interRAI HC

interRAI HC Outcome Scales and Screening Algorithms Reference Guide

2026

interRAI

CIHI

Production of this document is made possible by financial contributions from Health Canada and provincial and territorial governments. The views expressed herein do not necessarily represent the views of Health Canada or any provincial or territorial government.

Unless otherwise indicated, this product uses data provided by provinces and territories in Canada.

Canadian Institute for Health Information
350 Albert Street, Suite 1400
Ottawa, Ontario K1R 1A4
Phone: 613-241-7860
Fax: 613-241-8120
cihi.ca
copyright@cihi.ca

How to cite this document:
Canadian Institute for Health Information. *interRAI HC Outcome Scales and Screening Algorithms Reference Guide, 2026*. Ottawa, ON: CIHI; 2026.

Cette publication est aussi disponible en français sous le titre *Guide de référence des échelles de résultats et des algorithmes de dépistage SD interRAI, 2026*.

Table of contents

Introduction 4

Outcome scales 5

- Activities of Daily Living Self-Performance Hierarchy Scale 5
- Activities of Daily Living Long Form Scale 8
- Activities of Daily Living Short Form Scale 10
- Aggressive Behaviour Scale 12
- Changes in Health, End-Stage Disease and Signs and Symptoms Scale 14
- Cognitive Performance Scale 18
- Cognitive Performance Scale 2 21
- Communication Scale 25
- Deafblind Severity Index 26
- Depression Rating Scale 28
- Instrumental Activities of Daily Living Capacity Hierarchy Scale 30
- Activities of Daily Living — Instrumental Activities of Daily Living Functional Hierarchy Scale 34
- interRAI Pressure Ulcer Risk Scale 36
- Pain Scale 38

Screening algorithms 41

- Caregiver Risk Evaluation Algorithm 41
- Crisis Identification and Situational Improvement Strategies 44
- Detection of Indicators and Vulnerabilities for Emergency Room Trips Scale 47
- Method for Assigning Priority Levels 50
- Personal Support Algorithm 53
- Vulnerable Persons at Risk Scale 56

Usage of outcome scales and screening algorithms 58

Introduction

The interRAI Home Care (interRAI HC) assessment is used to assess persons in home care settings. Upon completing the assessment, clinicians build person-centred care plans using embedded clinical outputs that provide evidence-based information.

Each outcome scale describes the person in certain standardized clinical areas, such as depression, cognitive performance and activities of daily living (ADLs). In developing the outcome scales, interRAI validated the scales against gold standard measures, where available. Some of the outcome scales, such as the Depression Rating Scale (DRS) and the Cognitive Performance Scale (CPS), are used in the calculation of the Collaborative Action Plans (CAPs). The screening algorithms measure relative urgency of service needs or overall care complexity. The scales and algorithms can be used as decision-support tools to promote consistent decisions among home care staff and to support evidence-informed resource allocation.

The person's baseline scores are generated from the initial assessment. The scores can be compared in order to monitor changes over time and to see whether the interventions put into place have been effective. This information can be used for quality improvement initiatives, program planning and resource allocation.

This document provides the following information for each outcome scale and screening algorithm:

- A description;
- Items used in the calculation; and
- An example describing a person with a specific score for each outcome scale.

Outcome scales

Activities of Daily Living Self-Performance Hierarchy Scale

The ADL Self-Performance Hierarchy Scale reflects the disablement process by grouping ADL performance levels into discrete stages of loss. Early-loss ADLs are assigned lower scores than late-loss ADLs. Scale scores range from 0 to 6, with higher scores indicating greater decline (progressive loss) in ADL performance.

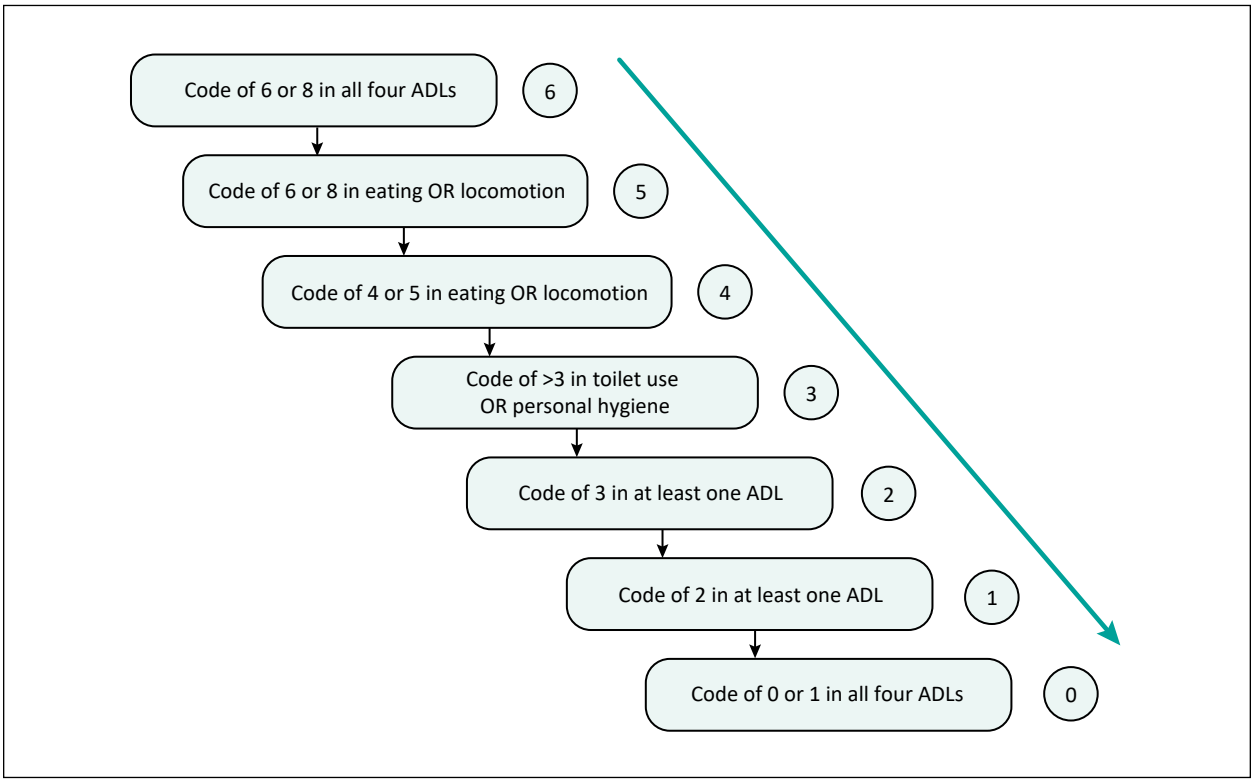
4 ADL items are used to calculate the ADL Self-Performance Hierarchy Scale.
These items are coded according to self-performance in the last 3 days:

Early loss	Middle loss	Late loss
Personal hygiene	Toilet use	Eating
—	Locomotion	—

Coding

- Code 0 = Independent
- Code 1 = Independent, set-up help only
- Code 2 = Supervision
- Code 3 = Limited assistance
- Code 4 = Extensive assistance
- Code 5 = Maximal assistance
- Code 6 = Total dependence
- Code 8 = Activity did not occur during entire period

The diagram below illustrates how the ADL Self-Performance Hierarchy Scale score is determined:



Source
Adapted from Morris JN, Fries BE, Morris SA. Scaling ADLs within the MDS. *The Journals of Gerontology*. 1999.

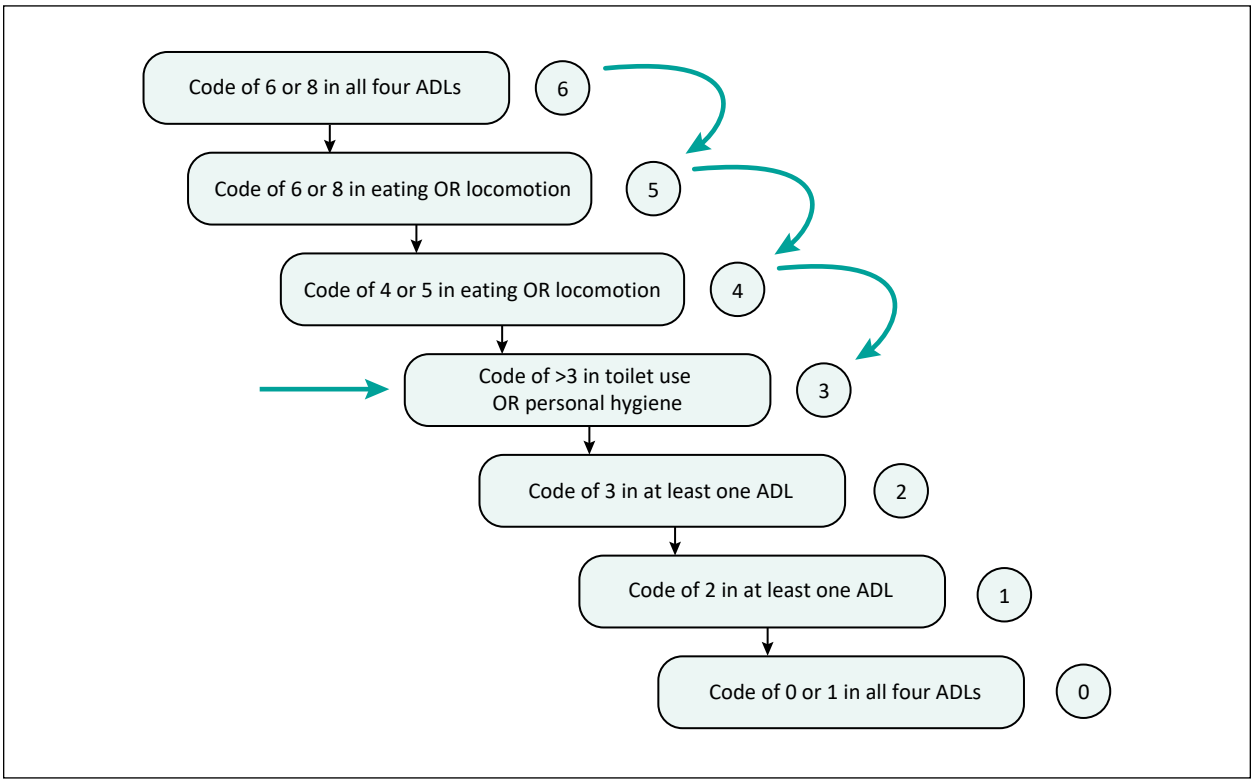
Example

The vignette below is an example of a person whose ADL Self-Performance Hierarchy Scale score is **3 out of 6**.

Mr. D required assistance from his caregiver to comb his hair and brush his teeth each morning over the last 3 days. Mr. D used a wheelchair to get around inside the house; he required cueing each time he moved from room to room. He managed eating and drinking independently, requiring assistance only with cutting his meat. When awake, Mr. D used the toilet regularly, requesting assistance only with zipping/unzipping his pants. However, the last 3 nights, due to hip pain, he was unable to get out of bed and was incontinent. His caregiver and his son had to provide weight-bearing assistance to help Mr. D change his pyjamas and complete his peri care.

interRAI HC items used to calculate the ADL Self-Performance Hierarchy Scale	Coding for Mr. D
Personal hygiene (G2b)	3
Locomotion (G2f)	2
Toilet use (G2h)	5
Eating (G2j)	1

Start at the top of the decision tree; the steps represent each score of the scale. Based on the codes of the 4 assessment items for Mr. D, he did not meet the criteria for scores 6, 5 or 4. Score 3 requires Mr. D to meet 1 of 2 criteria: a code of greater than 3 in either toilet use or personal hygiene. The code for toilet use was 5 for Mr. D. Therefore, his ADL Self-Performance Hierarchy Scale score is 3.



Source
Adapted from Morris JN, Fries BE, Morris SA. Scaling ADLs within the MDS. *The Journals of Gerontology*. 1999.

Activities of Daily Living Long Form Scale

The ADL Long Form Scale is a summative scale that provides a measure of a person's performance in completing ADLs. Higher scores indicate more impairment of self-sufficiency in ADL performance. The ADL Long Form Scale is more sensitive to clinical changes than the ADL Self-Performance Hierarchy Scale.

7 ADL items are used to calculate the ADL Long Form Scale:

- Personal hygiene
- Dressing upper body
- Dressing lower body
- Locomotion
- Toilet use
- Bed mobility
- Eating

The items are coded according to self-performance in the last 3 days.

Coding

- Code 0 = Independent
- Code 1 = Independent, set-up help only
- Code 2 = Supervision
- Code 3 = Limited assistance
- Code 4 = Extensive assistance
- Code 5 = Maximal assistance
- Code 6 = Total dependence
- Code 8 = Activity did not occur during entire period

To calculate the ADL Long Form Scale, the interRAI HC codes for Section G2 are transformed from codes of 0 to 6 to codes of 0 to 4. The table below illustrates how the codes are transformed. The **transformed** codes are then summed to give an ADL Long Form Scale score of 0 to 28.

G2 (ADL Self-Performance) code	G2 transformed code
0, 1	0
2	1
3	2
4, 5	3
6, 8	4

Example

The vignette below is an example of a person whose ADL Long Form Scale score is **11 out of 28**.

Mr. D required assistance from his caregiver to comb his hair and brush his teeth each morning over the last 3 days. Mr. D used a wheelchair to get around inside the house; he required cueing each time he moved from room to room. He managed eating and drinking independently, requiring assistance only with cutting his meat. When awake, Mr. D used the toilet regularly, requesting assistance only with zipping/unzipping his pants. However, the last 3 nights, due to hip pain, he was unable to get out of bed and was incontinent. His caregiver and his son provided weight-bearing assistance to help Mr. D change his pyjamas and complete his peri care.

Mr. D moved independently in his bed at all times. He transferred from his wheelchair to his bed and vice versa on each of the last 3 days without any assistance; however, this morning he asked his caregiver to help him move from his bed to his wheelchair because he felt unsteady due to the pain in his hip. Although very independent, Mr. D received assistance with dressing and undressing every morning and evening the last 3 days: he required weight-bearing assistance for donning and removing his right leg prosthesis and non-weight-bearing assistance to do up and undo his shirt buttons.

interRAI HC items used to calculate the ADL Long Form Scale	Coding for Mr. D	Transformed code
Personal hygiene (G2b)	3	2
Dressing upper body (G2c)	3	2
Dressing lower body (G2d)	4	3
Locomotion (G2f)	2	1
Toilet use (G2h)	5	3
Bed mobility (G2i)	0	0
Eating (G2j)	1	0
Score		**11 out of 28**

Activities of Daily Living Short Form Scale

The ADL Short Form Scale provides a measure of the person's ADL self-performance status based on items that reflect stages of loss (early, middle and late loss). Higher scores indicate more impairment of self-sufficiency in ADL performance.

4 ADL items are used to calculate the ADL Short Form Scale:

- Personal hygiene
- Locomotion
- Toilet use
- Eating

The items are coded according to self-performance in the last 3 days. They are summed to give an ADL Short Form Scale score of 0 to 16.

Coding

- Code 0 = Independent
- Code 1 = Independent, set-up help only
- Code 2 = Supervision
- Code 3 = Limited assistance
- Code 4 = Extensive assistance
- Code 5 = Maximal assistance
- Code 6 = Total dependence
- Code 8 = Activity did not occur during entire period

To calculate the ADL Short Form Scale, the interRAI HC codes for Section G2 are transformed from codes of 0 to 8 to codes of 0 to 4. The table below illustrates how the codes are transformed. The **transformed** codes are then summed to give an ADL Short Form Scale score of 0 to 16.

G2 (ADL Self-Performance) code	G2 transformed code
0, 1	0
2	1
3	2
4, 5	3
6, 8	4

Example

The vignette below is an example of a person whose ADL Short Form Scale score is **6 out of 16**.

Mr. D required assistance from his caregiver to comb his hair and brush his teeth each morning over the last 3 days. Mr. D used a wheelchair to get around inside the house; he required cueing each time he moved from room to room. He managed eating and drinking independently, requiring assistance only with cutting his meat. When awake, Mr. D used the toilet regularly, requesting assistance only with zipping/unzipping his pants. However, the last 3 nights, due to hip pain, he was unable to get out of bed and was incontinent. His caregiver and his son provided weight-bearing assistance to help Mr. D change his pyjamas and complete his peri care.

interRAI HC items used to calculate the ADL Short Form Scale	Coding for Mr. D	Transformed code
Personal hygiene (G2b)	3	2
Locomotion (G2f)	2	1
Toilet use (G2h)	5	3
Eating (G2j)	1	0
Score		**6 out of 16**

Aggressive Behaviour Scale

The Aggressive Behaviour Scale (ABS) is a summary scale that provides a measure of aggressive behaviour. Scale scores range from 0 to 12, with higher scores indicating greater frequency and intensity of aggressive behaviour.

4 items are used to calculate the ABS:

- Verbal abuse
- Physical abuse
- Socially inappropriate or disruptive behaviour
- Resists care

The behavioural symptoms are coded according to symptom frequency exhibited in the last 3 days. The codes are summed to give the ABS score. Each item can take a value from 0 to 3. A higher value represents higher aggressiveness.

Coding

- Code 0 = Not present
- Code 1 = Present but not exhibited in last 3 days
- Code 2 = Exhibited on 1–2 of last 3 days
- Code 3 = Exhibited daily in last 3 days

The following descriptors help users interpret the ABS scores.

Descriptor	ABS score
No signs of aggression	0
Mild to moderate aggression	1–4
More severe aggression	5+

Example

The vignette below is an example of a person whose ABS score is **7 out of 12**.

Mrs. C screamed at the personal support worker when she was lowered into the tub yesterday. She made disruptive sounds every morning of the past 3 days, and her caregiver also stated that she struck out at her this morning when she was sitting beside her on the couch.

interRAI HC items used to calculate the ABS	Coding for Mrs. C	Score
Verbal abuse (E3b)	2	Count 2
Physical abuse (E3c)	2	Count 2
Socially inappropriate or disruptive behaviour (E3d)	3	Count 3
Resists care (E3f)	0	Count 0
Score		**7 out of 12**

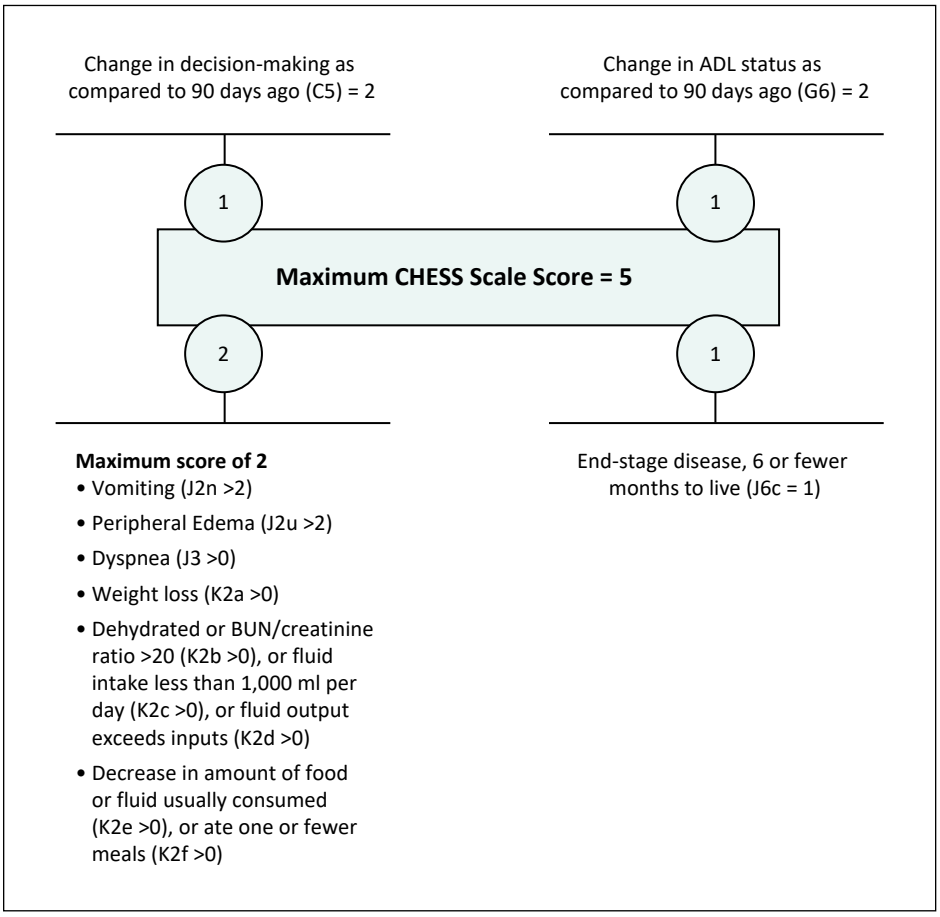
Changes in Health, End-Stage Disease and Signs and Symptoms Scale

The Changes in Health, End-Stage Disease and Signs and Symptoms (CHESS) Scale detects frailty and health instability and was designed to identify people at risk of serious decline. Higher scores are associated with adverse outcomes such as mortality, hospitalization, pain, caregiver stress and poor self-rated health. The CHESS Scale scores range from 0 to 5.

12 items are used to calculate the CHESS Scale:

- Change in decision making
- Change in ADL status
- Vomiting
- Peripheral edema
- Dyspnea
- End-stage disease, 6 or fewer months to live
- Weight loss
- Dehydrated or BUN/creatinine ratio >20
- Fluid intake less than 1,000 ml per day
- Fluid output exceeds input
- Decrease in amount of food/fluids usually consumed
- Ate one or fewer meals

The following diagram illustrates the calculation of the CHESS Scale. As depicted, the CHESS Scale is calculated by adding sign and symptom variables up to a maximum score of 2, and then adding 3 other variables (decline in decision-making, decline in ADL status and end-stage disease). Note: not all sign and symptom items are equally weighted in the calculation.



Source

Adapted from Hirdes JP, et al. The MDS-CHESS Scale: A new measure to predict mortality in institutionalized older people. *Journal of the American Geriatrics Society*. 2003.

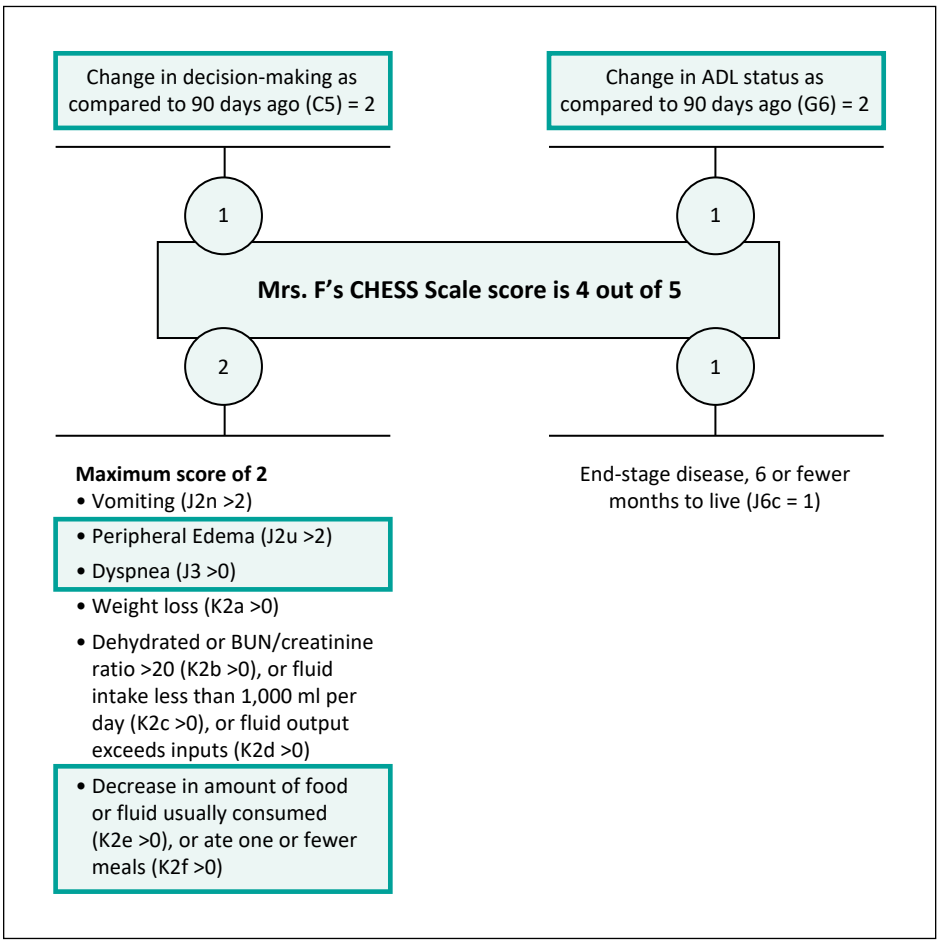
Example

The vignette below is an example of a person whose CHESS Scale score is **4 out of 5**.

Compared with 3 months ago, Mrs. F's ability to complete her ADLs has deteriorated. Her caregiver noticed that her short-term memory was not as good and that she had more difficulty making decisions about her daily routine. In the last 3 days, her caregiver noticed that she was short of breath when walking even short distances and doing normal daily activities; for the past 4 or 5 days there has been swelling in both of her lower legs. The caregiver also reported a decrease in Mrs. F's overall food consumption over the last 3 days: Mrs. F ate all of her breakfast and lunch meals, but she left about a third of her supper meals uneaten.

interRAI HC items used to calculate the CHESS Scale	Coding for Mrs. F	Score
Change in decision making as compared to 90 days ago (C5)	2 (Declined)	Count 1
Change in ADL status as compared to 90 days ago (G6)	2 (Declined)	Count 1
End-stage disease, 6 or fewer months to live (J6c)	0 (No)	—
Vomiting (J2n)	0 (Not present)	Count 2
Peripheral edema (J2u)	4 (Exhibited daily in last 3 days)	
Dyspnea (J3)	2 (Absent at rest, but present when performed normal day-to-day activities)	
Weight loss of 5% or more in last 30 days or 10% or more in last 180 days (K2a)	0 (No)	
Dehydrated or BUN/creatinine ratio >20 (K2b) **or** **Fluid intake less than 1,000 ml per day (K2c)** **or** **Fluid output exceeds input (K2d)**	0 (No) 0 (No) 0 (No)	
Decrease in amount of food or fluid usually consumed (K2e) **or** **Ate one or fewer meals on AT LEAST 2 of LAST 3 DAYS (K2f)**	1 (Yes) 0 (No)	
Score		**4 out of 5**

Using the decision tree, note that the score is 4 out of 5 for Mrs. F. C5 and G6 are assigned 1 point each, as Mrs. F's decision-making and ADL status have declined. J2u, J3 and K2e are assigned 2 points, because she showed symptoms of peripheral edema, dyspnea and a decrease in the amount of food or fluid usually consumed.



Source

Adapted from Hirdes JP, et al. The MDS-CHESS Scale: A new measure to predict mortality in institutionalized older people. *Journal of the American Geriatrics Society*. 2003.

Cognitive Performance Scale

The Cognitive Performance Scale (CPS) is a hierarchical index used to rate a person's cognitive status. The scale scores range from 0 to 6, with higher scores indicating more severe impairment.

4 items are used to calculate the CPS:

- Cognitive Skills for Daily Decision Making
- Short-term memory
- Making Self Understood
- Eating

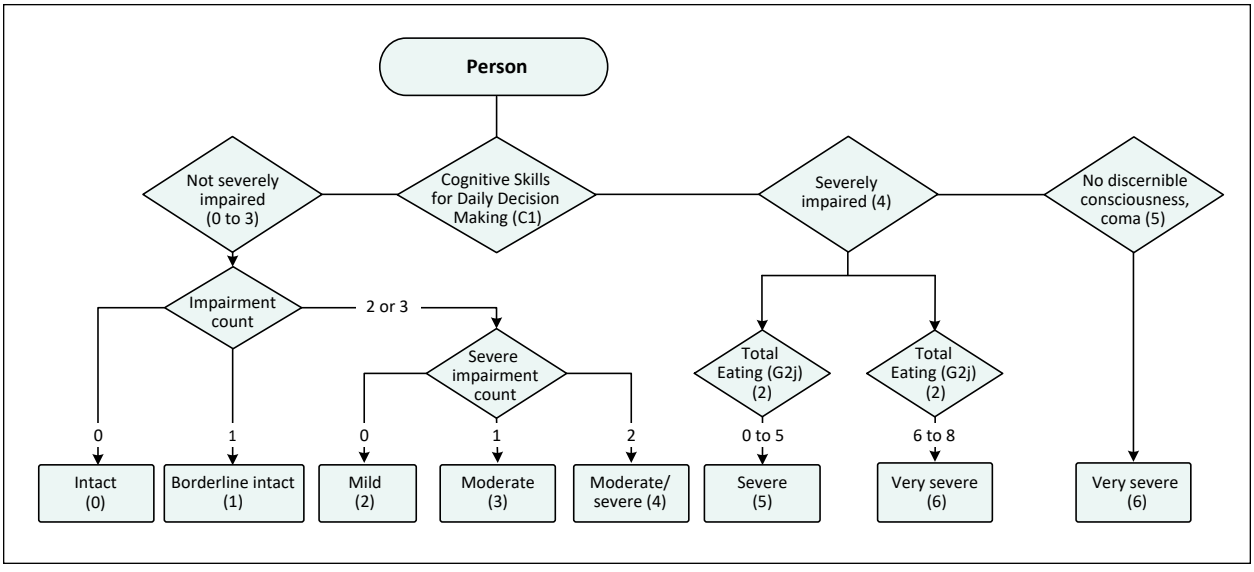
To calculate the CPS score, an *impairment* count of 0 to 3 is calculated first:

- 1 point is assigned if cognitive skills for daily decision making = 1, 2 or 3
- 1 point is assigned if making self understood = 1, 2, 3 or 4
- 1 point is assigned if short-term memory OK = 1

If the impairment count is greater than 1, a *severe impairment* count of 0 to 2 is then calculated:

- 1 point is assigned if cognitive skills for daily decision making = 3
- 1 point is assigned if making self understood = 3 or 4

The following decision tree illustrates how the CPS score is determined:



Source
Morris JN, Fries BE, Mehr DR, Hawes C, Phillips C, Mor V, Lipsitz LA. MDS Cognitive Performance Scale. *The Journals of Gerontology*. 1994.

The CPS has been validated against the Mini-Mental State Examination (MMSE) and the Test for Severe Impairment (TSI).

The table below illustrates how the CPS scores relate to the MMSE scores.

CPS score	Description	MMSE equivalent average
0	Intact	25
1	Borderline intact	22
2	Mild impairment	19
3	Moderate impairment	15
4	Moderate/severe impairment	7
5	Severe impairment	5
6	Very severe impairment	1

Example

The vignette below is an example of a person whose CPS score is **2 out of 6**.

Mr. G was alert and appeared to recall information from recent conversations. Daily over the past 3 days, he selected his clothes, used his walker faithfully when moving about the house and decided on his own to arrange an afternoon card game with some friends. His caregiver reported he has some difficulty making decisions in new situations. She also reported that Mr. G has difficulty finding words when interacting with others.

interRAI HC items used to calculate the CPS	Coding for Mr. G
Cognitive Skills for Daily Decision Making (C1)	1 (Modified Independence)
Short-term memory OK (C2a)	0 (Yes, memory OK)
Making Self Understood (D1)	1 (Usually understood)
Eating (G2j)	0 (Independent)

To calculate the CPS score, an *impairment* count of 0 to 3 is calculated first:

- 1 point is assigned, as Mr. G's cognitive skills for daily decision making = 1.
- 0 points are assigned, as Mr. G's short-term memory = 0.
- 1 point is assigned, as Mr. G's making self understood = 1.

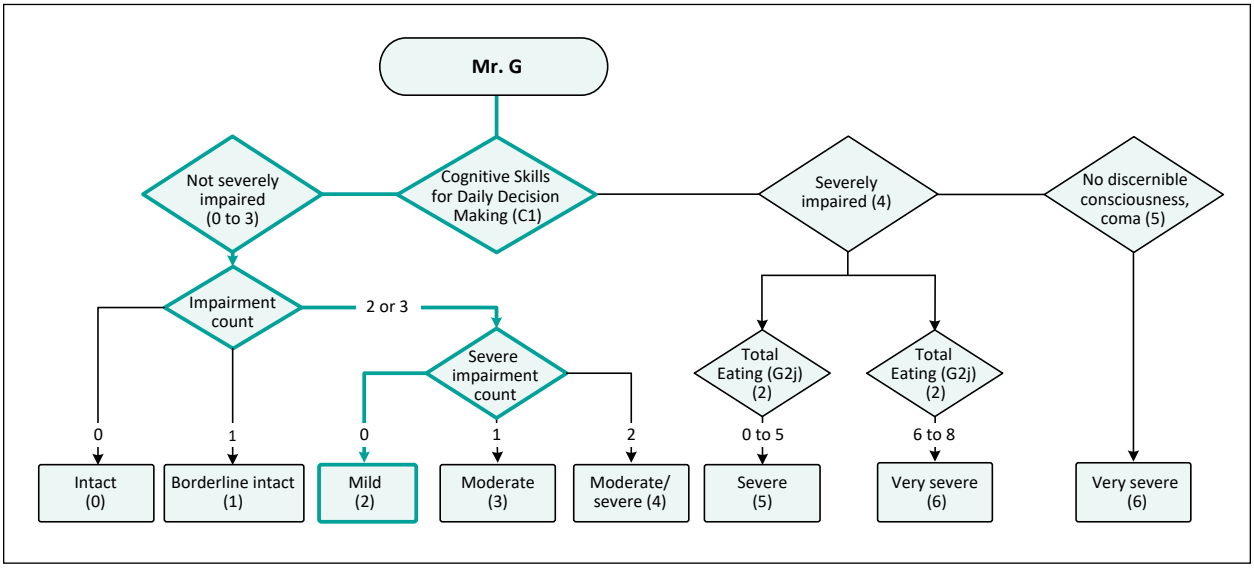
  Impairment count for Mr. G = 2

Next, a *severe impairment* count is calculated:

- 0 points are assigned, as Mr. G's cognitive skills for daily decision making = 1.
- 0 points are assigned, as Mr. G's making self understood = 1.

Severe impairment count for Mr. G = 0

Using the decision tree below, note how Mr. G's CPS score is calculated as **2 out of 6**.



Source
Morris JN, Fries BE, Mehr DR, Hawes C, Phillips C, Mor V, Lipsitz LA. MDS Cognitive Performance Scale. *The Journals of Gerontology*. 1994.

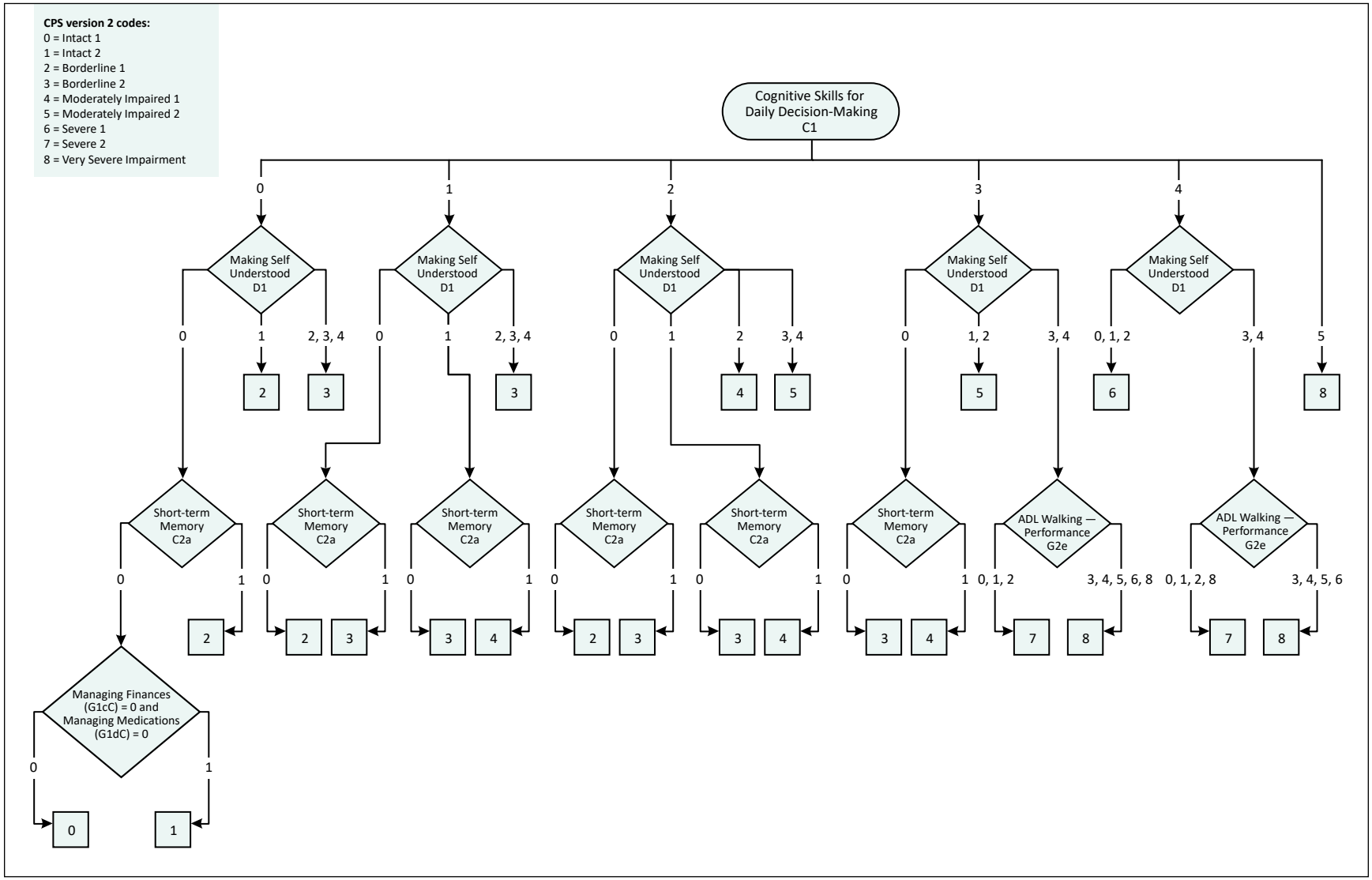
Cognitive Performance Scale 2

The Cognitive Performance Scale 2 (CPS2) is a hierarchical index used to rate a person's cognitive status. It is an updated version of the CPS. The scale score ranges from 0 to 8, with higher scores indicating more severe impairment. The CPS2 is particularly sensitive to detect changes in early levels of cognitive decline.

6 items are used to calculate the CPS2:

- Cognitive Skills for Daily Decision Making
- Short-term memory OK
- Making Self Understood
- Managing finances
- Managing medications
- Walking

The following decision tree illustrates how the CPS2 score is determined:



Source

Adapted from Morris JN, Howard EP, Steel K, Perlman C, Fries BE, Garms-Homolová V, Henrard JC, Hirdes JP, Ljunggren G, Gray L, Szczerbińska K. Updating the Cognitive Performance Scale. *Journal of Geriatric Psychiatry and Neurology*. 2016.

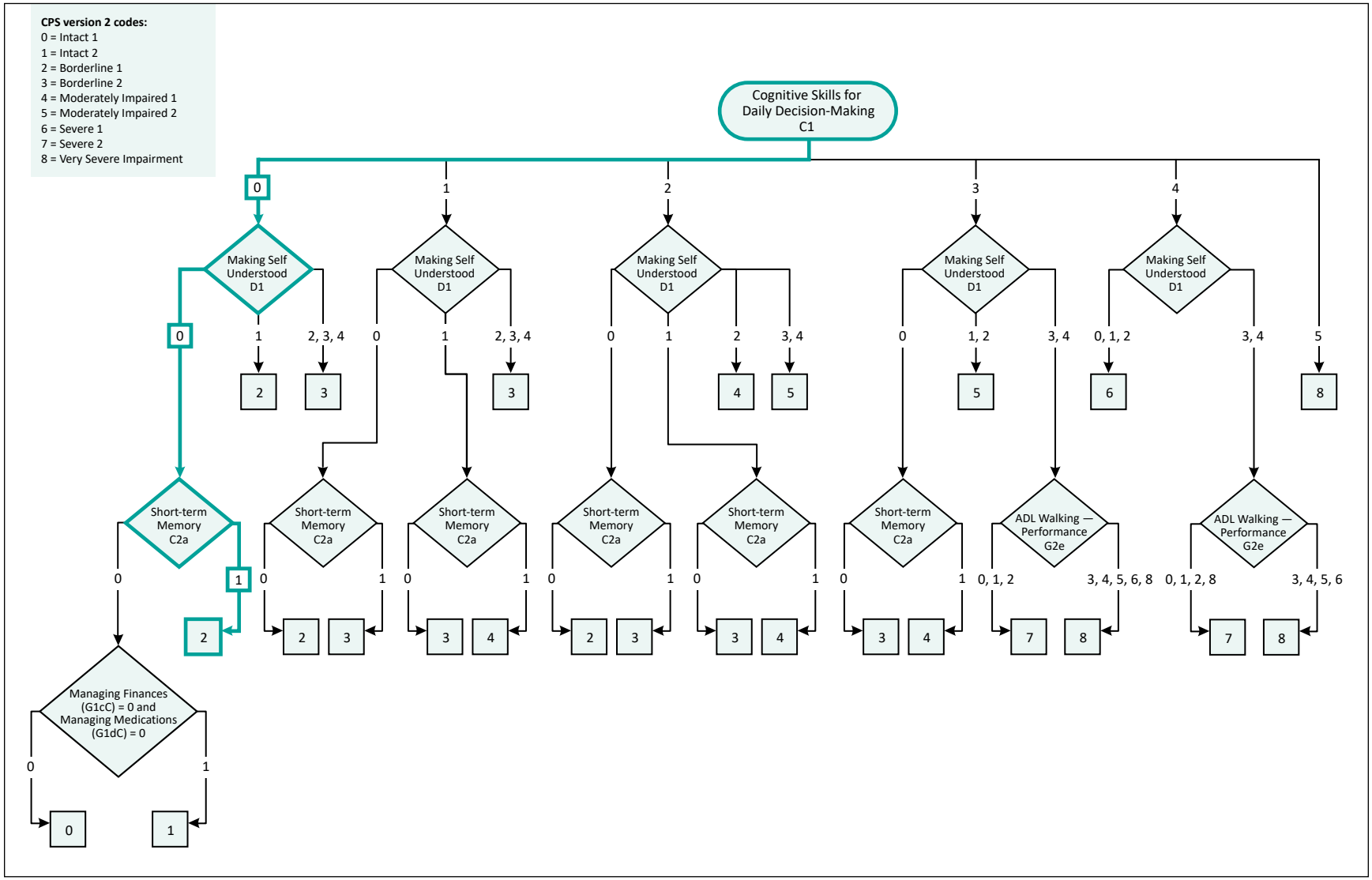
Example

The vignette below is an example of a person whose CPS2 score is **2 out of 8**.

The cold weather has arrived. Mrs. T states that over the last 3 days, she has been busy getting her warm clothing out to prepare for the winter season, in particular her winter coat and boots. She expresses her ideas clearly without any difficulty. The assessor notices as well that Mrs. T is organized and uses a calendar to post a listing of upcoming appointments and activities. She's also able to walk independently with her walker as long as it's in reach; however, in the last 3 days, she has required someone to hand her the walker on several occasions. Mrs. T manages her medications independently. Her niece handles all of Mrs. T's finances, and she has also taken on the responsibility for doing all of the shopping. Mrs. T likes this arrangement and feels that she would be unable to manage her finances or shop herself. During the short-term memory assessment, Mrs. T could recall only the words "book" and "watch" from the assessor's list of 3 items.

interRAI HC items used to calculate the CPS2	Coding for Mrs. T
Cognitive Skills for Daily Decision Making (C1)	0 (Independence)
Short-term memory OK (C2a)	1 (Memory problem)
Making Self Understood (D1)	0 (Understood)
Managing finances (G1cC)	6 (Total dependence)
Managing medications (G1dC)	0 (Independent)
Walking (G2e)	1 (Independent, set-up help only)

Using the decision tree below, note how Mrs. T's CPS2 score is calculated as **2 out of 8**.



Source

Adapted from Morris JN, Howard EP, Steel K, Perlman C, Fries BE, Garms-Homolová V, Henrard JC, Hirdes JP, Ljunggren G, Gray L, Szczerbińska K. Updating the Cognitive Performance Scale. *Journal of Geriatric Psychiatry and Neurology*. 2016.

Communication Scale

The Communication Scale summarizes a person's ability to communicate with others and comprehend information. Higher scale scores represent poorer communication.

2 items are used to calculate the Communication Scale:

- Making Self Understood
- Ability to Understand Others

The codes for the 2 items are summed to give a Communication Scale score of 0 to 8.

Coding

- Code 0 = Understood/understands
- Code 1 = Usually understood/understands
- Code 2 = Often understood/understands
- Code 3 = Sometimes understood/understands
- Code 4 = Rarely or never understood/understands

Example

The vignette below is an example of a person whose Communication Scale score is **4 out of 8**.

Mrs. S's son has noticed a decline in his mother's cognitive skills and also in her communication abilities. He has noticed in the last few months that she has difficulty finding words and sometimes loses track of what she is saying; he has found that he regularly has to finish sentences for her. He has also noticed that he has to provide more detailed explanations about daily issues and situations so that she can fully understand the conversation.

interRAI HC items used to calculate the Communication Scale	Coding for Mrs. S
Making Self Understood (D1)	2
Ability to Understand Others (D2)	2
Score	**4 out of 8**

Deafblind Severity Index

The Deafblind Severity Index (DbSI) provides a summary of a person's functional vision and hearing. The DbSI scores range from 0 to 5, with higher values indicating a higher degree of impairment in both senses.

2 items are used to calculate the DbSI:

- Hearing
- Vision

Coding hearing

- Code 0 = Adequate
- Code 1 = Minimal difficulty
- Code 2 = Moderate difficulty
- Code 3 = Severe difficulty
- Code 4 = No hearing

Coding vision

- Code 0 = Adequate
- Code 1 = Minimal difficulty
- Code 2 = Moderate difficulty
- Code 3 = Severe difficulty
- Code 4 = No vision

The following DbSI descriptors help users interpret the scoring values:

Descriptor	DbSI Score
Both senses adequate	0
One sense adequate and other mild/moderate difficulty	1
One sense adequate and other severe difficulty	2
Both senses mild/moderate difficulty	3
One sense mild/moderate difficulty and other severe difficulty	4
Both senses severe difficulty	5

Example

The vignette below is an example of a person whose DbSI score is **1 out of 5**.

Mr. L has noticed a decline in his hearing over the last few months. He requires a quiet setting to hear well and finds it helpful when others use a louder tone when speaking to him. Mr. L has enjoyed drinking his coffee while reading his newspaper every morning during the last 3 days. He has no issues seeing fine print as long as he has his glasses on.

interRAI HC items used to calculate the DbSI	Coding for Mr. L	Conditions	Score
Hearing (D3)	2	Moderate difficulty	One sense adequate and other moderate difficulty
Vision (D4)	0	Adequate	
Score			**1 out of 5**

Depression Rating Scale

The Depression Rating Scale (DRS) is a summative scale that can be used as a clinical screen for depression. A score of 3 or more may indicate a potential or actual problem with depression.

7 items (indicators of possible depressed, anxious or sad mood) are coded according to symptom frequency in the last 3 days:

- Made negative statements
- Persistent anger with self or others
- Expressions, including non-verbal, of what appear to be unrealistic fears
- Repetitive health complaints
- Repetitive anxious complaints/concerns
- Sad, pained or worried facial expressions
- Crying, tearfulness

Coding

- Code 0 = Not present
- Code 1 = Present but not exhibited in last 3 days
- Code 2 = Exhibited on 1–2 of last 3 days
- Code 3 = Exhibited daily in last 3 days

To calculate the DRS, the interRAI HC codes for Section E1 are transformed from codes of 0 to 3 to codes of 0 to 2; the table below illustrates how the codes are transformed. The **transformed** codes are then summed to give a DRS score of 0 to 14.

E1 (indicator) code	E1 transformed code
0	0
1, 2	1
3	2

Example

The vignette below is an example of a person whose DRS score is **7 out of 14**.

Every morning, Mrs. H expressed concern about her bowels and anticipated she would experience some nausea after eating her breakfast. She cried and stated that she was ready to "leave this world" on 2 of the last 3 days. Her caregiver noticed a difference in her mood last week when she had visitors; even her face appeared less sad than it always looks. Mrs. H's daughter reported that her mom frequently requires reassurance with regards to housework, meal preparation and visitors, but in the last 3 days that anxiety had not been present.

interRAI HC items used to calculate the DRS	Coding for Mrs. H	Transformed code
Made negative statements (E1a)	2	1
Persistent anger with self or others (E1b)	0	0
Expressions, including non-verbal, of what appear to be unrealistic fears (E1c)	0	0
Repetitive health complaints (E1d)	3	2
Repetitive anxious complaints/concerns (E1e)	1	1
Sad, pained or worried facial expressions (E1f)	3	2
Crying, tearfulness (E1g)	2	1
Score		**7 out of 14**

Instrumental Activities of Daily Living Capacity Hierarchy Scale

The Instrumental Activities of Daily Living (IADL) Capacity Hierarchy Scale reflects the disablement process by grouping IADL capacity levels into discrete stages of loss. Scale scores range from 0 to 6 with higher scores indicating greater decline (progressive loss) in IADL capacity.

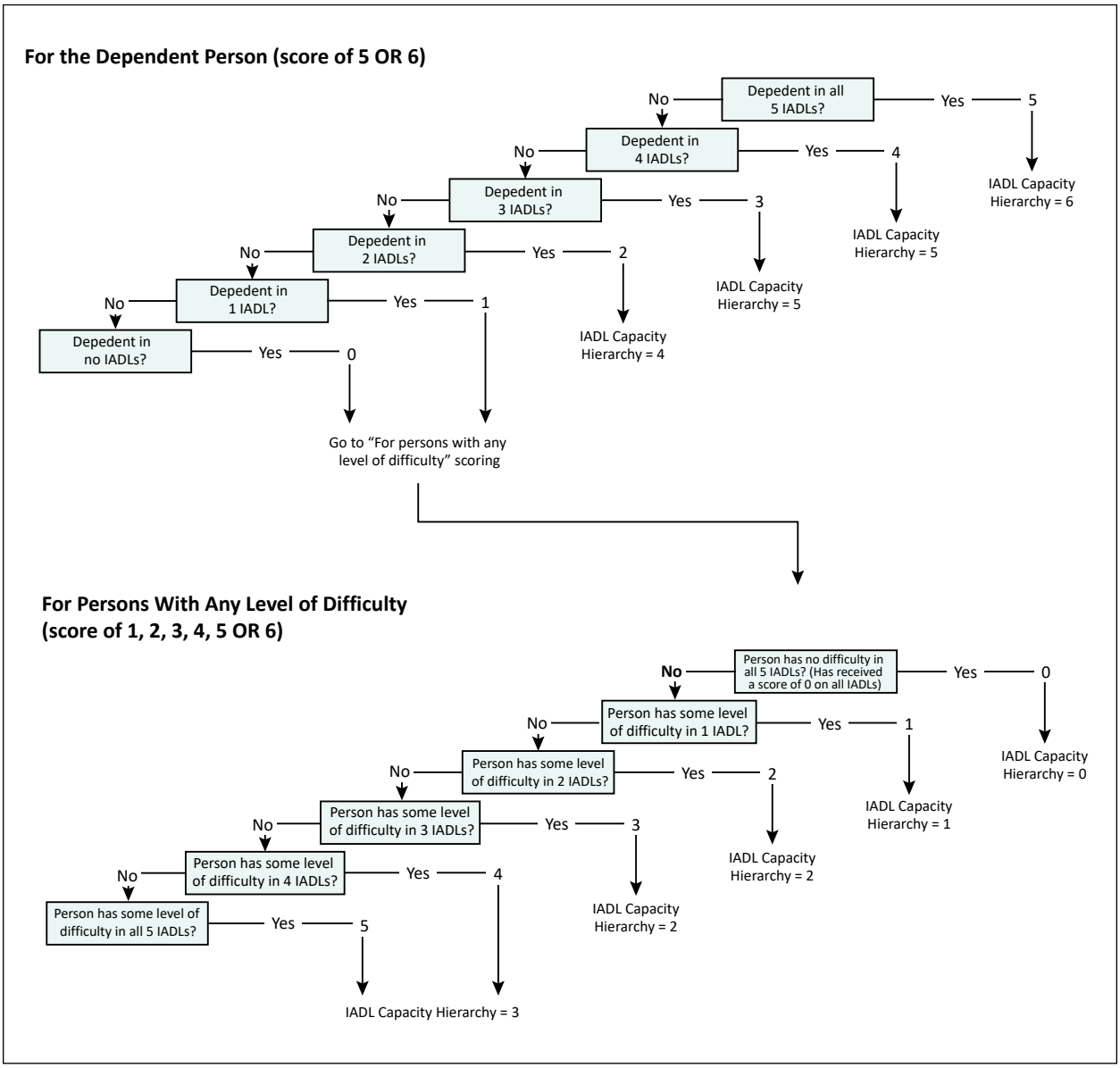
5 IADL items are used to calculate the IADL Capacity Hierarchy Scale. The capacity codes are used to calculate this scale.

Early loss	Middle loss	Late loss
Ordinary housework	Shopping	Managing finances
Meal preparation	—	Managing medications

Coding

- Code 0 = Independent
- Code 1 = Set-up help only
- Code 2 = Supervision
- Code 3 = Limited assistance
- Code 4 = Extensive assistance
- Code 5 = Maximal assistance
- Code 6 = Total dependence

The diagram below illustrates how the IADL Capacity Hierarchy Scale score is determined:



Source

Adapted with permission from interRAI Canada.

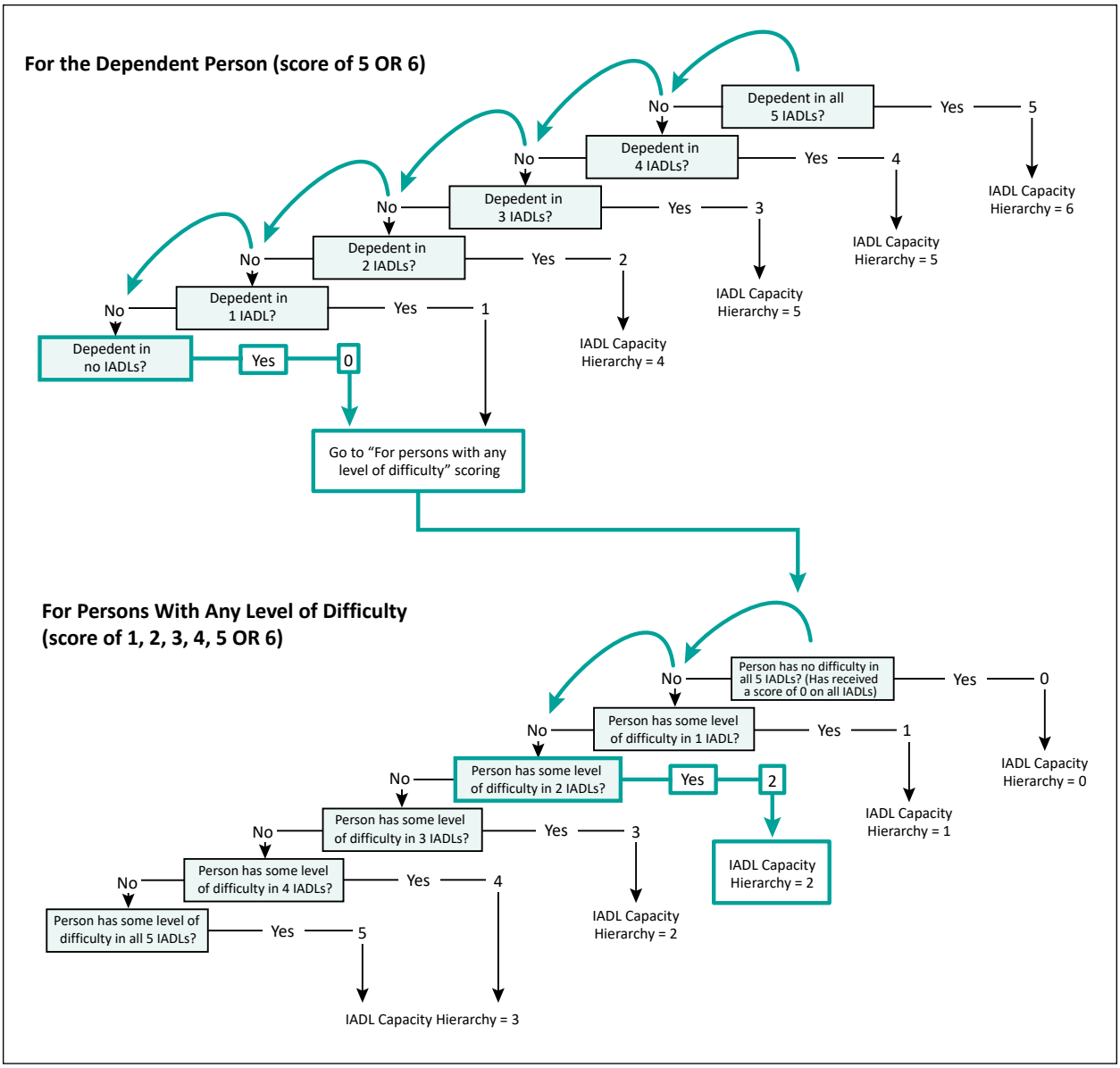
Example

The vignette below is an example of a person whose IADL Capacity Hierarchy Scale score is **2 out of 6**.

Mr. U lives alone in an apartment. As he values his independence, he insists on completing his IADLs with minimal assistance from family members. His daughter helps him once a week to do the laundry because it is very difficult for him to access the laundry facilities in his apartment building. He completes all other housekeeping tasks himself, although he admitted he needs to take frequent rests. Mr. U happily prepares all his meals for himself without any problems. The pharmacy provides all of his medications in blister packs and he manages them independently. Mr. U's son took him once during the last 3 days to do his grocery shopping; he does require assistance to select and reach the grocery items. Although Mr. U's son is managing all of his father's finances, Mr. U states that he could manage them on his own if he had to.

interRAI HC items used to calculate the IADL Capacity Hierarchy Scale	Coding for Mr. U
Meal preparation (G1aC)	0
Ordinary housework (G1bC)	3
Managing finances (G1cC)	0
Managing medications (G1dC)	0
Shopping (G1gC)	4

Start at the top of the decision tree; the steps represent each score of the scale. Based on the codes of the 5 assessment items for Mr. U, he did not meet the criteria for scores 6, 5, 4 or 3. A score of 2 requires Mr. U to meet 1 of 2 criteria: a person has some difficulty in either 2 or 3 IADL items. The code for ordinary housework was 3 and shopping was 4; therefore, his IADL Capacity Hierarchy Scale score is 2.



Source

Adapted with permission from interRAI Canada.

Activities of Daily Living — Instrumental Activities of Daily Living Functional Hierarchy Scale

The Activities of Daily Living — Instrumental Activities of Daily Living Functional Hierarchy Scale is a summary measure of both the ADL Self-Performance Hierarchy and IADL Capacity Hierarchy scales. It is used to categorize a person into 11 levels based on impairment in both ADLs and IADLs. The scale scores range from 0 to 11. A score of 0 is independent and a score of 11 is dependent.

The ADL Self-Performance Hierarchy Scale and IADL Capacity Hierarchy Scale are used to calculate the Functional Hierarchy Scale.

The diagram below illustrates how the Functional Hierarchy Scale score is determined:

ADL Self-Performance Hierarchy Scale	0							1							2							3	4	5	6
IADL Capacity Hierarchy Scale	0	1	2	3	4	5	6	0	1	2	3	4	5	6	0	1	2	3	4	5	6	Any			
Functional Hierarchy Scale	0	1	2	3	3	4	5	1	1	2	5	5	5	7	2	2	6	6	6	6	7	8	9	10	11

Source
Adapted with permission from interRAI Canada.

Example

The vignette below is an example of a person whose Functional Hierarchy score is **6 out of 11**.

Ms. E is fairly independent but she required limited assistance in personal hygiene during the last 3 days; therefore, her ADL Self-Performance Hierarchy Scale score was 2 out of 6. Her IADL Capacity Hierarchy Scale score was 2 out of 6, as she also had some levels of difficulty with ordinary housework and shopping during the observation period.

interRAI HC items used to calculate the Functional Hierarchy Scale	Score for Ms. E
ADL Self-Performance Hierarchy Scale (0–6)	2
IADL Capacity Hierarchy Scale (0–6)	2

Using the diagram below, note how Ms. E's Functional Hierarchy Scale score is determined:

ADL Self-Performance Hierarchy Scale	0							1							2							3	4	5	6		
IADL Capacity Hierarchy Scale	0	1	2	3	4	5	6	0	1	2	3	4	5	6	0	1	2	3	4	5	6	Any					
Functional Hierarchy Scale	0	1	2	3	3	4	5	1	1	2	5	5	5	7	2	2	6	6	6	6	7	8	9	10	11		

Source
Adapted with permission from interRAI Canada.

interRAI Pressure Ulcer Risk Scale

The interRAI Pressure Ulcer Risk Scale (interRAI PURS) identifies persons at various levels of risk for developing a pressure ulcer with the objective of targeting risk factors for prevention. The interRAI PURS scores range from 0 to 8, with higher values reflecting a higher relative risk of developing a new pressure ulcer.

As an output from an interRAI assessment, the PURS eliminates duplicated effort required for separate pressure ulcer risk scoring.

The following interRAI PURS descriptors help users interpret the scoring values.

Descriptor	interRAI PURS score
Very low	0
Low	1–2
Moderate	3
High	4–5
Very high	6–8

7 items are used to calculate the interRAI PURS:

- Walking
- Bed mobility
- Bowel Continence
- Dyspnea
- Frequency with which person complains or shows evidence of pain
- Weight loss of 5% or more in last 30 days or 10% or more in last 180 days
- Prior Pressure Ulcer

Example

The vignette below is an example of a person whose interRAI PURS score is **5 out of 8**.

Since being diagnosed with bone cancer 6 months ago, Mr. M has lost 8.2 kg (10% of his weight). Even with regular administration of analgesics, he reported having back pain every morning when he woke up. His caregiver noticed that he was short of breath in the past 3 days when he walked around the house. Mr. M no longer has a pressure ulcer; it healed 2 months ago.

interRAI HC items used to calculate the interRAI PURS	Coding for Mr. M	Conditions	Score
Walking (G2e)	0	If coded 4, 5, 6 or 8, count 1	—
Bed mobility (G2i)	0	If coded 4, 5, 6 or 8, count 1	—
Bowel Continence (H3)	0	If coded 3, 4, 5 or 8, count 1	—
Dyspnea (J3)	2	If coded 2 or 3, count 1	Count 1
Frequency with which person complains or shows evidence of pain (J5a)	3	If coded 3, count 1	Count 1
Weight loss of 5% or more in last 30 days or 10% or more in last 180 days (K2a)	1	If coded 1, count 1	Count 1
Prior Pressure Ulcer (L2)	1	If coded 1, count 2	Count 2
Score			**5 out of 8**

Pain Scale

The Pain Scale summarizes the presence and intensity of pain. Higher scores indicate more severe pain.

Frequency and intensity of pain are coded according to the highest level of pain over the last 3 days. Pain Scale scores range from 0 to 4.

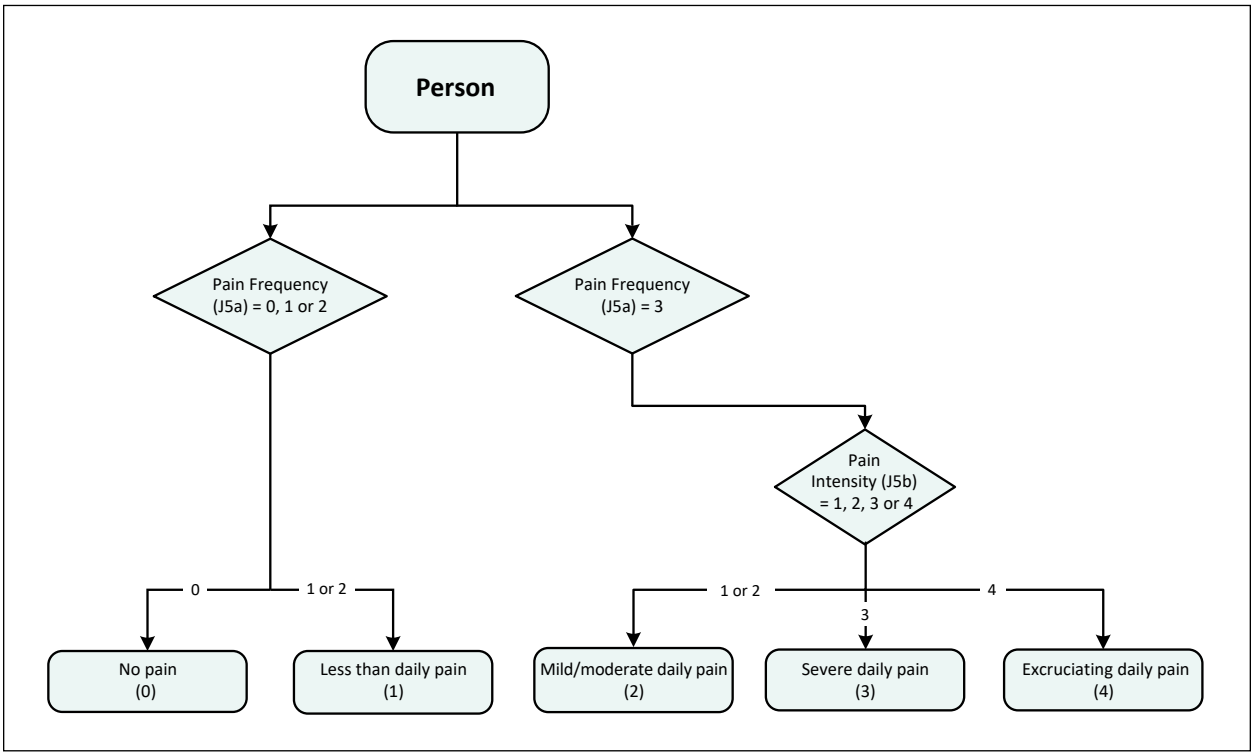
Coding frequency of pain

- Code 0 = No pain
- Code 1 = Present but not exhibited in last 3 days
- Code 2 = Exhibited on 1–2 of last 3 days
- Code 3 = Exhibited daily in last 3 days

Coding intensity of pain

- Code 0 = No pain
- Code 1 = Mild
- Code 2 = Moderate
- Code 3 = Severe
- Code 4 = Times when pain is horrible or excruciating

The following decision tree illustrates how the Pain Scale score is determined. Note that if J5a (Pain frequency) is coded 0, 1 or 2, pain intensity is not used to calculate the Pain Scale.



Source

Adapted from Fries BE, Simon SE, Morris JN, Flodstrom C, Bookstein FL. Pain in U.S. nursing homes: Validating a pain scale for the Minimum Data Set. *Gerontologist*. 2001.

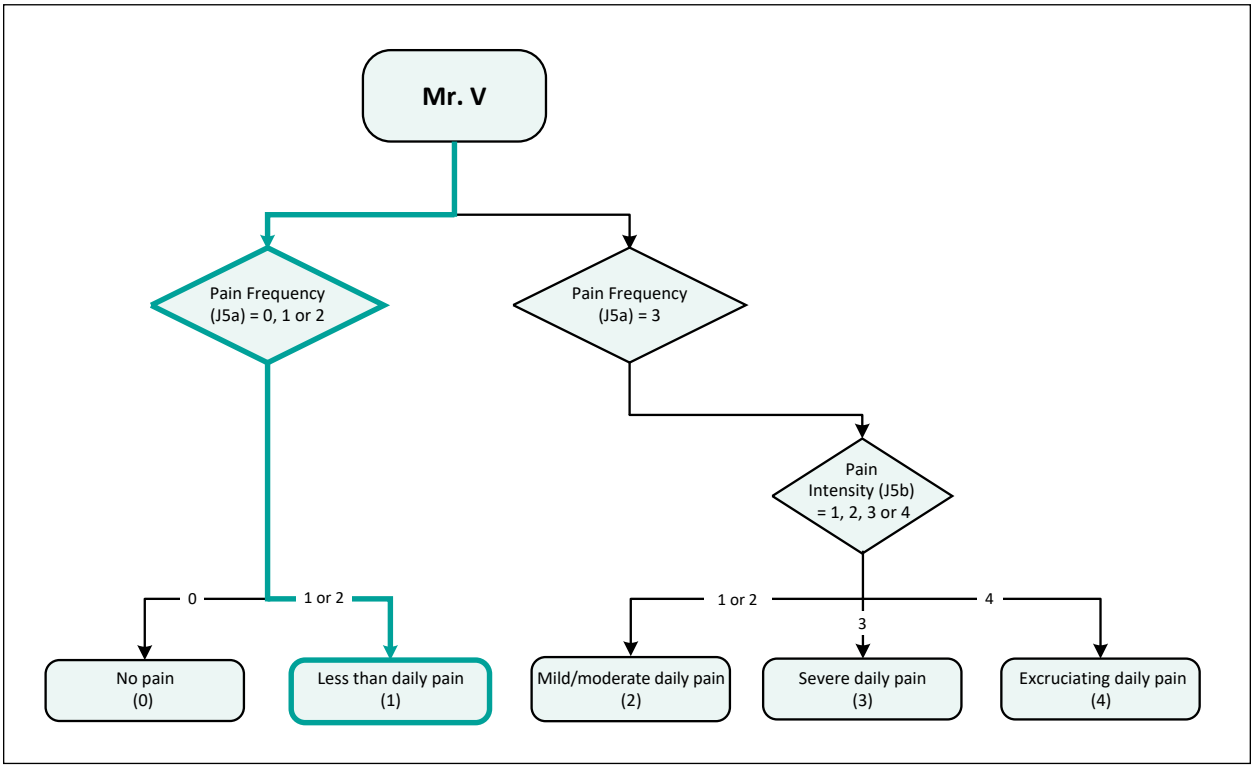
Example

The vignette below is an example of a person whose Pain Scale score is **1 out of 4**.

Mr. V complained of chest pain on 2 of the last 3 days. When asked to describe his pain, he said it was not horrible like the week before, so he would describe it as moderate pain.

interRAI HC items used to calculate the Pain Scale	Coding for Mr. V
Frequency with which person complains or shows evidence of pain (J5a)	2
Intensity of highest level of pain present (J5b)	2

Using the decision tree below, note how Mr. V's Pain Scale score is calculated as **1 out of 4**.



Source

Adapted from Fries BE, Simon SE, Morris JN, Flodstrom C, Bookstein FL. Pain in U.S. nursing homes: Validating a pain scale for the Minimum Data Set. *Gerontologist*. 2001.

Screening algorithms

Caregiver Risk Evaluation Algorithm

The Caregiver Risk Evaluation (CaRE) Algorithm is a decision-support tool that can be used to assess the level of risk for caregiver burden in home care. Identifying caregivers who are most at risk and linking them with the necessary supports and services could help them to continue providing care and reduce the person's risk of being placed in long-term care.

The CaRE Algorithm score ranges from 1 to 4. Higher scores indicate higher risk of experiencing caregiver burden.

The level assigned is determined using a range of criteria. A caregiver may fall into a given risk level via numerous pathways that represent different combinations of these criteria.

Benefits

Clinical

- Helps with the development of care plans
- Identifies families that may be in need of additional care and services
- Ensures at-risk caregivers receive support early on, so they may continue to provide care
- Guides monitoring frequency and intensity of caregiver burden
- Reduces or eliminates the need for additional caregiver assessments

Organizational

- Promotes consistent decisions among home care staff
- Supports evidence-informed resource allocation

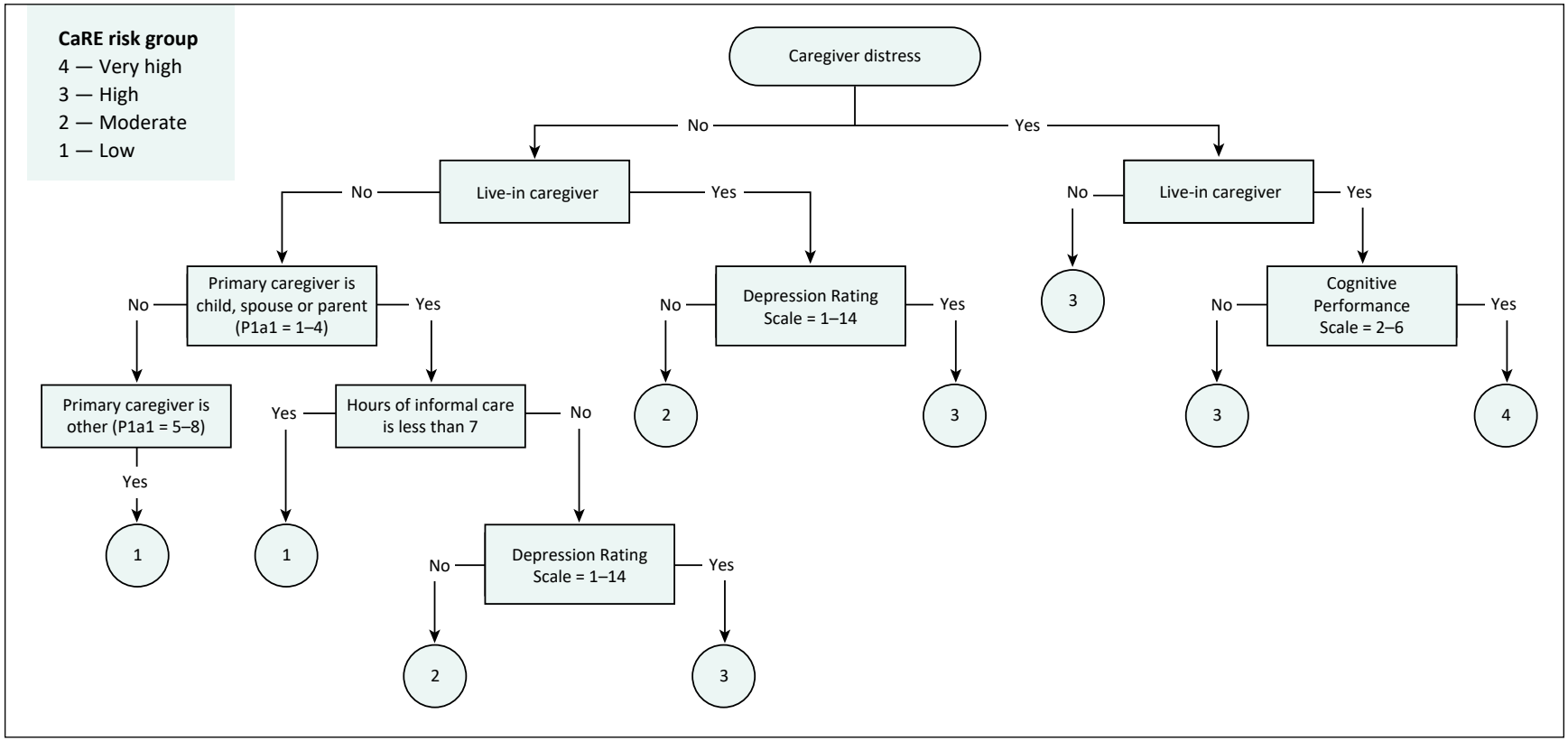
Criteria used to calculate the CaRE score*

- Informal helper 1 relationship to person (P1a1)
- Informal helper 1 lives with person (P1b1)
- Informal helper 1 expresses feelings of distress, anger or depression (P2b)
- Hours of informal care and active monitoring during the last 3 days (P3)
- Cognitive Performance Scale
- Depression Rating Scale

Note

* Cannot be calculated for assessments completed in hospital settings as P3 is not collected in hospital.

Caregiver Risk Evaluation Algorithm (CaRE)



Source

Adapted from Guthrie DM, et al. Development and validation of Caregiver Risk Evaluation (CaRE): A new algorithm to screen for caregiver burden. *Journal of Applied Gerontology*. 2020.

Crisis Identification and Situational Improvement Strategies

The Crisis Identification and Situational Improvement Strategies (CRISIS) algorithm categorizes a person based on their likelihood of being placed in a long-term care facility within 90 days of assessment.

CRISIS is a 2-step process where a person is categorized into 7 distinct clinical groups and then, based on their attributes from the interRAI HC assessment, they are assigned a level of risk (between 1 and 5) for immediate placement in a long-term care facility.

The level assigned is determined using a range of criteria. A person may fall into a given risk level via a number of pathways that represent different combinations of these criteria.

Benefits

Clinical

- Identifies those requiring placement on basis of their needs and circumstances

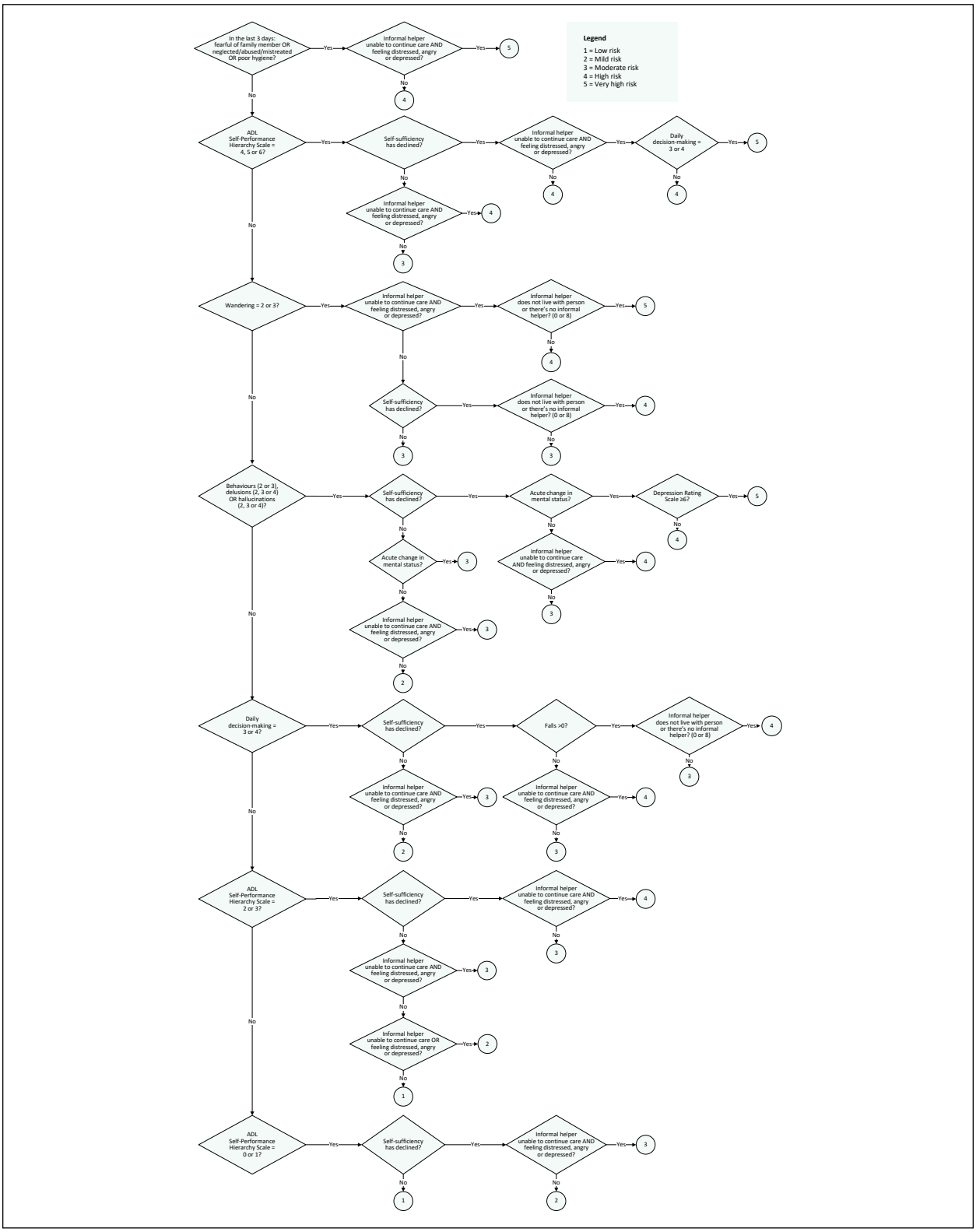
Organizational

- Promotes consistent decisions among home care staff
- Supports evidence-informed resource allocation

Criteria used to calculate the CRISIS score

- Cognitive skills for daily decision making (C1)
- Acute change in mental status from person's usual functioning (C4)
- Behaviour Symptoms (E3) (wandering, verbal abuse, physical abuse, socially inappropriate or disruptive behaviour, resists care)
- Fearful of a family member or close acquaintance (F1e)
- Neglected, abused or mistreated (F1f)
- Delusions (J2h)
- Hallucinations (J2i)
- Hygiene (J2t)
- Informal helper lives with person (P1b)
- Informal helper(s) is unable to continue in caring activities (P2a)
- Primary informal helper expresses feelings of distress, anger, or depression (P2b)
- Overall self-sufficiency has changed significantly as compared to 90 days ago (R2)
- Falls Frequency (J1a or J1b ≥1)
- ADL Self-Performance Hierarchy Scale
- Depression Rating Scale

Crisis Identification and Situational Improvement Strategies (CRISIS)



Source
Adapted with permission from interRAI Canada.

Detection of Indicators and Vulnerabilities for Emergency Room Trips Scale

The Detection of Indicators and Vulnerabilities for Emergency Room Trips (DIVERT) Scale is a decision-support tool that identifies a person's likelihood of future unplanned emergency department (ED) visits.

The DIVERT assigns 1 of 6 risk levels to each home care person based on information from the interRAI HC assessment. The level assigned is determined using a range of criteria. A person may fall into a given risk level via a number of pathways that represent different combinations of these criteria.

Benefits

Clinical

- Identifies those at risk for an ED visit
- Can assist with the development of plans of care based on the DIVERT score
- Guides monitoring frequency and intensity

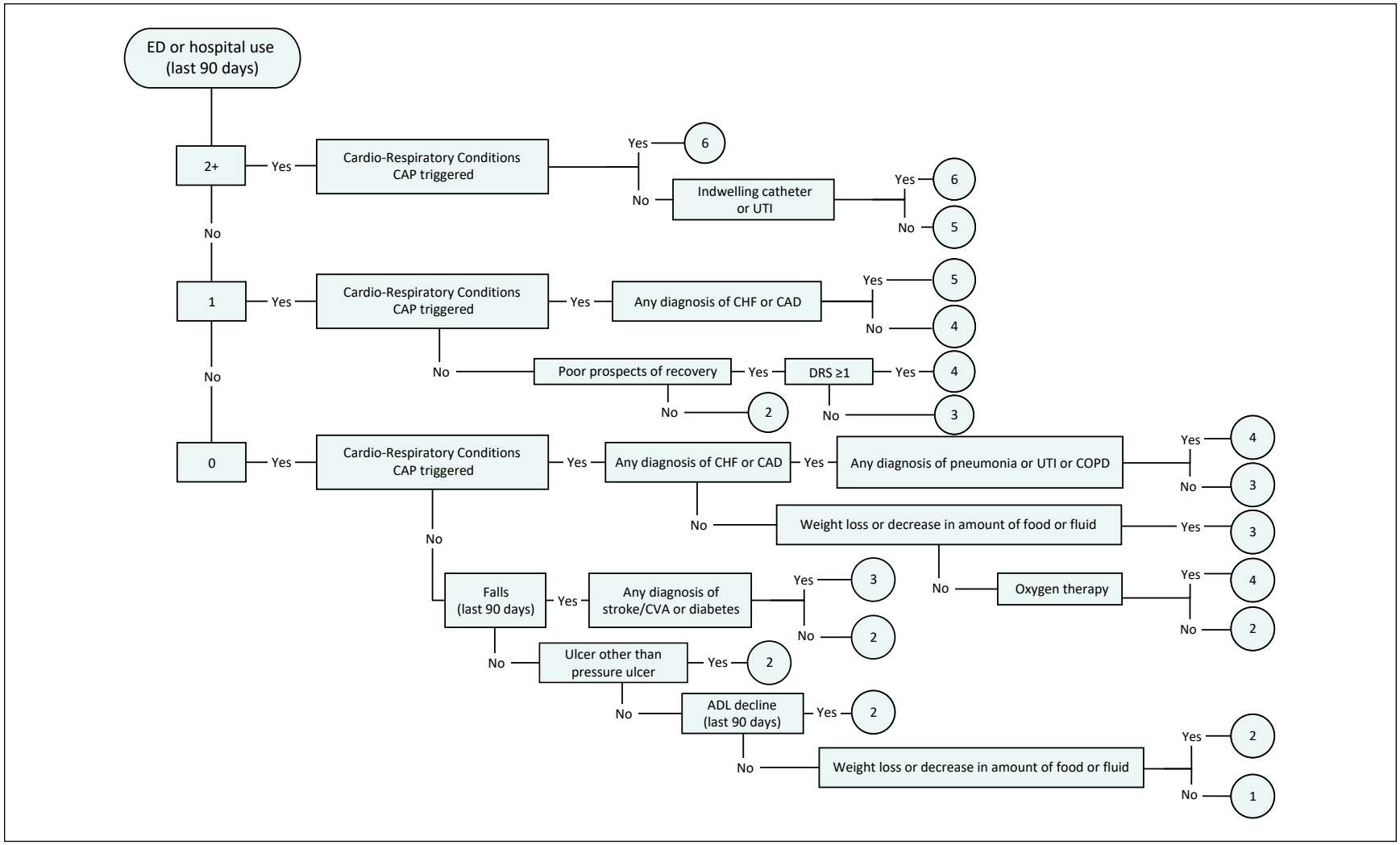
Organizational

- Promotes consistent decisions among home care staff
- Supports evidence-informed resource allocation

Criteria used to calculate the DIVERT score

- Physical Function Improvement Potential — Care professional (G5b)
- Change in ADL Status as compared to 90 days ago (G6)
- Urinary collection device (H2)
- Diseases: Stroke/CVA (I1j) / Coronary heart disease (I1k) / Chronic obstructive pulmonary disease (I1l) / Congestive heart failure (I1m) / Pneumonia (I1r) / Urinary tract infection in last 30 days (I1s) / Diabetes mellitus (I1u)
- Weight loss of 5% or more in last 30 days, or 10% or more in last 180 days (K2a)
- Decrease in amount of food or fluid usually consumed (K2e)
- Skin ulcer other than pressure ulcer (L3)
- Oxygen therapy (N2e)
- ED/Hospital use (N4a, N4b)
- Falls Frequency (J1a or J1b ≥1)
- Depression Rating Scale
- Cardio-Respiratory Conditions CAP
  - Dizziness (J2c)
  - Chest pain (J2e)
  - Dyspnea (J3)

Detection of Indicators and Vulnerabilities for Emergency Room Trips (DIVERT) Scale



Source

Adapted from Costa AP, et al. Derivation and validation of the detection of indicators and vulnerabilities for emergency room trips scale for classifying the risk of emergency department use in frail community-dwelling older adults. *Journal of the American Geriatrics Society*. April 2015.

Method for Assigning Priority Levels

The Method for Assigning Priority Levels (MAPLe) is a decision-support tool that can be used to prioritize those needing community- or facility-based services and to help plan the allocation of resources. It is a powerful predictor of admission to residential care and may indicate caregiver distress.

The MAPLe assigns 1 of 5 priority levels to each home care person based on information from the interRAI HC assessment. The level assigned is determined by considering a broad range of criteria. A person may fall into a given priority level via a number of pathways that represent different combinations of these criteria/risk factors.

Benefits

Clinical

- Assists the person, caregivers and staff to plan care that best meets the needs of the person
- Identifies those who may be at risk of admission to hospital or long-term care
- Supports monitoring of person outcomes
- Guides planning of reassessment frequency

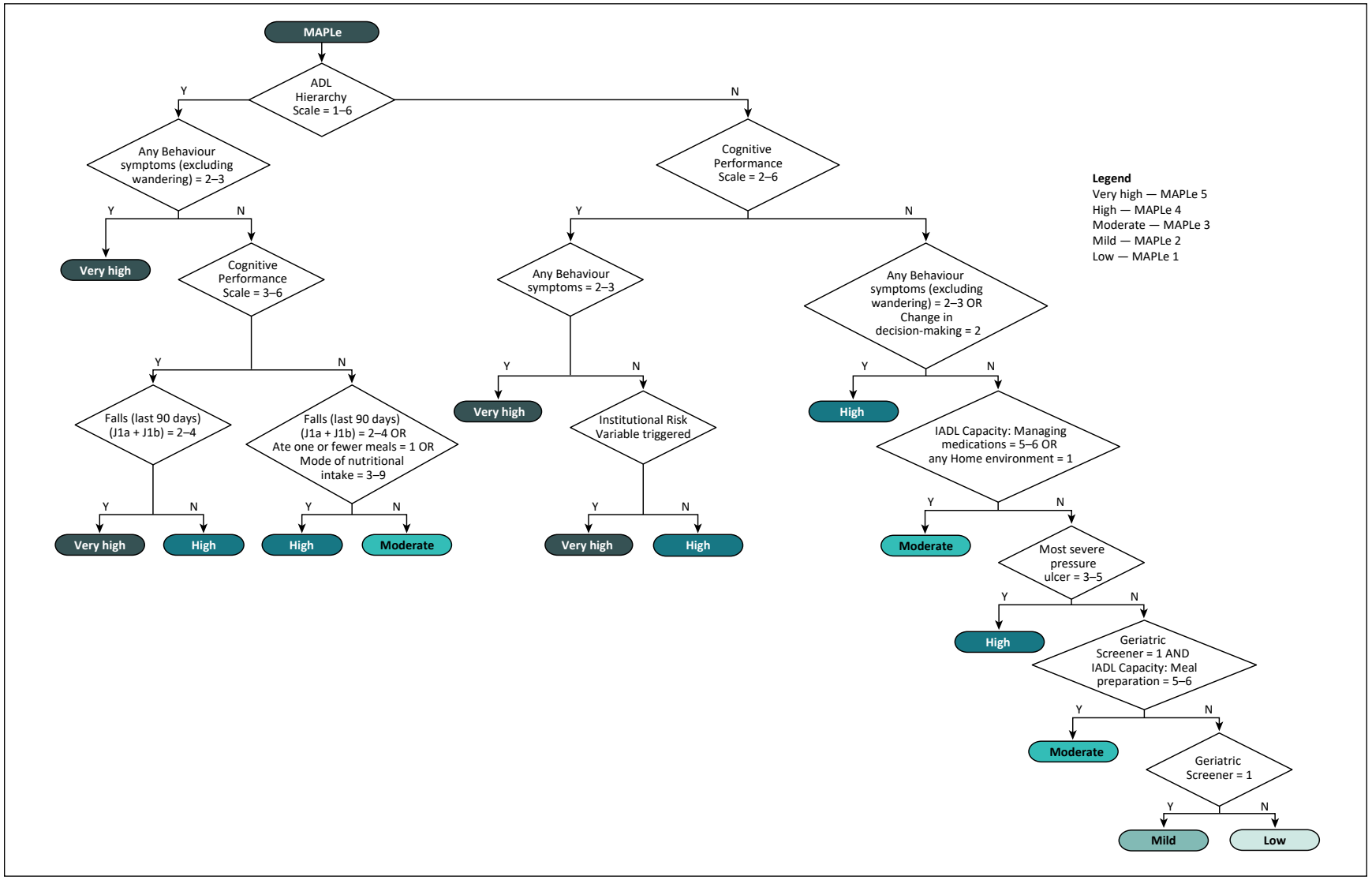
Organizational

- Promotes consistent decisions among home care staff through standardized information on the person's needs
- Supports evidence-informed resource allocation
- Enables benchmarking by allowing comparisons of similar populations
- Provides a comparable profile of populations across jurisdictions

Criteria used to calculate MAPLe levels

- Change in decision-making as compared to 90 days ago (C5)
- Behaviour (E3) (wandering, verbal abuse, physical abuse, socially inappropriate, inappropriate sexual behaviour and/or resists care)
- Meal preparation — capacity (G1aC)
- Managing medications — capacity (G1dC)
- Mode of nutritional intake (K3)
- Most severe pressure ulcer (L1)
- Home environment (Q1) (disrepair, squalid, heating/cooling, personal safety and/or access to home/rooms)
- Falls (last 90 days) (J1a and J1b)
- Ate one or fewer meals (K2f)
- ADL Self-Performance Hierarchy Scale
- Cognitive Performance Scale
- Institutional Risk Variable
  - Residential history last 5 years (B4)
  - Acute change in mental status (C4)
  - IADL Self-Performance: Meal preparation (G1a), Shopping (G1g)
  - ADL Self-Performance: Bathing (G2a), Personal hygiene (G2b), Dressing upper body (G2c), Dressing lower body (G2d)
  - Number of days went out of house or building (G4b)
  - Bladder continence (H1)
  - Alzheimer's disease (I1c), Dementia other than Alzheimer's disease (I1d), Multiple sclerosis (I1f)
  - Overall self-sufficiency has changed significantly (R2)
- Geriatric Screener
  - Cognitive skills for daily decision-making (C1)
  - IADL Capacity: Meal preparation (G1aC), Ordinary housework (G1bC), Transportation (G1hC)
  - ADL Self-Performance: Bathing (G2a), Personal hygiene (G2b)
  - Total hours of exercise or physical activity (G4a)

Method for Assigning Priority Levels (MAPLe)



Source

Hirdes JP, Poss JW, Curtin-Telegdi N. The Method for Assigning Priority Levels (MAPLe): A new decision-support system for allocating home care resources. *BMC Medicine*. 2008.

Personal Support Algorithm

The Personal Support (PS) Algorithm is a decision-support tool that can be used to prioritize those needing community-based services and to prioritize the allocation ofresources. It provides a framework for allocating personal support services.

The PS Algorithm score ranges from 1 to 6. Higher scores indicate greater need for personal support care. Regardless of the exact attributes used, all persons who fall into the same group have a similar need for personal support services.

Benefits

Clinical

- Can identify attributes that contribute to personal support received
- Can help with the development of care plans

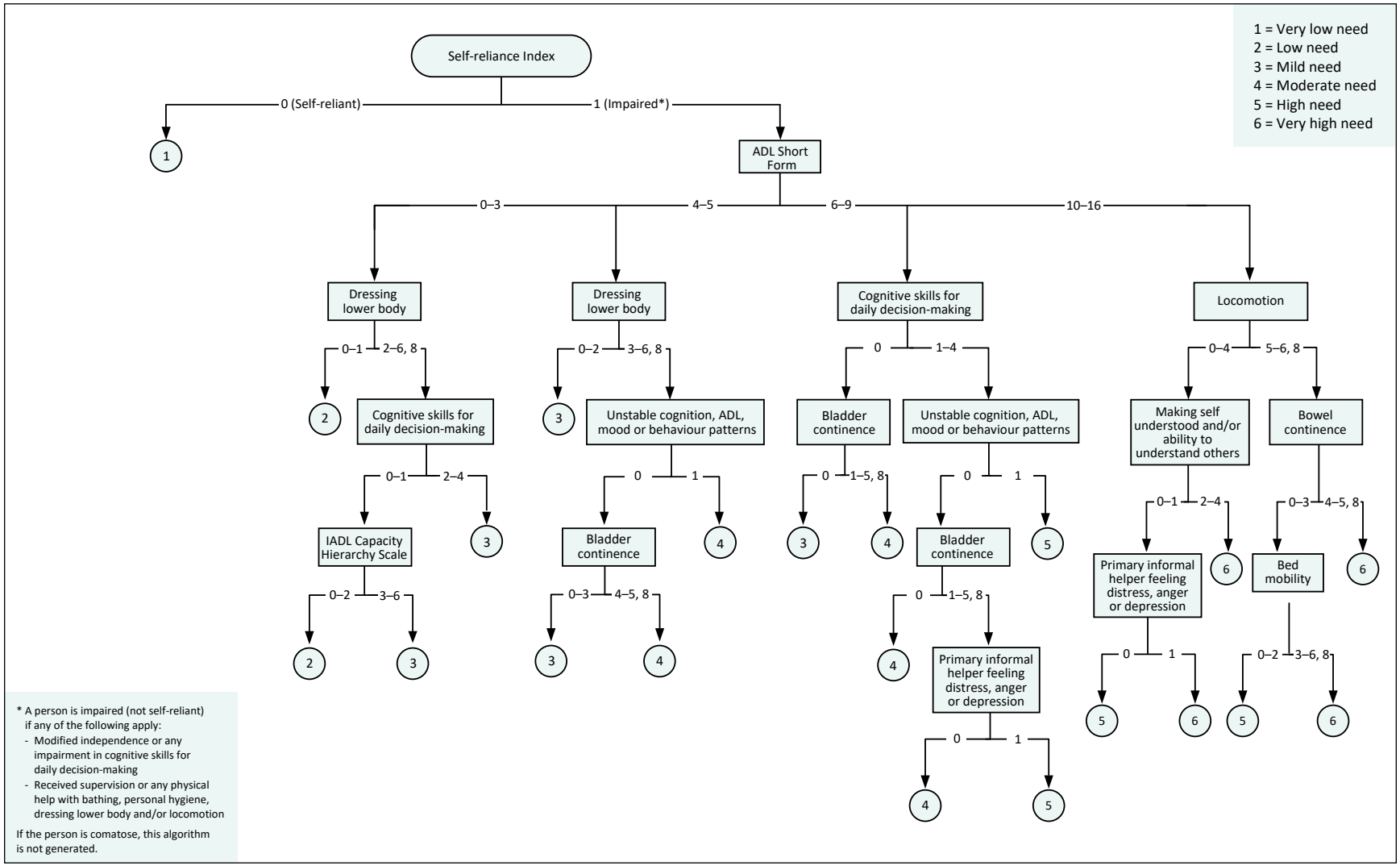
Organizational

- Promotes consistent decisions among home care staff
- Supports evidence-informed personal support resource allocation

Criteria used to calculate the PS Algorithm score

- Cognitive skills for daily decision-making (C1)
- Making self understood (expression) (D1)
- Ability to understand others (comprehension) (D2)
- Bathing (G2a)
- Personal hygiene (G2b)
- Dressing lower body (G2d)
- Locomotion (G2f)
- Bed mobility (G2i)
- Bladder continence (H1)
- Bowel continence (H3)
- Conditions/diseases make cognitive, ADL, mood or behaviour patterns unstable (J6a)
- Primary informal helper expresses feelings of distress, anger or depression (P2b)
- ADL Short Form Scale
- IADL Capacity Hierarchy Scale
- Self-reliance Index
  - Daily Decision-Making (C1)
  - ADL Bathing — performance (G2a)
  - ADL Personal hygiene — performance (G2b)
  - ADL Dressing lower body — performance (G2d)
  - ADL Locomotion — performance (G2f)

Personal Support (PS) Algorithm



Source

Adapted from Sinn CJ, et al. Derivation and validation of the Personal Support Algorithm: An evidence-based framework to inform allocation of personal support services in home and community care. *BMC Health Services Research*. November 2017.

Vulnerable Persons at Risk Scale

The Vulnerable Persons at Risk (VPR) Scale identifies persons receiving home care most in need of support during emergencies and disasters.

The VPR Scale scores range from 0 to 2, with higher scores indicating a higher risk of vulnerability.

Benefits

- Contributes to rapid identification and response to vulnerable persons at home during an emergency
- Prioritizes resources during a disaster
- Supports emergency planning and recovery efforts
- Promotes consistent decisions among home care staff
- Supports evidence-informed resource allocation

Criteria used to calculate the VPR Scale score*

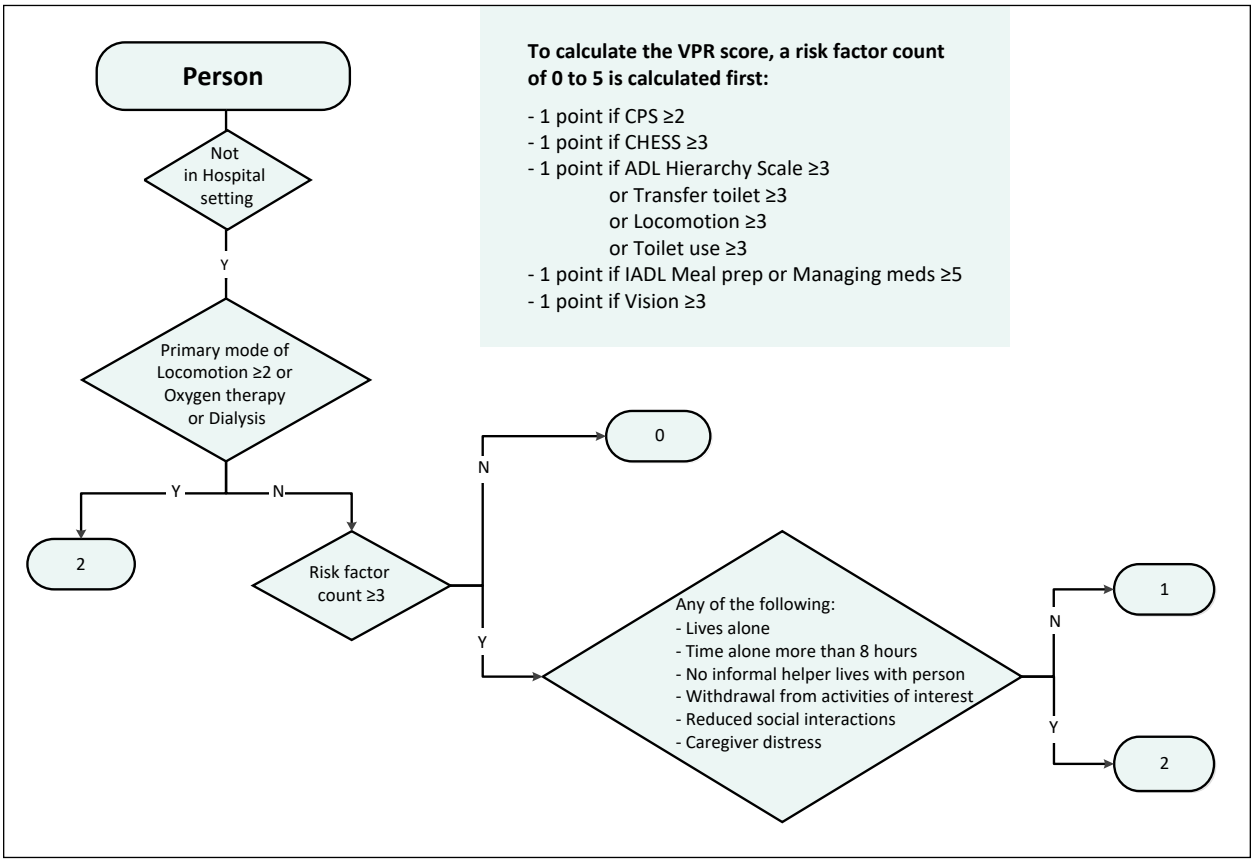
- Living arrangement (A14a)
- Vision (D4)
- Withdrawal from activities of interest (E1i)
- Reduced social interactions (E1j)
- Time alone (F4)
- Lives with person (P1b)
- Informal helper unable to continue in caring activities (P2a)
- Primary informal helper feelings of distress, anger or depression (P2b)
- Meal preparation — capacity (G1a)
- Managing medications — capacity (G1d)
- Transfer toilet — performance (G2g)
- Locomotion — performance (G2f)
- Toilet use — performance (G2h)
- Primary mode of locomotion indoors (G3a)

- Oxygen therapy (N2e)
- Dialysis (N2b)
- ADL Self-Performance Hierarchy Scale
- Cognitive Performance Scale
- Changes in Health, End-Stage Disease and Signs and Symptoms Scale

Note

* Cannot be calculated for assessments completed in hospital settings as F4 is not collected in hospital.

Vulnerable Persons at Risk (VPR) Scale



Note

* VPR Scale score cannot be calculated for assessments completed in hospital settings as F4 is not collected in hospital.

Source

Canadian Institute for Health Information.

Usage of outcome scales and screening algorithms

The outcome scales and screening algorithms can be used to evaluate a person's current clinical status and assist in developing person-centred care plans. Outcome scales and screening algorithms will be available in Home Care Reporting System (HCRS) eReports and may be used to trend your home care organization's information over time and to compare with peers and the province/territory. When used at an aggregate level, the scales and algorithms provide information for quality improvement initiatives, program planning and resource allocation.

The outcome scales and screening algorithms can also be used to measure the functional status of groups of people and overall care complexity, and to prioritize those needing community-based services and allocation of resources. For example, a manager may look at how many people on their home care program have a DIVERT score of 3 or higher to better understand the population the program is serving. They may use this information to identify ED risk among home care clients and to plan caseloads. Reviewing outcome scale scores over time allows managers to track improvements and deteriorations in conditions, and helps them determine the effectiveness of care plans, thus providing evidence-based information for program planning. For example, a manager who observes an increase in the number of persons with interRAI PURS scores of 3 or higher over a period of time might use this information to determine quality initiatives for the following fiscal year.

Used in conjunction with other interRAI HC clinical outputs, such as the interRAI CAPs, quality indicators and Resource Utilization Groups, outcome scales and screening algorithms offer clinicians, managers, policy-makers and researchers rich information about persons receiving home care in Canada, with the goal of improving quality of life and quality of care.

cihi.ca

86756-0126