Assists in identifying needed supports.
- Identifies possible delirium behaviors.
Item C0100

Should Brief Interview for Mental Status be Conducted?
Attempt Resident Interview

• Determine whether to attempt an interview.

• Most residents are able to attempt the interview.
C0100 Conduct the Assessment

- Attempt interview if resident can be understood at least some of the time.
- Make every effort to provide an interpreter if needed.
C0100 Coding Instructions

• Code whether the cognitive interview should be attempted with the resident.

0  No (resident is rarely/never understood) → Skip to and complete C0700-C1000, Staff Assessment for Mental Status
1  Yes → Continue to C0200, Repetition of Three Words
Brief Interview for Mental Status (BIMS)
Structure of BIMS

• Consists of three components.
  o C0200 Repetition of Three Words
  o C0300 Temporal Orientation
  o C0400 Recall

• Results are compiled into a Summary Score.
Conducting the Interview

• Establish a comfortable environment.
• Be sure the resident can hear you.
• Introduce the interview.
• Address any resident concerns.
• Conduct the interview.
  o Complete the interview in one sitting.
  o Ask each item in the order it appears on the MDS item set.
  o Accept any refusal and move on.
Stopping the Interview

• Stop the interview if necessary.
• Stop after C0300 Temporal Orientation if:
  o All responses have been nonsensical.
  o There has been no verbal or written response to any items up to that point.
  o There has been no verbal or written response to some items and nonsensical responses to the other questions.
Assessment for Cognitive Patterns

- An assessment must be completed even if the interview cannot be conducted.
- Complete the Staff Assessment for Mental Status (C0700-C1100).
Item C0200

Repetition of Three Words
C0200 Repetition of Three Words

• Ask resident to repeat three words.
  o Sock
  o Blue
  o Bed

• Inability to repeat three words on the first attempt may indicate:
  o Hearing impairment
  o Language barrier
  o Inattention (may be a sign of delirium)
C0200 Conduct the Assessment

• Ask the question exactly as written.

• Immediately prompt for a response.

• If the resident repeats all three words correctly on the first attempt:
  o Reinforce recall by repeating the words with category cues.
  o This reinforcement is essential to evaluate the resident’s ability to recall later in the interview.
  o Code the response.
  o Move on to the next interview question (C0300).
Category Cue

- A phrase that puts a word in context.
  - Helps prompt resident’s recall ability.
  - Stimulates learning.
  - Fosters memory even among residents able to repeat the words immediately.

- Cues for C0200 are:
  - For sock: something to wear
  - For blue: a color
  - For bed: a piece of furniture

- May be provided verbally or in writing.
C0200 Conduct the Assessment

• If the resident recalls two or fewer words on the first attempt:
  o Make a second attempt.
  o Prompt using category cues.

• If the resident does not recall all the words on the second attempt:
  o Make a third attempt.
  o Repeat the words and use cues.
• If resident does not repeat all three words after three attempts:
  o Reassess the resident’s ability to hear.
  o If the resident can hear, move on to the next question.
  o If the resident cannot hear, attempt to optimize hearing before proceeding.
C0200 Assessment Guidelines

• Words may be recalled in any order.

• Words may be recalled in any context.
  o Repeating words in a sentence counts as repeating the words.

• Score the number of words repeated on the first attempt only.
  o Do not score the number of words repeated on the second or third attempts.
  o Do not record the number of attempts that the resident needed to complete this item.
• If the interviewer cannot say words clearly, have another staff member conduct the interview.

• BIMS may be conducted in writing in limited circumstances.

• Consult Chapter 3 of the RAI Manual for guidance.
C0200 Coding Instructions

• Record the maximum number of words repeated correctly on the first attempt only.
C0200 Scenario #1

• The interviewer says, “The words are sock, blue, and bed. Now please tell me the three words.”

• The resident replies, “Bed, sock, and blue.”

• The interviewer repeats the three words with category cues, by saying:

• “That’s right, the words are sock, something to wear; blue, a color; and bed, a piece of furniture.”
C0200 Scenario #1 Coding

- Code C0200 as **3. Three**.
- The resident repeated all three items on the first attempt.
- The order of repetition does not affect the score.

**C0200. Repetition of Three Words**

Ask resident: "I am going to say three words for you to remember. Please repeat the words after I have said all three. The words are: sock, blue, and bed. Now tell me the three words."

Number of words repeated after first attempt

0. None
1. One
2. Two
3. Three

After the resident's first attempt, repeat the words using cues ("sock, something to wear; blue, a color; bed, a piece of furniture"). You may repeat the words up to two more times.
C0200 Scenario #2

- The interviewer says, “The words are sock, blue, and bed. Now please tell me the three words.

- The resident replies, “What were those three words?”

- The interviewer repeats the three words plus category cues.
C0200 Scenario #2 Coding

• Code C0200 as 0. None.
• The resident did not repeat any of the three words the first time the interviewer said them.
• Code the results of the first attempt only.
Item C0200

Practice Activity
C0200 Practice #1

• Interviewer: “The words are sock, blue, and bed. Now please tell me the three words.”

• Resident: “Sock, bed, black.”

• Interviewer repeats the three words plus the category cues: “Let me say the three words again. They are sock, something to wear; blue, a color; and bed, a piece of furniture. Now tell me the three words.”

• Resident: “Oh yes, that’s right, sock, blue, bed.”
How should C0200 be coded?

A. Code 0. None
B. Code 1. One
C. Code 2. Two
D. Code 3. Three
C0200 Practice #1 Coding

• The correct code is 2. Two.

• The resident repeated two of the three words on the first attempt.

• Residents are scored based on the first attempt only.
C0200 Practice #2

• Interviewer: “The words are sock, blue, and bed. Now please tell me the three words.”

• Resident: “Blue socks belong in the dresser.”

• The interviewer repeats the three words plus the category cues.
How should C0200 be coded?

A. Code 0. None
B. Code 1. One
C. Code 2. Two
D. Code 3. Three
C0200 Practice #2 Coding

- The correct code is 2. Two.
- The resident repeated two of the three words – blue and sock.
- The resident put the words into a sentence, resulting in the resident repeating two of the three words.
C0200 Practice #3

• Interviewer: “The words are sock, blue, and bed. Now please tell me the three words.”

• Resident: “Shoe, bed, red.”

• Interviewer repeats the three words plus the category cues.

• Resident: “I thought you said red, bed, and shoe.”
How should C0200 be coded?

A. Code 0. None
B. Code 1. One
C. Code 2. Two
D. Code 3. Three
C0200 Practice #3 Coding

• The correct code is 1. One.
• The resident repeated one of the three words on the first attempt.
C02000 Practice #4

• Interviewer: “The words are sock, blue, and bed. Now please tell me the three words.”

• Resident: “My husband always left his socks under the bed.”

• The interviewer repeats the three words plus the category cues.
How should C0200 be coded?

A. Code 0. None
B. Code 1. One
C. Code 2. Two
D. Code 3. Three
C0200 Practice #4 Coding

- The correct code is 2. Two.
- The resident repeated two of the three words – bed and sock.
- The resident put the words into a sentence, resulting in the resident repeating two of the three words.
Item C0300

Temporal Orientation
C0300 Conduct the Assessment

• Ask each of the three questions one at a time.
  o C0300A: Current year
  o C0300B: Current month
  o C0300C: Day of the week

• Allow up to 30 seconds for a response.

• Do not provide clues.

• If residents specifically ask for clues, tell them you need to know if they can answer without any assistance.
C0300A Coding: Year

- Assess ability to report the correct year.
- Code 0 if the resident does not answer.
C0300A Coding Example

- Date of the interview is May 5, 2010.
- Resident states that it is 2010.
- Code C0300A as 3. Correct.
C0300B Coding: Month

- Assess ability to report the correct month.
- Count the current day as day 1.
C0300B Coding Example

- Date of the interview is June 25, 2010.
- Resident states that it is June.
- Code C0300B as 2. Accurate within 5 days.
C0300C Coding: Day

- Assess the resident’s ability to report the correct day of the week.
C0300C Coding Example

• Date of the interview is Monday, June 25, 2010.
• Resident states that it is Monday.
• Code C0300C as 1. Correct.
Item C0300

Practice Activity
C0300 Practice #1

- The date of the interview is June 16, 2010.
- The resident, responding to the statement, “Please tell me what year it is right now,” states that it is 2007.
How should C0300A be coded?

A. Code 0. Missed by > 5 years or no answer
B. Code 1. Missed by 2 – 5 years
C. Code 2. Missed by 1 year
D. Code 3. Correct
C0300 Practice #1 Coding

• The correct code is 1. Missed by 2 – 5 years
• 2007 is within 2-5 years of 2010.
C0300 Practice #2

• The date of the interview is January 10, 2010.

• The resident, responding to the statement, “Please tell me what year it is right now,” states that it is 1910.
How should C0300A be coded?

A. Code 0. Missed by > 5 years or no answer
B. Code 1. Missed by 2 – 5 years
C. Code 2. Missed by 1 year
D. Code 3. Correct
C0300 Practice #2 Coding

• The correct code is 0. Missed by > 5 years or no answer.

• Even though the ‘10 part of the year would be correct, 1910 is more than 5 years different than 2010.
C0300 Practice #3

• The date of the interview is April 1, 2010.

• The resident, responding to the statement, “Please tell me what year it is right now,” states that it is “10.”

• The interviewer asks, “Can you tell me the full year?”

• If the resident still responds “10,” the interviewer should state again, “Can you tell me the full year, for example, nineteen-eighty-two.”

• The resident states “2010.”
How should C0300A be coded?

A. Code 0. Missed by > 5 years or no answer
B. Code 1. Missed by 2 – 5 years
C. Code 2. Missed by 1 year
D. Code 3. Correct
C0300 Practice #3 Coding

• The correct code is 3. Correct.

• Even though “’10” is partially correct, the only correct answer is the exact year.

• The resident must state “2010,” not “’10” or “1810” or “1910.”

• In this example, the resident correctly stated the year.
C0300 Practice #4

• The date of the interview is June 28, 2010.

• The resident, responding to the question, “What month are we in right now?” states that it is July.
How should C0300B be coded?

A. Code 0. Missed by > 1 month or no answer

B. Code 1. Missed by 6 days to 1 month

C. Code 2. Accurate within 5 days
• The correct code is 2. Accurate within 5 days.

• The resident correctly stated the month within 5 days even though the correct month is June.

• June 28th (day 1) + 4 more days is July 2nd, so July is within 5 days of the evaluation.
• The date of the interview is June 30, 2010.

• The resident, responding to the question, “What month are we in right now?” states that it is August.
How should C0300B be coded?

A. Code 0. Missed by > 1 month or no answer
B. Code 1. Missed by 6 days to 1 month
C. Code 2. Accurate within 5 days
C0300 Practice #5 Coding

- The correct code is 0. Missed by > 1 month or no answer.

- The resident missed the correct month by more than one month.
C0300 Practice #6

• The date of the interview is June 2, 2010.

• The resident, responding to the question, "What month are we in right now?" states that it is May.
How should C0300B be coded?

A. Code 0. Missed by > 1 month or no answer

B. Code 1. Missed by 6 days to 1 month

C. Code 2. Accurate within 5 days
C0300 Practice #6 Coding

- The correct code is 2. Accurate within 5 days.
- June 2 minus 5 days = May 29th.
- The resident correctly stated the month within 5 days even though the current month is June.
C0300 Practice #7

• The day of the interview is Monday, June 25, 2010.

• The resident, responding to the question, “What day of the week is it today?” states “Tuesday.”
How should C0300C be coded?

A. Code 0. Incorrect or no answer

B. Code 1. Correct
C0300 Practice #7 Coding

• The correct code is 0. Incorrect or no answer.

• The resident incorrectly stated the day of the week.
C0300 Practice #8

• The day of the interview is Monday, June 25, 2010.

• The resident, responding to the question, “What day of the week is it today?” states, “Today is a good day.”
How should C0300C be coded?

A. Code 0. Incorrect or no answer

B. Code 1. Correct
C0300 Practice #8 Coding

• The correct code is 0. Incorrect or no answer.

• The resident did not answer the question correctly.
Item C0400

Recall
C0400 Conduct the Assessment

- Ask the resident to repeat the words from the earlier question.
  - Read question as it appears on the MDS form.
- Allow up to five seconds for spontaneous recall.
- Provide category cues for any word not correctly recalled after five seconds.
- Use category cues only after resident is unable to recall one or more words.
- Allow up to five seconds after category cue for recall.
C04000 Assessment Guidelines

- Each word is coded separately.
  - C0400A is sock.
  - C0400B is blue.
  - C0400C is bed.

- Recall without cueing
  - Resident names the item on the first attempt.
  - Resident may list other items in the same category.
  - Interviewer does not provide cues.

- Recall with cueing
  - Interviewer must give a cue.
  - Resident says the item in a list of other terms.
C04000 Coding Instructions

• **Code 0. No**
  - Cannot recall the word even after cueing.
  - Responds with a nonsensical answer.
  - Chooses not to answer.

• **Code 1. Yes after cueing**
  - Requires a cue to remember the word.

• **Code 2. Yes, no cue required**
  - Correctly remembers the word without cueing.
C0400 Coding Example

- Resident replies, “Socks, shoes, bed.”
- Interviewer cues, “One word was a color.”
- Resident replies, “Oh, the shoes were blue.”

<table>
<thead>
<tr>
<th>Enter Code</th>
<th>C0400. Recall</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>A. Able to recall &quot;sock&quot;</td>
</tr>
<tr>
<td></td>
<td>0. No - could not recall</td>
</tr>
<tr>
<td></td>
<td>1. Yes, after cueing (&quot;something to wear&quot;)</td>
</tr>
<tr>
<td></td>
<td>2. Yes, no cue required</td>
</tr>
<tr>
<td>1</td>
<td>B. Able to recall &quot;blue&quot;</td>
</tr>
<tr>
<td></td>
<td>0. No - could not recall</td>
</tr>
<tr>
<td></td>
<td>1. Yes, after cueing (&quot;a color&quot;)</td>
</tr>
<tr>
<td></td>
<td>2. Yes, no cue required</td>
</tr>
<tr>
<td>2</td>
<td>C. Able to recall &quot;bed&quot;</td>
</tr>
<tr>
<td></td>
<td>0. No - could not recall</td>
</tr>
<tr>
<td></td>
<td>1. Yes, after cueing (&quot;a piece of furniture&quot;)</td>
</tr>
<tr>
<td></td>
<td>2. Yes, no cue required</td>
</tr>
</tbody>
</table>
C04000 Recall

Practice Activity
C04000 Practice #1

• The resident is asked to recall the three words that were initially presented.

• The resident refuses to answer the question and states, “I’m tired, and I don’t want to do this anymore.”
How should C0400 be coded?

A. Code 0. No – could not recall

B. Code 1. Yes, after cueing

C. Code 2. Yes, no cue required
The correct code is 0. No – could not recall.

Choosing not to answer a question often indicates an inability to answer the question.

This is the most accurate way to score cognitive function, even though on occasion, the resident might choose not to answer for other reasons.
C04000 Practice #2

- The resident is asked to recall the three words.
- Resident: “I don’t remember.”
- Interviewer: “One word was something to wear.”
- Resident: “Clothes.”
- Interviewer: “OK, one word was a color.”
- Resident: “Blue.”
- Interviewer: “OK, the last word was a piece of furniture.”
- Resident: “Couch.”
How should C0400 be coded?

A. All terms are coded 0. _No – could not recall_ because the resident initially stated she could not remember.

B. All terms are coded 1. _Yes, after cueing_ because the resident required cueing to attempt recall for all of the terms.

C. All terms are coded 1. _Yes, after cueing_ because the resident remembered at least one term after cueing.

D. Code “sock” and bed as 0. _No – could not recall_. Code “blue as 1. _Yes, after cueing_.

C0400 Practice #2 Coding

• Code C0400A and C0400C as 0. *No – could not recall.*

• Code C0400B as 1. *Yes, after cueing.*

• **C0400A (sock):** The resident did not recall the item, even with a cue.

• **C0400B (blue):** The resident did recall after being given the cue.

• **C0400C (bed):** The resident did not recall the item, even with a cue.
BIMS

Practice Activity
BIMS Activity Instructions

• Turn to Section C, items C0200 – C0400, in the MDS 3.0 item set.

• Watch the video of a BIMS.

• Mark and code the interview in your item set.

• Remember that the date for the interview is Monday, November 23, 2009.
The Video on Interviewing Vulnerable Elders (VIVE) was funded by the Picker Institute and produced by the UCLA/JH Borun Center. DVD copies can be ordered from CMS.
C0200 Repetition of Three Words Coding

- Words correct on the first attempt:
  - Bed
  - Blue
- Number of words correct: 2
- Correct coding: 2. Two
C0300 Temporal Orientation Coding

- Resident responses to C0300:
  - Year: 1999
  - Month: November
  - Day of the week: Monday

- Correct coding:
  - Code C0300A as 0. Missed by > 5 years.
  - Code C0300B as 2. Accurate within 5 days.
  - Code C0300C as 1. Correct.
C0400 Recall Coding

• Words recalled without cueing:
  o Blue

• Words recalled with cueing:
  o Bed

• Correct coding:
  o Code C0400A (sock) as 0. No – could not recall.
  o Code C0400B (blue) as 2. Yes, no cue required.
  o Code C0400C (bed) as 1. Yes, after cueing.
Item C0500

Summary Score
C0500 Importance

• Allows comparison with future and past performance.
• Decreases the chance of incorrect labeling of cognitive ability.
• Improves detection of delirium.
• Provides more reliable estimate of resident function.
• Allows staff to interact based on resident ability.
C0500 Conduct the Assessment

- Add up the values for all BIMS questions.
- Lowest possible summary score is 00.
- Maximum possible summary score is 15.
C0500 Assessment Guidelines

- Do not add up the total score while you are interviewing the resident.
- Focus your full attention on the interview.
- Apply the guidelines for determining if the interview is complete or incomplete.
- Total score reflects cognitive status.
  - 13 – 15 Cognitively Intact
  - 08 - 12 Moderate Impairment
  - 00 - 07 Severe Impairment
C05000 Coding Instructions

- Code the total score as a two-digit number.
- Include leading zero (0) for scores less than 10.
- The score will range from 00 to 15.
- Code 99 if unable to complete the interview.
- A zero score does not mean the interview was incomplete.
C0500 Example

- Resident’s scores on items C0200 – C0400 in the BIMS Practice Activity were:
  - (C0200) Repetition 2
  - (C0300A) Year 0
  - (C0300B) Month 2
  - (C0300C) Day 1
  - (C0400A) Recall “sock” 0
  - (C0400B) recall “blue” 2
  - (C0400C) recall “bed” 1

- The resident’s summary score is 8.
Item C0500

Complete/ Incomplete Interview
BIMS Completion Guidelines

• For the BIMS to be complete:
  o Resident has to attempt to answer at least 4 of the items in C0200 through C0400.
  o The answers have to be relevant.
  o To be relevant, a response **only** has to be **related** to the question (logical).
  o Responses do **not** have to be correct.

• A score of zero (00) does not mean the BIMS is incomplete.
What Constitutes an Incomplete Interview?

- Resident can communicate but chooses not to participate in the BIMS.
  - Minority of residents are unable or unwilling to participate in the BIMS.

- Resident gives a nonsensical response to four or more items in C0200 - C0400.

- An incorrect but relevant answer is not a nonsensical response or no answer.
Incomplete Interview Guidelines

- Conduct C0200 and C0300 with all residents attempting the interview.

- Stop the interview after C0300 if the resident:
  - Refuses to answer.
  - Provides nonsensical responses to all items in C0200 and C0300.
Incomplete Interview Guidelines

- Finish the interview after C0300 if the resident provides a relevant response to at least one question in C0200 or C0300.

- The resident must provide relevant responses to at least 4 items in C0200 - C0400 for the interview to be complete.

- If the resident provides nonsensical responses or refuses to answer 4 or more items in C0200 - C0400, the interview is incomplete.
Incomplete Interview Coding Instructions

- If the interview is stopped after C0300:
  - Code C0200 and C0300 as 0.
  - Code C0400 with a dash ( - ).
  - Code C0500 Summary Score as 99 to indicate an incomplete interview.

- Complete the Staff Assessment for Mental Status.
Incomplete Interview Coding Instructions

• If the interview is finished (attempt C0400) but incomplete:
  o Code any relevant response(s) as appropriate.
  o Code all nonsensical responses or no answer as 0.
  o Code C0500 Summary Score as 99 to indicate an incomplete interview.

• Conduct the Staff Assessment for Mental Status.
Item C0600

Should the Staff Assessment be Conducted?
• Mental status can vary among persons unable to communicate or who do not complete BIMS.

• Must observe the behavior of residents unable to complete the BIMS.

• Incorrect diagnosis or missed impairment may prevent appropriate communication, activities, and therapies from being offered.
C0600 Conduct the Assessment

• Review the C0500 Summary Score.

• Determine if the BIMS was completed successfully or was incomplete.

• Conduct the Staff Assessment only if the Summary Score is **99**.

• A score of **99** indicates the BIMS could not be completed.
C0600 Coding Instructions

• Code 0. No
  o Interview completed.
  o Summary score equals 00 – 15.

• Code 1. Yes
  o Interview not completed.
  o Summary score is 99.
Section C
(Resident Interview)

Summary
BIMS

- Section C uses a performance-based tool to assess mental status.
- Attempt the BIMS for all residents that can be understood at least some of the time.
- BIMS consists of three components:
  - Repetition of 3 Words
  - Temporal Orientation
  - Recall
- Results are compiled into a Summary Score.
Conduct the Interview

• Establish a conducive environment.

• Make sure the resident can hear.

• Provide an interpreter if needed.

• Introduce the interview and address any concerns.

• Read the questions as written.

• Follow the guidelines for conducting each component of the BIMS.
Complete/ Incomplete Interview

• The interview is complete if the resident responds to at least 4 questions in C0200 – C0400.
  o Resident provides relevant or logical answers.
  o Answers do not have to be correct to be relevant.

• Otherwise the interview is incomplete.
  o Follow guidelines for stopping an interview.
  o Follow guidelines for coding an incomplete interview.
Score the Interview

• To score a complete interview:
  o Total the values for all items in C0200 – C0400.
  o A valid score will range from 00 - 15.
  o Enter this score in C0500 Summary Score.

• To score an incomplete interview:
  o Enter 99 in C0500 Summary Score to indicate an incomplete interview.

• Code C0600:
  o Indicate whether the interview was complete.
  o Determine if staff assessment should be conducted.