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**CASE-MIX CLASSIFICATION WORKBOOK
WEST VIRGINIA DEPARTMENT OF
HEALTH AND HUMAN RESOURCES
BUREAU FOR MEDICAL SERVICES**

**STEP-BY-STEP PROCEDURES FOR
MANUALLY DETERMINING A RESIDENT'S CASE-MIX
CLASS
USING THE MDS 3.0 ASSESSMENT**

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I. HOW TO USE THE CASE-MIX CLASSIFICATION WORKBOOK

This workbook is designed to allow facilities to manually determine a resident's case-mix class using the MDS 3.0 assessment form. Location of each item on the MDS 3.0 is given in parentheses.

II. OVERVIEW OF THE CASE-MIX CLASSIFICATION WORKBOOK

Below is a brief overview of the steps required to determine a resident's case-mix class using the MDS 3.0 assessment form:

STEP 1: Calculate the Activities of Daily Living (ADL) Index Score for each resident:

The ADL Index Score is calculated from responses in the self-performance and support provided columns of Section G of the MDS 3.0. The ADL categories used to calculate the index score are Bed Mobility, Transfer, Toileting and Eating.

STEP 2: Place each resident into a RUG III Hierarchical Group and Case-Mix Class:

Based on clinical factors reported on the MDS 3.0, each resident is placed in one of nine RUG III Hierarchical Groups. These groups are ordered from highest to lowest as follows:

- I. High Intensity Rehabilitation
- II. Medium Intensity Rehabilitation
- III. Low Intensity Rehabilitation
- IV. Extensive Care
- V. Special Care
- VI. Clinically Complex
- VII. Impaired Cognition
- VIII. Challenging Behavior
- IX. Reduced Physical Functions

Residents begin at Group I and are checked for inclusion in each successive Hierarchical Group. Within each group, residents are placed in one of 29 case-mix classes based on their ADL Index Score (calculated in Step 1). A complete listing of the 9 Hierarchical Groups and the 29 case-mix classes can be found in Appendix A.

NOTE: RESIDENTS MAY QUALIFY FOR ONLY ONE HIERARCHICAL GROUP AND ONE CASE-MIX CLASS WITHIN THAT GROUP.

Class assignment for the Extensive Care Hierarchical Group is based on clinical treatments received rather than ADL Index Score.

All references to Sections and numbers of the MDS 3.0 must be documented on the MDS 3.0 Quarterly Assessment Form.

STEP 1: CALCULATE THE ADL INDEX SCORE

To calculate the ADL Index Score, self-performance and support provided responses for Bed Mobility, Transfer, Toileting and Eating in Section G of the MDS 3.0 will be converted into ADL Index Scores by the following procedure:

A. BED MOBILITY ADL SCORE:

Find the Bed Mobility self-performance and support provided responses in Section G0110(A1) and G0110(A2), respectively, of the MDS 3.0 and write them here:

Bed Mobility Self-Performance _____

Bed Mobility Support Provided _____

This step converts these responses to an ADL score based on one of the following statements:

If the self-performance response is 8, the support provided response must be 8, mark "1" on this line. _____

If the self-performance response is 0, 1 or 7, mark "1" on this line. _____

If the self-performance response is 2, mark "3" on this line. _____

If the self-performance is 3 or 4, AND the support provided response is 0, 1 or 2, mark "4" on this line. _____

If the self-performance is 3 or 4, AND the support provided response is 3, mark "5" on this line. _____

Transfer the **ONE** number written on the above five lines to Line A.

This is the resident's **BED MOBILITY ADL SCORE**. (Line A) _____

B. TRANSFER ADL SCORE

Find the Transfer self-performance and support provided responses in Section G0110(B1) and G0110(B2), respectively, of the MDS 3.0 and write them here:

Transfer Self-Performance _____

Transfer Support Provided _____

This step converts these responses to an ADL score based on one of the following statements:

If the self-performance response is 8, the support provided response must be 8, mark "1" on this line. _____

If the self-performance response is 0, 1 or 7, mark "1" on this line. _____

If the self-performance response is 2, mark "3" on this line. _____

If the self-performance response is 3 or 4, AND the support provided response is 0, 1 or 2, mark "4" on this line. _____

If the self-performance response is 3 or 4, AND the support provided response is 3, mark "5" on this line. _____

Transfer the **ONE** number written on the above five lines to Line B.
This is the resident's **TRANSFER ADL SCORE**. (Line B) _____

C. TOILETING ADL SCORE

Find the Toileting self-performance and support provided responses in Section G0110(I1) and G0110(I2), respectively, of the MDS 3.0 and write them here:

Toileting Self-Performance _____

Toileting Support Provided _____

This step converts these responses to an ADL score based on one of the following statements:

If the self-performance response is 8, the support provided response must be 8, mark "1" on this line. _____

If the self-performance response is 0, 1 or 7, mark "1" on this line. _____

If the self-performance response is 2, mark "3" on this line. _____

If the self-performance response is 3 or 4, AND the support provided response is 0, 1 or 2, mark "4" on this line. _____

If the self-performance response is 3 or 4, AND the support provided response is 3, mark "5" on this line. _____

Transfer the **ONE** number written on the above five lines to Line C.
This is the resident's **TOILETING ADL SCORE**. (Line C) _____

D. EATING ADL SCORE

Find the Eating self-performance response in Section G0110(H1) of the MDS 3.0 and write it below. Also determine if the resident receives Parenteral/IV Feeding or Feeding Tube by looking at responses to K0510(A1) and K0510(A2) for Parenteral/IV and K0510(B1) and K0510(B2) for Feeding Tube on the MDS 3.0.

Eating Self-Performance _____

This step converts this response to an ADL score based on one of the following statements:

If the self-performance response is 8, AND K0510(A1), K0510(A2), K0510(B1) and K0510(B2) are NOT checked, mark "1" on this line. _____

If the self-performance response is 0, 1 or 7, AND K0510(A1), K0510(A2), K0510(B1) and K0510(B2) are NOT checked, mark "1" on this line. _____

If the self-performance response is 2, AND K0510(A1), K0510(A2), K0510(B1) and K0510(B2) are NOT checked, mark "2" on this line. _____

If the self-performance response is 3 or 4, AND K0510(A1), K0510(A2), K0510(B1) and K0510(B2) are NOT checked, mark "3" on this line. _____

If the self-performance response is 0, 1, 2, 3, 4, 7 or 8, AND K0510(A1), K0510(A2), K0510(B1) or K0510(B2) are checked, mark "3" on this line. _____

Transfer the ONE number written on the above four lines to Line D. This is the resident's EATING ADL SCORE. (Line D) _____

E. ADL INDEX SCORE

From Steps A-D above, write the ADL scores as follows:

Bed Mobility ADL Score (Line A) _____

Transfer ADL Score (Line B) _____

Toileting ADL Score (Line C) _____

Eating ADL Score (Line D) _____

Sum these four lines (Lines A-D) to get the resident's ADL INDEX SCORE _____

This ADL Index Score will be used in Step 2 to determine a resident's case-mix class within a hierarchical group.

STEP 2: DETERMINE THE RESIDENT’S RUG III HIERARCHICAL GROUP AND CASE-MIX CLASS

The next step after calculating the ADL Index Score is to determine the resident's Hierarchical Group and Case-Mix Class.

Each resident is placed into **ONLY ONE** of West Virginia's 29 case-mix classes. The classes are ordered from heavy care (e.g., Class 1 or 10) to light care (e.g., Class 29). Residents are placed into the highest class for which they qualify. **(AS SOON AS A RESIDENT IS PLACED IN A CLASS, STOP)**.

Before proceeding to the following hierarchical groups, identify if the MDS 3.0 identifies the presence of Parenteral/IV Feeding (K0510(A1)/K0510(A2)), Suctioning (O0100(D1)/O0100(D2)) **AND** Tracheostomy Care (O0100(E1)/O0100(E2)). If these three conditions are present and the ADL score is equal to or greater than 7, go directly to Special Care Group, IV, Extensive Care Classes. If all three conditions are applicable, the case-mix class is Class 10 (Extensive Special Care 3). **STOP**.

REHABILITATION GROUP

On the MDS 3.0, Section O0400, enter the total number of minutes of rehabilitation therapy a resident receives individually, concurrently and as part of a group in the last 7 days. Enter the total number of days of rehabilitation therapy a resident receives in the last 7 days. Rehabilitation therapy includes speech-language pathology, occupational and physical therapy.

Sum down columns A and B to determine the total number of days and the total number of minutes the resident received therapy.

	Column A	Column B
	Therapy Days	Therapy Minutes
Speech-Language	O0400(A4)	Sum of O0400(A1), O0400(A2),O0400(A3)
Occupational Therapy	O0400(B4)	Sum of O0400(B1), O0400(B2),O0400(B3)
Physical Therapy	O0400(C4)	Sum of O0400(C1), O0400(C2),O0400(C3)
TOTAL		

I. HIGH INTENSITY REHABILITATION CLASSES

Based on the previous calculations, check if the following three statements are true:

1. Total therapy minutes are 300 or more _____
2. The resident received at least ONE type of therapy for 5 or more days, (i.e. S-TOTAL OR O-TOTAL OR P-TOTAL is 5 or 6 or 7) _____
3. The resident received at least 2 of the 3 therapy types (regardless of the number of days or number of minutes it was received) _____

If **ALL 3** of the above statements are true and the resident's ADL Index Score is 15-18, the resident is in case-mix **Class 1 (High Intensity Rehabilitation D)**.

If **ALL 3** of the above statements are true and the resident's ADL Index Score is 12-14, the resident is in case-mix **Class 2 (High Intensity Rehabilitation C)**.

If **ALL 3** of the above statements are true and the resident's ADL Index Score is 8-11, the resident is in case-mix **Class 3 (High Intensity Rehabilitation B)**.

If **ALL 3** of the above statements are true and the resident's ADL Index Score is 4-7, the resident is in case-mix **Class 4 (High Intensity Rehabilitation A)**.

IF THE RESIDENT IS PLACED IN ONE OF THE ABOVE CLASSES 1-4, STOP. IF THE RESIDENT WAS NOT PLACED, CONTINUE TO SECTION II.

II. MEDIUM INTENSITY REHABILITATION CLASSES

Based on the previous calculations, check if the following two statements are true:

1. Total therapy minutes are 150 or more _____
2. The resident's total days of therapy received (from total of O0400(A4), O0400(B4) and O0400(C4)) is 5 or more _____

If **BOTH** of the above statements are true and the resident's ADL Index Score is 16-18, the resident is in case-mix **Class 5 (Medium Intensity Rehabilitation C)**.

If **BOTH** of the above statements are true and the resident's ADL Index Score is 8-15, the resident is in case-mix **Class 6 (Medium Intensity Rehabilitation B)**.

If **BOTH** of the above statements are true and the resident's ADL Index Score is 4-7, the resident is in case-mix **Class 7 (Medium Intensity Rehabilitation A)**.

IF THE RESIDENT IS PLACED IN ONE OF THE ABOVE CLASSES 5-7, STOP. IF THE RESIDENT WAS NOT PLACED, CONTINUE TO SECTION III.

III. LOW INTENSITY REHABILITATION CLASSES

Based on the previous calculations, check if any of the following are true:

1. Total therapy minutes are 45 or more _____
2. The resident's total days of therapy received (from total of O0400(A4), O0400(B4) and O0400(C4)) is 3 or more _____
3. Any TWO of the following nursing rehabilitation activities is coded 5, 6 or 7 on the MDS 3.0, Section O0500. Check which activities are coded 5, 6 or 7:
Range of Motion (Passive) (O0500(A)) _____
Range of Motion (Active) (O0500(B)) _____
Splint or Brace Assistance (O0500(C)) _____
Training in Bed Mobility (O0500(D)) _____
Training in Transfer (O0500(E)) _____
Training in Walking (O0500(F)) _____
Training in Dressing and/or Grooming (O0500(G)) _____
Training in Eating and/or Swallowing (O0500(H)) _____
Training in Amputation/Prostheses Care (O0500(I)) _____
Training in Communication (O0500(J)) _____

If **ALL 3** of the above statements are true and the resident's ADL Index Score is 12-18, the resident is in case-mix **Class 8 (Low Intensity Rehabilitation B)**.

If **ALL 3** of the above statements are true and the resident's ADL Index Score is 4-11, the resident is in case-mix **Class 9 (Low Intensity Rehabilitation A)**.

IF THE RESIDENT IS PLACED IN ONE OF THE ABOVE CLASSES 8-9, STOP. IF THE RESIDENT WAS NOT PLACED, CONTINUE TO SECTION IV.

SPECIAL CARE GROUP

IV. EXTENSIVE CARE CLASSES

To qualify for this group, residents must have an ADL Index Score of 7 or more. If a resident receives any of the following 3 treatments or exhibits any of the 10 conditions listed under V. SPECIAL CARE CLASSES but has an ADL Index Score of less than 7, **STOP. SKIP** this section and go to VI. CLINICALLY COMPLEX.

On the MDS 3.0, determine if the following items are checked, indicating that the resident receives any or all of the following 3 treatments:

1. Parenteral/IV Feeding (K0510(A1) or K0510(A2)) _____
2. Suctioning (O0100(D1) or O0100(D2)) _____
3. Tracheostomy Care (O0100(E1) or O0100(E2)) _____

If the resident received **ALL 3** of the above treatments and has an ADL Index Score of 7 or more, the resident is in case-mix **Class 10 (Extensive Special Care 3)**.

If the resident received **ANY 2** of the above treatments and has an ADL Index Score of 7 or more, the resident is in case-mix **Class 11 (Extensive Special Care 2)**.

If the resident received **ANY 1** of the above treatments and has an ADL Index Score of 7 or more, the resident is in case-mix **Class 12 (Extensive Special Care 1)**.

IF THE RESIDENT IS PLACED IN ONE OF THE ABOVE CLASSES 10-12, STOP. IF THE RESIDENT WAS NOT PLACED, CONTINUE TO SECTION V.

V. SPECIAL CARE CLASSES

On the MDS 3.0, determine if any of the following items are checked, indicating that the resident exhibits one or more of the following 10 conditions:

- 1. Second or third-degree burns (M1040(F)) _____
- 2. Coma (B0100) _____
- 3. Fever (J1550(A)), combined with any or all of the following: vomiting (J1550(B)), or weight loss (K0300), or pneumonia (I2000) or dehydration (J1550(C)) _____
- 4. Multiple sclerosis (MS) (I5200) _____
- 5. Pressure ulcers at stage 3 or 4 M0300(C1) or M0300(D1) OR the following three unstageable ulcers, if present, M0300(E1) or M0300(F1) or M0300(G1) _____
- 6. Quadriplegia (I5100) _____
- 7. Septicemia (I2100) _____
- 8. IV Medications (O0100(H1) or O0100(H2)) _____
- 9. Radiation (O0100(B1) or O0100(B2)) _____
- 10. Feeding Tube (K0510(B1) or K0510(B2)) _____

If the resident has **ANY** of the above 10 conditions and an ADL Index Score of 17-18, the resident is in case-mix **Class 13 (Special Care C)**.

If the resident has **ANY** of the above 10 conditions and an ADL Index Score of 14-16, the resident is in case-mix **Class 14 (Special Care B)**.

If the resident has **ANY** of the above 10 conditions and an ADL Index Score of 7-13, the resident is in case-mix **Class 15 (Special Care A)**.

IF THE RESIDENT IS PLACED IN ONE OF THE ABOVE CLASSES 13-15, STOP. IF THE RESIDENT WAS NOT PLACED, CONTINUE TO SECTION VI.

CLINICALLY COMPLEX GROUP

VI. CLINICALLY COMPLEX CLASSES

Residents who have any of the conditions or treatments required for the SPECIAL CARE group, but who's ADL Index Score is less than 7, are placed in Clinically Complex Class B or A.

On the MDS 3.0, determine if any of the following items are checked, indicating that the resident exhibits one or more of the following 14 conditions:

1. Aphasia (I4300) _____
2. Cerebral Palsy (I4400) _____
3. Hemiplegia or Hemiparesis (I4900) _____
4. Pneumonia (I2000) _____
5. Venous and arterial ulcer (M1030) _____
6. Prognosis (J1400) _____
7. Chemotherapy (O0100(A1) or O0100(A2)) _____
8. Dialysis (O0100(J1) or O0100(J2)) _____
9. Physician examinations (O0600) (2 or more visits) _____
10. Respiratory therapy (O0400(D2)) (5 or more days) _____
11. Oxygen therapy (O0100(C1) or O0100(C2)) _____
12. Open lesions other than ulcers, rashes, cuts (M1040(D)) **and** application of non-surgical dressings (M1200(G)) _____
13. Surgical wounds (M1040(E)) **and** surgical wound dressing (M1200(F)) _____
14. Infection of the foot (M1040(A)), or open lesions on the foot (M1040(C)) or diabetic foot ulcer (M1040(B)), **and** application of dressings to feet (M1200(I)) _____

If a resident has **ANY** of the above 14 conditions and an ADL Index Score of 17-18, the resident is in case-mix **Class 16 (Clinically Complex D)**.

If a resident has **ANY** of the above 14 conditions and an ADL Index Score of 11-16, the resident is in case-mix **Class 17 (Clinically Complex C)**.

If a resident has **ANY** of the above 14 conditions OR any of the 3 treatments or 10 conditions listed under SPECIAL CARE and an ADL Index Score of 6-10, the resident is in case-mix **Class 18 (Clinically Complex B)**.

If a resident has **ANY** of the above 14 conditions OR any of the 3 treatments or 10 conditions listed under SPECIAL CARE and an ADL Index Score of 4-5, the resident is in case-mix **Class 19 (Clinically Complex A)**.

IF THE RESIDENT IS PLACED IN ONE OF THE ABOVE CLASSES 16-19, STOP. IF THE RESIDENT WAS NOT PLACED, CONTINUE TO SECTION VII.

IMPAIRED COGNITION AND/OR CHALLENGING BEHAVIOR GROUP

VII. IMPAIRED COGNITION CLASSES

Step 1. If a resident has an ADL Index Score of 12 or greater, the resident will not qualify for the Impaired Cognition or Challenging Behavior Group. **SKIP** this section and go to Section IX. Reduced Physical Functions.

If a resident has an ADL Index Score of 11 or less, go to Step 2.

Step 2. If C0100 = 1, complete the Brief Interview for Mental Status (BIMS) section of the MDS 3.0. If C0500 is 0-15, **SKIP** the remainder of this Step and go to Section VIII. Challenging Behavior. If the resident exhibits any of the five behaviors, complete the algorithm and place the resident in the applicable case-mix class and **STOP**. If the resident does not exhibit any of the five behaviors, return to Section VII. Impaired Cognition and complete Step 3.

If C0100 = 0 OR C0500 = 99 or is blank or a dash value, then answer the following three questions:

From the MDS 3.0, determine if any of the following statements are true, indicating that the resident exhibits one or more of the following conditions:

1. Short-term memory (C0700) is coded "1" indicating memory problems _____
2. One or more memory/recall items (C0900(A-D)) are not checked, or "NONE OF ABOVE" (C0900(Z)) is checked _____
3. Cognitive skills for daily decision making (C1000) is coded 1, 2 or 3 _____

If a resident has **ANY** of the above three conditions, go to Section VIII. Challenging Behavior. If the resident exhibits any of the five behaviors, complete the algorithm and place the resident in the applicable case-mix class and **STOP**. If the resident does not exhibit any of the five behaviors, return to Section VII. Impaired Cognition and complete Step 3.

REDUCED PHYSICAL FUNCTIONS GROUP

IX. REDUCED PHYSICAL FUNCTIONS CLASSES

All residents that have not been placed in another case-mix class are placed in the case-mix class REDUCED PHYSICAL FUNCTIONS.

Also, residents who exhibit characteristics described in the IMPAIRED COGNITION or CHALLENGING BEHAVIOR Group but have an ADL Index Score greater than 11 are placed in Reduced Physical Functions classes based on their ADL Index Score.

If the ADL Index Score is 16-18, the resident is in case-mix **Class 25 (Reduced Physical Functions E)**.

If the ADL Index Score is 11-15, the resident is in case-mix **Class 26 (Reduced Physical Functions D)**.

If the ADL Index Score is 9-10, the resident is in case-mix **Class 27 (Reduced Physical Functions C)**.

If the ADL Index Score is 6-8, the resident is in case-mix **Class 28 (Reduced Physical Functions B)**.

If the ADL Index Score is 4-5, the resident is in case-mix **Class 29 (Reduced Physical Functions A)**.

ALL RESIDENTS SHOULD BE PLACED IN A CASE-MIX CLASS BY THIS POINT.

III. APPENDICES

APPENDIX A

HIERARCHICAL GROUP	ADL INDEX SCORE	CASE-MIX CLASS	CLASS DESCRIPTION
I. HIGH INTENSITY REHABILITATION	15-18	01	HIGH INTENSITY REHABILITATION D
	12-14	02	HIGH INTENSITY REHABILITATION C
	8-11	03	HIGH INTENSITY REHABILITATION B
	4-7	04	HIGH INTENSITY REHABILITATION A
II. MEDIUM INTENSITY REHABILITATION	16-18	05	MEDIUM INTENSITY REHABILITATION C
	8-15	06	MEDIUM INTENSITY REHABILITATION B
	4-7	07	MEDIUM INTENSITY REHABILITATION A
III. LOW INTENSITY REHABILITATION	12-18	08	LOW INTENSITY REHABILITATION B
	4-11	09	LOW INTENSITY REHABILITATION A
IV. EXTENSIVE CARE	3 TREAT	10	EXTENSIVE SPECIAL CARE 3
	2 TREAT	11	EXTENSIVE SPECIAL CARE 2
	1 TREAT	12	EXTENSIVE SPECIAL CARE 1
V. SPECIAL CARE	17-18	13	SPECIAL SPECIAL CARE C
	14-16	14	SPECIAL SPECIAL CARE B
	7-13	15	SPECIAL SPECIAL CARE A
VI. CLINICALLY COMPLEX	17-18	16	CLINICALLY COMPLEX D
	11-16	17	CLINICALLY COMPLEX C
	6-10	18	CLINICALLY COMPLEX B
	4-5	19	CLINICALLY COMPLEX A
VII. IMPAIRED COGNITION	6-11	20	IMPAIRED COGNITION B
	4-5	21	IMPAIRED COGNITION A
VIII. CHALLENGING BEHAVIOR	6-11	22	CHALLENGING BEHAVIORS B
	4-5	23	CHALLENGING BEHAVIORS A
	N/A	24	ATYPICAL SEV. CHALLENGING BEHAVIORS
IX. REDUCED PHYSICAL FUNCTIONS	16-18	25	REDUCED PHYSICAL FUNCTIONS E
	11-15	26	REDUCED PHYSICAL FUNCTIONS D
	9-10	27	REDUCED PHYSICAL FUNCTIONS C
	6-8	28	REDUCED PHYSICAL FUNCTIONS B
	4-5	29	REDUCED PHYSICAL FUNCTIONS A