

Annex 4. Decision Logic

READ ME

- Much of the decision-support logic included here is based on WHO's *Training Course on Child Growth Assessment* (2008a), FANTA's *Guide to Anthropometry: A Practical Tool for Program Planners, Managers, and Implementers* (Cashin and Oot 2018), and other documents mentioned in the **Interventions and Recommendations** section (**main document**). However, you may need to adjust actions and annotations included in these decision-support logic tables to local context. Review them with in-country experts in GMP and nutrition and key stakeholders (policymakers, program managers, and health workers) to ensure that they reflect country policies, protocols, operational guidelines, services, and programs. For example, in-country experts should first assess the categorization of nutritional status and the corresponding decisions about the health worker's response to ensure alignment with local context and policies.
- Adaptations or revisions made to the **Business Process Workflows (Annex 1)** or **Data Dictionary (Annex 2)** may require updating the decision-support logic. Likewise, revisions to these decision-support logic tables may require revisions to the **Business Process Workflows** and the **Data Dictionary** annexes.
- Consider any changes to the DSL carefully because an embedded decision-support system can greatly affect quality of care at the point of care. As helpful as decision-support logic can be to the health worker, incorrect decision-support logic can also be detrimental. Therefore, in-country experts in GMP and nutrition and key stakeholders should review the DSL to ensure that it aligns with country policies, programs, and services. Likewise, in-country experts and key stakeholders should carefully review any new DSL introduced during the software development.
- Some of the annotations include a data element name in brackets (e.g., Child has [Data_element]). This indicates that the data element value should be retrieved and inserted in the sentence.
- Throughout these DSL tables, we have included suggestions for additional information, instruction, or guidance that could be added as desired by in-country experts and key stakeholders. In the annotations column, we indicate where these could be accessed by the health worker with a statement such as, "Read more information on how to set up a hanging scale." We preface the additional text with the header, "FOR POP-UP WINDOW".
- The DSL table template was adapted from WHO's DAKs (WHO 2021c, WHO 2021d, and WHO 2022).

Setup

Decision ID	DT.PR.01		
Business Rule	The application provides the health worker with instructions for setting up the scale based on the type of scale(s) the health worker will be using.		
Trigger	Step 1.2: Select Scale Type		
Reference Document	Cashin and Oot (2018)		
Input (IF)	Output (THEN)	Action	Annotations
“setup_scale” = “setup_hangingscale”	Display annotation	The health worker sets up the hanging scale.	Read more information on how to set up a hanging scale. FOR POP-UP WINDOW: <ol style="list-style-type: none"> 1. Hang the scale by putting a rope through the upper hook of the scale; looping the rope around a post, beam, or branch of a tree; and tying it securely. Make sure the scale is at eye level so you can read the weight correctly, and make sure the scale is not too high from the ground to avoid injury to the child in case of a fall. 2. Adjust the scale to zero with the weighing pants/sling attached.
“setup_scale” = “setup_infant_scale” OR “setup_standingtare_scale” OR “setup_standingnotare_scale”	Display annotation	The health worker sets up the electronic scale.	Read more information on how to set up an electronic scale. FOR POP-UP WINDOW: <ol style="list-style-type: none"> 1. Place the scale on a flat, hard, even (level) surface. 2. Check the scale daily against a known weight. 3. Check tared weight by weighing an object with a known weight, taring the scale, and then adding an object with a second known weight. The second known weight should display. 4. If the weights are not accurate, calibrate the scale, if possible. Otherwise, if the error is consistent (e.g., off by +0.2 kg [200 g] consistently), adjust measurements accordingly (e.g., by subtracting 0.2 kg [200 g]). Monitor the situation because the amount of error may change. If measurements are off by variable amounts, notify the responsible officer to replace the scale.

Decision ID	DT.PR.01		
Business Rule	The application provides the health worker with instructions for setting up the scale based on the type of scale(s) the health worker will be using.		
Trigger	Step 1.2: Select Scale Type		
Reference Document	Cashin and Oot (2018)		
Input (IF)	Output (THEN)	Action	Annotations
“setup_scale” = “setup_beam_scale”	Display annotation	The health worker sets up the beam scale.	Read more information on how to set up a beam scale. FOR POP-UP WINDOW: 1. Place the scale on a hard, flat, even (level) surface. 2. Balance the scale at zero. To do this, move both weights left to zero. If the scale does not balance at the midpoint, adjust the counterweight. 3. Check the scale daily against a known weight. If the weight is not accurate, calibrate the scale, if possible.
“setup_scale” = “setup_beaminfant_scale”	Display annotation	The health worker sets up the beam scale for infants.	Read more information on how to set up a beam scale for infants. FOR POP-UP WINDOW: 1. Place the scale on a hard, flat, even (level) surface. 2. Balance the scale at zero. To do this, move both weights left to zero. If the scale does not balance at the midpoint, adjust the counterweight. 3. Check the scale daily against a known weight. If the weight is not accurate, calibrate the scale, if possible.
“setup_scale” = “setup_na_scale”	The application does not provide scale setup instructions.	The application moves to Step 1.3.	No message to the health worker because this is processed in the backend.

Assessment of Nutritional Status and Growth

Decision ID		DT.GM.01			
Business Rule		The application determines the severity of the child’s bilateral pitting edema and notifies the health worker.			
Trigger		Step 3.2 Assess the Child for Bilateral Pitting Edema			
Reference Document		FANTA (2018)			
Input (IF)		Output (THEN)	Action	Annotations	
"edema_feet" = NO	-	-	"edema_severity" = "no_edema"	The application displays the annotation.	Based on your assessment, the child does not have bilateral pitting edema.
"edema_feet" = YES	"edema_osigns" = "edema_osignsnone"	-	"edema_severity" = "mild_edema"	The health worker explains that the child has mild bilateral pitting edema using the annotation.	Explain to the caregiver that the child has mild bilateral pitting edema, which is a sign of severe wasting or malnutrition. The child will need immediate treatment or referral for treatment, but it is important to assess the child’s growth first.
"edema_feet" = YES	"edema_osigns" = "edema_hands" OR "edema_arms" OR "edema_legs"	"swelling_face" = NO	"edema_severity" = "moderate_edema"	The health worker explains that the child has moderate bilateral pitting edema using the annotation.	Explain to the caregiver that the child has moderate bilateral pitting edema, which is a sign of severe wasting or malnutrition. The child will need immediate treatment or referral for treatment, but it is important to assess the child’s growth first.
"edema_feet" = YES	"edema_osigns" = "edema_hands" OR "edema_arms" OR "edema_legs"	"swelling_face" = YES	"edema_severity" = "severe_edema"	The health worker explains that the child has severe bilateral pitting edema using the annotation.	Explain to the caregiver that the child has severe bilateral pitting edema, which is a sign of severe wasting or malnutrition. The child will need immediate treatment or referral for treatment, but it is important to assess the child’s growth first.

Decision ID	DT.GM.02		
Business Rule	The application determines whether the child needs immediate referral or treatment because of bilateral pitting edema.		
Trigger	3.2 Assess the Child for Bilateral Pitting Edema		
Reference Document	FANTA (2018) See also relevant national policies.		
Input (IF)	Output (THEN)	Action	Annotations
“edema_severity” = “mild_edema” OR “moderate_edema” OR “severe_edema”	“edema_wasting” = “edema_severlywasted”	The application determines that the child is severely wasted based on the presence of bilateral pitting edema.	No message to the health worker because this is processed in the backend for classification purposes.
“edema_severity” = ”no_edema”	“edema_wasting” = “edema_nowasting”	The application determines that the child is not severely wasted based on the presence of bilateral pitting edema.	No message to the health worker because this is processed in the backend for classification purposes.

Decision ID	DT.GM.03		
Business Rule	The application provides the health worker with instructions for weighing the child based on the type of scale that the health worker will use and the child’s ability to stand independently.		
Trigger	Step 3.5: Measure and Record Weight		
Reference Document	Cashin and Oot (2018)		
Input (IF)	Output (THEN)	Action	Annotations
“weight_scale”= “hanging_scale”	-	Display annotation	<p>The health worker weighs the child using the hanging scale and records the child’s weight in the application.</p> <p>Remember to—</p> <ol style="list-style-type: none"> 1. Zero the scale. 2. Undress the child. 3. Ask the caregiver to help with measurement and keeping the child still and calm. <p>Read more information on how to use a hanging scale.</p> <p>FOR POP-UP WINDOW:</p> <ol style="list-style-type: none"> 1. Zero the scale with the weighing pants/sling attached. 2. Ask the caregiver to undress the child (or to help the child

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Business Rule		The application provides the health worker with instructions for weighing the child based on the type of scale that the health worker will use and the child's ability to stand independently.		
Trigger		Step 3.5: Measure and Record Weight		
Reference Document		Cashin and Oot (2018)		
Input (IF)		Output (THEN)	Action	Annotations
				<p>undress) just before weighing, leaving only the child's underpants on to ensure that clothing does not add weight.</p> <ol style="list-style-type: none"> 3. Ask the caregiver to help with measurement by keeping the child still and calm, soothing and comforting the child as needed. Explain to the caregiver that it is important to keep the child still and calm to obtain a good measurement. 4. Remove the weighing pants/sling from the scale. 5. Place the child in the weighing pants/sling with the help of the trained assistant or caregiver and make sure they are secure. If using the weighing pants, ensure that the strap of the pants is in front of the child, with their arms on either side. If using the sling, ensure the child is sitting or lying in the center with both arms in the sling. 6. Lift the child up in the pants/sling carefully with the help of the caregiver—do not carry the child by the straps only—and hold the child securely. 7. Place the strap on the scale's hook and carefully release the child. Allow the child to hang freely on the scale. 8. Check the child's position and ensure that she/he is not touching or holding anything. Have the caregiver ensure the child is secure and still (without touching the child or scale). 9. Stand facing the front of the scale to read the measurement when the child is still and the needle is steady (not fluctuating). 10. Read the weight at eye level. 11. Record the child's weight to the nearest 0.1 kg (100 g). 12. With both hands on the child's body, lift both the child and pants/sling off the hook with the help of the caregiver, and

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Reference Document		Cashin and Oot (2018)		
Input (IF)		Output (THEN)	Action	Annotations
				then remove the child from the pants/sling. Use one arm to lift the child by the body and use the free hand to release the strap of the pants from the hook. Hold the child securely; never carry a child by the straps only.
“weight_scale”= “infant_scale”	-	Display annotation	The health worker weighs the child using the electronic infant scale and records the child’s weight in the application.	<p>Don’t forget to zero the scale.</p> <p>Read more information on how to use a hanging scale.</p> <p>FOR POP-UP WINDOW:</p> <ol style="list-style-type: none"> 1. Zero the scale following the appropriate method for the scale you are using. 2. Gently place the infant on his/her back on the center of the scale pan with the help of the caregiver. Ask the caregiver to help calm and secure the infant if he/she starts crying or moving. 3. Stay close to and observe the infant to ensure he/she does not roll or fall off the scale. 4. When the infant is still and the digital display is no longer changing, record the weight to the nearest 0.01 kg (10 g), if possible.

Decision ID		DT.GM.03		
Business Rule		The application provides the health worker with instructions for weighing the child based on the type of scale that the health worker will use and the child’s ability to stand independently.		
Trigger		Step 3.5: Measure and Record Weight		
Reference Document		Cashin and Oot (2018)		
Input (IF)		Output (THEN)	Action	Annotations
“weight_scale” = “adult_scale_tare” OR “weight_scale” = “adult_scale”	“Stand_independently” = “stand_yes”	Display annotation	The health worker weighs the child who can stand independently using the electronic standing/adult scale and records the child’s weight in the application.	<p>Don’t forget to zero the scale.</p> <p>Read more information on how to use an electronic standing/adult scale when a child can stand independently.</p> <p>FOR POP-UP WINDOW:</p> <ol style="list-style-type: none"> 1. After zeroing the scale, ask the child to step on the center of the scale and stand still. The caregiver should help position the child on the center of the scale and assist in keeping the child calm and still without touching him/her. 2. Wait until the weight displays and remains fixed in the display panel. 3. Record the weight to the nearest 0.1 kg (100 g).
“weight_scale” = “adult_scale_tare”	“Stand_independently” = NO	Display annotation	The health worker weighs the child who cannot stand independently using the electronic standing/adult scale with tare option and records the child’s weight in the application.	<p>Don’t forget to zero the scale.</p> <p>Read more information on how to use an electronic standing/adult scale with the tare option for when a child cannot stand independently.</p> <p>FOR POP-UP WINDOW:</p> <ol style="list-style-type: none"> 1. After zeroing the scale, ask the caregiver to remove her/his shoes. 2. Ask the caregiver to pass the child to you or someone else. 3. Ask the caregiver to step on the center of the scale and stand still. Wait until the weight of the caregiver displays and remains fixed in the display panel. 4. Tare the scale while the caregiver is on it, following the

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Business Rule		The application provides the health worker with instructions for weighing the child based on the type of scale that the health worker will use and the child’s ability to stand independently.		
Trigger		Step 3.5: Measure and Record Weight		
Reference Document		Cashin and Oot (2018)		
Input (IF)		Output (THEN)	Action	Annotations
				<p>appropriate method for that scale. Wait until the scale reads 0.0.</p> <ol style="list-style-type: none"> Place the child in the caregiver’s arms and ask the caregiver to remain still. The caregiver should try to calm the child and prevent him/her from moving. The child's weight should appear. Wait until the weight displays and remains fixed in the display panel. Record the weight to the nearest 0.01 kg (10 g) for infants (children under one year old), if possible, and to the nearest 0.1 kg (100 g) for all other age groups.
“weight_scale” = “adult_scale”	“Stand_inde pendently” = NO	Display annotation	The health worker weighs the caregiver and then the caregiver AND child who cannot stand independently using the electronic standing/adult scale without tare. The health worker records the weight of the caregiver and the weight of the caregiver	<p>Don’t forget to zero the scale.</p> <p>Read more information on how to use an electronic standing/adult scale without the tare option for when a child cannot stand independently.</p> <p>FOR POP-UP WINDOW:</p> <ol style="list-style-type: none"> After zeroing the scale, ask the caregiver to remove his/her shoes. Ask the caregiver to pass the child to you or someone else. Ask the caregiver to step on the center of the scale and to stand still. Wait until the weight displays and remains fixed in the display panel. Record the weight of the caregiver to the nearest 0.01 kg (10 g) if the child is an infant (children under 1 year old), if possible, or to the nearest 0.1 kg (100 g) for all other age

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Trigger		Step 3.5: Measure and Record Weight		
Reference Document		Cashin and Oot (2018)		
Input (IF)		Output (THEN)	Action	Annotations
			AND child in the application. Then the application subtracts the weight of the caregiver from the combined weight of the caregiver AND child to determine the child's weight.	<p>groups. <i>[app to provide space for parent_weight]</i></p> <ol style="list-style-type: none"> Place the child in the caregiver's arms and ask the parent/caregiver to remain still. The caregiver should try to calm the child and prevent him/her from moving. Wait until the weight displays and remains fixed in the display panel. Record the weight of the caregiver AND the child to the nearest 0.01 kg (10 g) for infants (children under one year old), if possible, and 0.1 kg (100 g) for all other age groups. The application will subtract the weight of the caregiver from the combined weight of the caregiver AND child to determine the child's weight.
"weight_scale"="beam_infant"	"Stand_independently" = NO	Display annotation	The health worker weighs the child using the beam infant scale and records the child's weight in the application.	<p>Don't forget to balance the scale at zero.</p> <p>Read more information on how to use a beam infant scale when the child cannot stand independently.</p> <p>FOR POP-UP WINDOW:</p> <ol style="list-style-type: none"> After balancing the scale at zero, gently place the infant on his/her back on the center of the scale pan with the help of the caregiver, who should help calm and secure the infant if he/she starts crying or moving. Stay close to and observe the infant to ensure he/she does not roll or fall off the scale. Move the larger weight to the right until the indicator arrow drops below the center. Move the larger weight back to the left one segment to move

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Business Rule		The application provides the health worker with instructions for weighing the child based on the type of scale that the health worker will use and the child’s ability to stand independently.		
Trigger		Step 3.5: Measure and Record Weight		
Reference Document		Cashin and Oot (2018)		
Input (IF)		Output (THEN)	Action	Annotations
				<p>the indicator arrow slightly above the midpoint.</p> <ol style="list-style-type: none"> 5. Move the smaller weight to the right until the indicator arrow points directly at the midpoint. 6. When the infant is still and the indicator arrow steadily points at the midpoint, record the weight to the nearest 0.01 kg (10 g), if possible.
“weight_scale” = “beam_scale”	“Stand_inde pendently” = YES	Display annotation	The health worker weighs the child who can stand independently using the beam scale and records the child’s weight in the application.	<p>Don’t forget to balance the scale at zero.</p> <p>Read more information on how to use a beam scale when a child can stand independently.</p> <p>FOR POP-UP WINDOW:</p> <ol style="list-style-type: none"> 1. After balancing the scale at zero, ask the child to step on the center of the scale and stand still. The caregiver should help position the child on the center of the scale and assist in keeping the child calm and still, without touching him/her. 2. Move the larger weight to the right until the indicator arrow drops below the center. 3. Move the larger weight back to the left one segment to move the indicator arrow slightly above the midpoint. 4. Move the smaller weight to the right until the indicator arrow points directly at the midpoint. 5. When the child is still and the indicator arrow steadily points at the midpoint, record the weight to the nearest 0.1 kg (100 g).

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Business Rule		The application provides the health worker with instructions for weighing the child based on the type of scale that the health worker will use and the child’s ability to stand independently.		
Trigger		Step 3.5: Measure and Record Weight		
Reference Document		Cashin and Oot (2018)		
Input (IF)		Output (THEN)	Action	Annotations
“weight_scale” = “beam_scale”	“Stand_independently” = “stand_no”	Display annotation	The health worker weighs the caregiver and then the caregiver AND child who cannot stand independently using the beam scale. The health worker records the weight of the caregiver and the weight of the caregiver AND child in the application. Then the application subtracts the weight of the caregiver from the combined weight of the caregiver AND child to determine the child’s weight.	<p>Don’t forget to balance the scale at zero.</p> <p>Read more information on how to use a beam scale when the child cannot stand independently.</p> <p>FOR POP-UP WINDOW:</p> <ol style="list-style-type: none"> 1. After balancing the scale at zero, ask the caregiver to remove his/her shoes. 2. Ask the caregiver to pass the child to you or someone else. 3. Ask the caregiver to step on the center of the scale and stand still. Wait until the weight displays and remains fixed in the display panel. 4. Record the weight of the caregiver to the nearest 0.01 kg (10 g) if the child is an infant (children under one year old), if possible, or to the nearest 0.1 kg (100 g) for all other age groups. 5. Place the child in the caregiver’s arms and ask the caregiver to remain still. The caregiver should try to calm the child and prevent him/her from moving. Wait until the weight displays and remains fixed in the display panel. 6. Record the weight of the caregiver AND child together to the nearest 0.01 kg (10 g) for infants (children under one year old), if possible, and 0.1 kg (100 g) for all other age groups. 7. The application will subtract the weight of the caregiver from the combined weight of the caregiver AND child to determine the child’s weight.

Decision ID		DT.GM.04		
Business Rule		The application provides the health worker with instructions for measuring the height/length of the child based on the type of measurement instrument the health worker will use and the child's age.		
Trigger		Step 3.6: Measure and Record Height/Length		
Reference Document		FANTA (2018)		
Input (IF)		Output (THEN)	Action	Annotations
"hl_measure"= "height_board"	"child_age" < 2.0	Display annotation	The health worker measures the child's height using the height board and records the child's height in the application. The application converts the height to length by adding 0.7 cm to the height.	<p>If you will be using the height board for a child under two years old, the application will convert the child's height to a length by adding 0.7 cm to the height.</p> <p>Read more information on how to measure the child's height using the height board.</p> <p>FOR POP-UP WINDOW:</p> <ol style="list-style-type: none"> 1. Show the measuring board to the child and/or the caregiver and explain that you will use the board to measure the child's height. 2. Inform the caregiver that you may need her/his help. 3. Ask the caregiver to remove the child's shoes and anything on his/her head or hair, such as a hat or hair ornament, which may interfere with the height/length measurement. 4. Ask the caregiver to place the child on the board. 5. Kneel on the left side of the child, with the caregiver kneeling on the child's right. 6. Determine whether the child's heel should be against or away from the back of the measuring board by drawing an imaginary line from the tip of the shoulder to the heel (called the "mid-axillary line"). This line should be perpendicular (90°) to the base of the measuring board where the child is standing. 7. Lift the child's chin so his/her eyes look straight ahead. Make sure the child's line of sight (i.e., the Frankfort plane) is parallel to the ground and perpendicular (90°) to the back of the measuring board. Squat in front of the child at

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Trigger		Step 3.6: Measure and Record Height/Length		
Reference Document		FANTA (2018)		
Input (IF)		Output (THEN)	Action	Annotations
				<p>eye level and gently hold her/his head in position.</p> <ol style="list-style-type: none"> 8. Make sure the child's knees and feet are in one of those correct positions. The first position a child assumes is generally the correct position for measuring that child's height, as long as either the knees or the feet are touching each other. 9. With the help of the caregiver, ensure that— <ol style="list-style-type: none"> a. The child's arms hang down at his/her sides and the shoulders are level. b. The child's weight is distributed evenly on both feet. c. The child's buttocks touch the back of the board. 10. For most children who are underweight or normal weight, the back of the head, shoulder blades, calves, and heels will touch the back of the measuring board. For heavy or obese children, the shoulder blades and back of the calves will probably not touch the back of the measuring board, and the back of the head and heels also might not touch it. 11. Check the child's position and readjust, as necessary. For children who have difficulty standing fully straight, gently pushing the stomach can help them stand straight. 12. Gently and firmly slide the measuring board's moveable headpiece down until it touches the crown of the child's head (compressing the hair). 13. Record the child's height in centimeters to the last completed 0.1 cm. This is the last line that you can actually see. 14. Remove the headpiece from the child's head, and gently help him/her get off the board.

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Trigger		Step 3.6: Measure and Record Height/Length		
Reference Document		FANTA (2018)		
Input (IF)		Output (THEN)	Action	Annotations
				15. Because the child is under two years of age, the application will add 0.7 cm to convert the height to length.
“hl_measure” = “height_board”	“child_age” ≥ 2.0	Display annotation	The health worker measures the child's height using the height board and records the child's height in the application.	<p>Read more information on how to measure the child's height using the height board.</p> <p>FOR POP-UP WINDOW:</p> <ol style="list-style-type: none"> 1. Show the measuring board to the child and/or the caregiver and explain that you will use the board to measure the child's height. 2. Inform the caregiver that you may need her/his help. 3. Ask the caregiver to remove the child's shoes and anything on his/her head or hair, such as a hat or hair ornament, which may interfere with the height/length measurement. 4. Ask the caregiver to place the child on the board. 5. Kneel on the left side of the child, with the caregiver kneeling on the child's right. 6. Determine whether the child's heel should be against or away from the back of the measuring board by drawing an imaginary line from the tip of the shoulder to the heel (called the “mid-axillary line”). This line should be perpendicular (90°) to the base of the measuring board where the child is standing. 7. Lift the child's chin so that her/his eyes look straight ahead. Make sure that the child's line of sight (i.e., the Frankfort plane) is parallel to the ground and perpendicular (90°) to the back of the measuring board. Squat in front of the child

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Trigger		Step 3.6: Measure and Record Height/Length		
Reference Document		FANTA (2018)		
Input (IF)		Output (THEN)	Action	Annotations
				<p>at eye level and gently hold her/his head in position.</p> <ol style="list-style-type: none"> 8. Make sure that the child's knees and feet are in one of those correct positions. The first position a child assumes is generally the correct position for measuring that child's height, as long as either the knees or the feet are touching each other. 9. With the help of the caregiver, ensure that— <ol style="list-style-type: none"> a. The child's arms hang down at his/her sides and shoulders are level. b. The child's weight is distributed evenly on both feet. c. The child's buttocks touch the back of the board. 10. For most children who are underweight or normal weight, the back of the head, shoulder blades, calves, and heels will touch the back of the measuring board. For heavy or obese children, the shoulder blades and back of the calves will probably not touch the back of the measuring board, and the back of the head and heels also might not touch it. 11. Check the child's position and readjust, as necessary. For children who have difficulty standing fully straight, gently pushing the stomach can help them stand straight. 12. Gently and firmly slide the measuring board's moveable headpiece down until it touches the crown of the child's head (compresses the hair). 13. Record the child's height in centimeters to the last completed 0.1 cm. This is the last line that you can actually see. 14. Remove the headpiece from the child's head, and gently help him/her get off the board.

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Trigger		Step 3.6: Measure and Record Height/Length		
Reference Document		FANTA (2018)		
Input (IF)		Output (THEN)	Action	Annotations
"hl_measure"= "length_board"	"child_age" ≥ 2.0	Display annotation	The health worker measures the child's length using the length board and records the child's height in the application. Then the application converts the length to height by subtracting 0.7 cm from the length.	<p>If you will be using the length board for a child two years old or older, the application will convert the child's height to a length by subtracting 0.7 cm from the length.</p> <p>Read more information on how to measure the child's length using the length board.</p> <p>FOR POP-UP WINDOW:</p> <ol style="list-style-type: none"> 1. Show the length board to the child and the caregiver and explain that you will use the board to measure the child's length. 2. Inform the caregiver that you may need his/her help. 3. Ask the caregiver to remove the child's shoes and anything on her/his head or hair, such as a hat or hair ornament, which may interfere with the length measurement. 4. Make sure the surface of the length board is clean before placing the child on it. 5. If the length board is on the ground or floor, kneel on the right side of the bottom of the board (where the child's feet will be) so you can hold the footboard with your right hand. Ask the caregiver to kneel with both knees behind the base of the board (where the child's head will be). 6. Ask the caregiver to lower the child gently onto the board and to support the back of the child's head with their hands. 7. Place the child's head against the base of the length board so that the child is looking straight up. Ask the caregiver to gently cup their hands over the child's ears, with arms

Decision ID		DT.GM.04		
Business Rule		The application provides the health worker with instructions for measuring the height/length of the child based on the type of measurement instrument the health worker will use and the child's age.		
Trigger		Step 3.6: Measure and Record Height/Length		
Reference Document		FANTA (2018)		
Input (IF)		Output (THEN)	Action	Annotations
				<p>straight, and then place the child's head in the correct position, with the top of the child's head touching the base of the length board. The head of the caregiver should be directly over the child's head.</p> <p>8. The child's shoulders should touch the length board and the spine should not arch. The child's line of sight (i.e., the Frankfort plane) should be perpendicular (90°) to the ground so that they are looking straight up.</p> <p>9. Make sure the child is lying flat in the center of the length board and then place the child's knees and feet in the correct position. Generally, when a child lies down, their knees and feet will be in one of those correct positions, with the knees or the feet touching each other. The first position the child assumes is generally the correct position for measuring the child's length, as long as either the knees or the feet are touching.</p> <p>10. Place your left hand on the child's knees and press down gently but firmly against the length board to straighten the legs as much as possible without injuring the child. Your hand should be flat; do not wrap your hand around the knees or squeeze them together. Be very careful not to press too hard because it may not be possible to straighten the knees of very frail children.</p> <p>11. Check the child's position and make any necessary readjustments. When the child's position is correct, move the footboard firmly against her/his heels. Make sure that the soles of the feet are flat against the footboard with toes pointing upward. If the child bends her/his foot or</p>

Decision ID		DT.GM.04		
Business Rule		The application provides the health worker with instructions for measuring the height/length of the child based on the type of measurement instrument the health worker will use and the child's age.		
Trigger		Step 3.6: Measure and Record Height/Length		
Reference Document		FANTA (2018)		
Input (IF)		Output (THEN)	Action	Annotations
				<p>toes forward or backward and prevents the footboard from touching the soles of their feet, stroke the soles of the child's feet slightly and slide the footboard in quickly to touch the heels when she/he straightens her/his toes.</p> <p>12. Record the child's length in centimeters to the last completed 0.1 cm. This is the last line that you can actually see.</p> <p>13. Because the child is two years of age or older, the application will subtract 0.7 cm to convert the length to height.</p>
"hl_measure"= "length_board"	"child_age" < 2.0	Display annotation	The health worker measures the child's length using the length board and records the child's height in the application.	<p>Read more information on how to measure the child's length using the length board.</p> <p>FOR POP-UP WINDOW:</p> <ol style="list-style-type: none"> 1. Show the length board to the child and the caregiver and explain that you will use the board to measure the child's length. 2. Inform the caregiver that you may need her/his help. 3. Ask the caregiver to remove the child's shoes and anything on her/his head or hair, such as a hat or hair ornament, which may interfere with the length measurement. 4. Clean the surface of the length board before placing the child on it. 5. If the length board is on the ground or floor, kneel on the right side of the bottom of the board (where the child's feet will be) so that you can hold the footboard with your right hand. Ask the caregiver to kneel with both knees behind the base of the length board (where the child's head

Decision ID		DT.GM.04		
Business Rule		The application provides the health worker with instructions for measuring the height/length of the child based on the type of measurement instrument the health worker will use and the child's age.		
Trigger		Step 3.6: Measure and Record Height/Length		
Reference Document		FANTA (2018)		
Input (IF)		Output (THEN)	Action	Annotations
				<p>will be).</p> <ol style="list-style-type: none"> 6. Ask the caregiver to lower the child gently onto the length board and to support the back of the child's head with their hands. 7. Place the child's head against the base of the length board so that the child is looking straight up. Ask the caregiver to gently cup their hands over the child's ears, with arms straight, and then place the child's head in the correct position, with the top of the child's head touching the base of the length board. The head of the caregiver should be directly over the child's head. 8. The child's shoulders should touch the length board and the spine should not arch. The child's line of sight (i.e., the Frankfort plane) should be perpendicular (90°) to the ground so that they are looking straight up. 9. Make sure the child is lying flat in the center of the length board and then place the child's knees and feet in the correct position. Generally, when a child lies down, his/her knees and feet will be in one of those correct positions, with the knees or the feet touching each other. The first position the child assumes is generally the correct position for measuring the child's length, as long as either the knees or the feet are touching. 10. Place your left hand on the child's knees and press down gently but firmly against the length board to straighten the legs as much as possible without injuring the child. Your hand should be flat; do not wrap your hand around the knees or squeeze them together. Be very careful not to

Decision ID	DT.GM.04			
Business Rule	The application provides the health worker with instructions for measuring the height/length of the child based on the type of measurement instrument the health worker will use and the child's age.			
Trigger	Step 3.6: Measure and Record Height/Length			
Reference Document	FANTA (2018)			
Input (IF)	Output (THEN)	Action	Annotations	
			<p>press too hard because it may not be possible to straighten the knees of some newborns or very frail children.</p> <p>11. Check the child's position and make any necessary readjustments. When the child's position is correct, move the footboard firmly against her/his heels. Make sure the soles of the feet are flat against the footboard with toes pointing upward. If the child bends his/her foot or toes forward or backward and prevents the footboard from touching the soles of his/her feet, stroke the soles of the child's feet slightly and slide the footboard in quickly to touch the heels when they straighten their toes.</p> <p>12. Record the child's length in centimeters to the last completed 0.1 cm. This is the last line that you can actually see.</p>	

Decision ID	DT.GM.05			
Business Rule	The application classifies the child's nutritional status based on the child's weight-for-height z-score (WHZ) and notifies the health worker.			
Trigger	Step 3.10: Categorize Nutritional Status			
Reference Document	Cashin and Oot (2018)			
Input (IF)	Output (THEN)	Action	Annotations	
"whz_score" < -3	-	"whz_status" = "whzstatus_severe wasting"	The application displays the annotation.	The child's WHZ is [whz_score], indicating severe wasting. Explain to the caregiver that based on your measurements of weight and height/length, the child is severely wasted.

Decision ID	DT.GM.05			
Business Rule	The application classifies the child’s nutritional status based on the child’s weight-for-height z-score (WHZ) and notifies the health worker.			
Trigger	Step 3.10: Categorize Nutritional Status			
Reference Document	Cashin and Oot (2018)			
Input (IF)		Output (THEN)	Action	Annotations
$-3 \leq \text{“whz_score”} < -2$	COUNT of “whz_score” = 1	“whz_status” = “whzstatus_moderatewasting”	The health worker explains the child’s WHZ to the caregiver using the annotation.	The child’s WHZ is [whz_score], indicating moderate wasting. Explain to the caregiver that based on your measurements of weight and height/length, the child is malnourished. It is important to address this before it becomes a more severe problem.
$-3 \leq \text{“whz_score”} < -2$	COUNT of “whz_score” ≥ 2	“whz_status” = “whzstatus_moderatewasting”	The application displays the annotation.	The child’s WHZ is [whz_score], indicating moderate wasting. Before drawing any conclusions, it is important to look at other measures as well as growth.
$-2 \leq \text{“whz_score”} \leq 1$	COUNT of “whz_score” = 1	“whz_status” = “whzstatus_normal”	The health worker explains the child’s WHZ to the caregiver using the annotation.	The child’s WHZ is [whz_score], which is in the normal range. Explain to the caregiver that based on your measurements of weight and height/length, the child is in the normal range, but that it is important to look at other measures as well as growth.
$-2 \leq \text{“whz_score”} \leq 1$	COUNT of “whz_score” ≥ 2	“whz_status” = “whzstatus_normal”	The application displays the annotation.	The child’s WHZ is [whz_score], which is in the normal range, but before drawing any conclusions, it is important to look at other measures as well as growth. A child’s z-score can be in the normal range, but if growth is stagnant or declining, there may be a problem.
$1 < \text{“whz_score”} \leq 2$	COUNT of “whz_score” = 1	“whz_status” = “whzstatus_riskoverweight”	The health worker explains the child’s WHZ to the caregiver	The child’s WHZ is [whz_score], indicating that the child is at risk for becoming overweight. Explain to the caregiver that, based on your measurements of weight and height/length, the child is at risk for becoming

Decision ID	DT.GM.05			
Business Rule	The application classifies the child’s nutritional status based on the child’s weight-for-height z-score (WHZ) and notifies the health worker.			
Trigger	Step 3.10: Categorize Nutritional Status			
Reference Document	Cashin and Oot (2018)			
Input (IF)		Output (THEN)	Action	Annotations
			using the annotation.	overweight. It is important to address this before it becomes a problem.
1 < “whz_score” ≤ 2	COUNT of “whz_score” ≥ 2	“whz_status” = “whzstatus_riskoverweight”	The application displays the annotation.	The child’s WHZ is [whz_score], indicating that the child is at risk for becoming overweight. Before drawing any conclusions, it is important to look at other measures as well as growth.
2 < “whz_score” ≤ 3	COUNT of “whz_score” = 1	“whz_status” = “whzstatus_overweight”	The health worker explains the child’s WHZ to the caregiver using the annotation.	The child’s WHZ is [whz_score], indicating that the child is overweight. Explain to the caregiver that, based on your measurements of weight and height/length, the child is overweight. It is important to address this before it becomes a more severe problem.
2 < “whz_score” ≤ 3	COUNT of “whz_score” ≥ 2	“whz_status” = “whzstatus_overweight”	The application displays the annotation.	The child’s WHZ is [whz_score], indicating that the child is overweight. Before drawing any conclusions, it is important to look at other measures as well as growth.
“whz_score” > 3	-	“whz_status” = “whzstatus_obese”	The application displays the annotation.	The child’s WHZ is [whz_score], indicating that the child is obese. Explain to the caregiver that based on your measurements of weight and height/length, the child is obese, which means that the child is very overweight or obese.

Decision ID	DT.GM.06			
Business Rule	The application classifies the child’s nutritional status based on the child’s BMI-for-age z-score and notifies the health worker.			
Trigger	Step 3.9: Categorize Nutritional Status			
Reference Document	Cashin and Oot (2018)			
Input (IF)		Output (THEN)	Action	Annotations
“bmiaz_score” < -3	-	“bmiaz_score” = “bmiazstatus_severe_wasting”	The application displays the annotation.	The child’s BMI-for-age z-score is [bmiaz_score], indicating severe wasting. Explain to the caregiver that based on your measurements of weight and height/length, the child is severely wasted.
-3 ≤ “bmiaz_score” < -2	COUNT of “bmiaz_score” = 1	“bmiaz_score” = “bmiazstatus_moderate_wasting”	The health worker explains the child’s BMI-for-age z-score to the caregiver using the annotation.	The child’s BMI-for-age z-score is [bmiaz_score], indicating moderate wasting. Explain to the caregiver that based on your measurements of weight and height/length, the child is malnourished. It is important to address this before it becomes a more severe problem.
-3 ≤ “bmiaz_score” < -2	COUNT of “bmiaz_score” ≥ 2	“bmiaz_score” = “bmiazstatus_moderate_wasting”	The application displays the annotation.	The child’s BMI-for-age z-score is [bmiaz_score], indicating moderate wasting. Before drawing any conclusions, it is important to look at other measures as well as growth.
-2 ≤ “bmiaz_score” ≤ 1	COUNT of “bmiaz_score” = 1	“bmiaz_score” = “bmiazstatus_normal”	The health worker explains the child’s BMI-for-age z-score to the caregiver using the annotation.	The child’s BMI-for-age z-score is [bmiaz_score], which is in the normal range. Explain to the caregiver that based on your measurements of weight and height/length, the child is in the normal range, but that it is important to look at other measures as well as growth.
-2 ≤ “bmiaz_score” ≤ 1	COUNT of “bmiaz_score” ≥ 2	“bmiaz_score” = “bmiazstatus_normal”	The application displays the annotation.	The child’s BMI-for-age z-score is [bmiaz_score], which is in the normal range, but before drawing any conclusions, it is important to look at other measures as well as growth. A child’s z-score can be in the normal range, but if growth is stagnant or declining, there may be a problem.

Decision ID	DT.GM.06			
Business Rule	The application classifies the child’s nutritional status based on the child’s BMI-for-age z-score and notifies the health worker.			
Trigger	Step 3.9: Categorize Nutritional Status			
Reference Document	Cashin and Oot (2018)			
Input (IF)		Output (THEN)	Action	Annotations
1 < “whz_score” ≤ 2	COUNT of “whz_score” < 2	“whz_status” = “bmiazstatus_risk overweight”	The health worker explains the child’s BMI-for-age z-score to the caregiver using the annotation.	The child’s BMI-for-age z-score is [bmiaz_score], indicating that the child is at risk for becoming overweight. Explain to the caregiver that based on your measurements of weight and height/length, the child is at risk for becoming overweight. It is important to address this before it becomes a problem.
1 < “bmiaz_score” ≤ 2	COUNT of “bmiaz_score” ≥ 2	“bmiaz_score” = “bmiazstatus_risk overweight”	The application displays the annotation.	The child’s BMI-for-age z-score is [bmiaz_score], indicating that the child is at risk for becoming overweight. Before drawing any conclusions, it is important to look at other measures as well as growth.
2 < “bmiaz_score” ≤ 3	COUNT of “bmiaz_score” < 2	“bmiaz_score” = “bmiazstatus_over weight”	The health worker explains the child’s BMI-for-age z-score to the caregiver using the annotation.	The child’s BMI-for-age z-score is [bmiaz_score], indicating that the child is overweight. Explain to the caregiver that based on your measurements of weight and height/length, the child is overweight. It is important to address this before it becomes a more severe problem.
2 < “bmiaz_score” ≤ 3	COUNT of “bmiaz_score” ≥ 2	“bmiaz_score” = “bmiazstatus_over weight”	The application displays the annotation.	The child’s BMI-for-age z-score is [bmiaz_score], indicating that the child is overweight. Before drawing any conclusions, it is important to look at other measures as well as growth.
“bmiaz_score” > 3	-	“bmiaz_score” = “bmiazstatus_obese”	The health worker explains the child’s BMI-for-age z-score to the caregiver using the annotation.	The child’s BMI-for-age z-score is [bmiaz_score], indicating that the child is obese. Explain to the caregiver that based on your measurements of weight and height/length, the child is obese, which means that the child is very overweight or obese.

Decision ID	DT.GM.07			
Business Rule	The application classifies the child’s nutritional status based on the child’s mid-upper arm circumference and notifies the health worker.			
Trigger	Step 3.10: Categorize Nutritional Status			
Reference Document	Cashin and Oot (2018)			
Input (IF)		Output (THEN)	Action	Annotations
“muac_cm” < 11.5	-	“muac_status” = “muacstatus_severe wasting”	The health worker explains the child’s MUAC to the caregiver using the annotation.	The child’s MUAC is [muac_cm], indicating severe wasting.
11.5 ≤ “muac_cm” < 12.5	COUNT of “muac_cm” = 1	“muac_status” = “muacstatus_moderatewasting”	The health worker explains the child’s MUAC to the caregiver using the annotation.	The child’s MUAC is [muac_cm], indicating moderate wasting. Explain to the caregiver that based on your measurement of the child’s MUAC, the child is moderately wasted. It is important to address this before it becomes a more severe problem.
11.5 ≤ “muac_cm” < 12.5	COUNT of “muac_cm” ≥ 2	“muac_status” = “muacstatus_moderatewasting”	The application displays the annotation.	The child’s MUAC is [muac_cm], indicating moderate wasting. Before drawing any conclusions, it is important to look at other measures as well as growth.
“muac_cm” ≥ 12.5	COUNT of “muac_cm” = 1	“muac_status” = “muacstatus_normal”	The health worker explains the child’s MUAC to the caregiver using the annotation.	The child’s MUAC is [muac_cm], which is in the normal range. Explain to the caregiver that based on your measurement of the child’s MUAC, the child is in the normal range, but that it is important to look at other measures as well as growth.
“muac_cm” ≥ 12.5	COUNT of “muac_cm” ≥ 2	“muac_status” = “muacstatus_normal”	The application displays the annotation.	The child’s MUAC is [muac_cm], which is in the normal range. Before drawing any conclusions, it is important to look at other measures as well as growth. A child’s MUAC can be in the normal range, but if growth is stagnant or declining, there may be a problem.

Decision ID		DT.GM.08		
Business Rule		The application classifies the child's nutritional status based on the child's weight-for-age z-score and notifies the health worker.		
Trigger		Step 3.9: Categorize Nutritional Status		
Reference Document		Cashin and Oot (2018)		
Input (IF)		Output (THEN)	Action	Annotations
"waz_score" < -3		-	"waz_status" = "wazstatus_severeuw"	The health worker explains the child's WAZ to the caregiver using the annotation. The child's WAZ is [waz_status], indicating that the child is severely underweight.
-3 ≤ "waz_score" < -2		COUNT of "waz_score" = 1	"waz_status" = "wazstatus_moderateuw"	The health worker explains the child's WAZ to the caregiver using the annotation. The child's WAZ is [waz_status], indicating that the child is moderately underweight. Explain to the caregiver that based on the child's weight, the child is moderately underweight and that it is important to address this before it becomes a more severe problem.
-3 ≤ "waz_score" < -2		COUNT of "waz_score" ≥ 2	"waz_status" = "wazstatus_moderateuw"	The application displays the annotation. The child's WAZ is [waz_status], indicating that the child is moderately underweight. Before drawing any conclusions, it is important to look at other measures as well as growth.
-2 ≤ "waz_score" ≤ 1		COUNT of "waz_score" for = 1	"waz_status" = "wazstatus_normal"	The health worker explains the child's WAZ to the caregiver using the annotation. The child's WAZ is [waz_status], which is in the normal range. Explain to the caregiver that based on the child's weight, the child is in the normal range but before drawing any conclusions, it is important to look at other measures as well as growth.
-2 ≤ "waz_score" ≤ 1		COUNT of "waz_score" ≥ 2	"waz_status" = "wazstatus_normal"	The application displays the annotation. The child's WAZ is [waz_status], which is in the normal range. Before drawing any conclusions, it is important to look at other measures as well as growth. A child's z-

Decision ID	DT.GM.08				
Business Rule	The application classifies the child’s nutritional status based on the child’s weight-for-age z-score and notifies the health worker.				
Trigger	Step 3.9: Categorize Nutritional Status				
Reference Document	Cashin and Oot (2018)				
Input (IF)		Output (THEN)		Action	Annotations
					score can be in the normal range, but if growth is stagnant or declining, there may be a problem.
“waz_score” > 1	-	“waz_status” = “wazstatus_abovenormal”		The application displays the annotation.	The child’s WAZ is greater than one, which is above normal. This is usually not a problem. Before drawing any conclusions, it is important to look at other measures as well as growth.

Decision ID	DT.GM.09					
Business Rule	The application determines whether the child needs immediate referral or treatment based on current nutritional status and notifies the health worker.					
Trigger	Step 3.10: Categorize Nutritional Status					
Reference Document	Cashin and Oot (2018)					
Input (IF)			Output (THEN)		Action	Annotations
(“whz_score” < -3) OR (“whz_score” > 3) OR (“bmiaz_score” < -3) OR (“bmiaz_score” > 3) OR (“muac_cm” < 11.5) OR (“waz_score” < -3)	-	-	-	“urgent_referral” = YES	The application displays the annotation and moves the health worker to the Referral Workflow .	Explain to the caregiver that the child is severely malnourished and will need immediate treatment or referral for treatment.

-3 ≤ "whz_score" ≤ 3 OR "whz_score" = NULL	-3 ≤ "bmiaz_score" ≤ 3 OR "bmiaz_score" = NULL	"muac_cm" ≥ 11.5 OR "muac_cm" = NULL	"waz_score" ≥ -3 OR "waz_score" = NULL	"urgent_referral" = NO	The application determines that no referral is needed based on nutritional status and moves the health worker to Step 3.11 .	No message to the health worker because this is processed in the backend.
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Decision ID	DT.GM.10										
Business Rule	For children who do not require immediate referral, the application determines whether the child is growing well or has a possible growth problem and notifies the health worker.										
Trigger	Step 3.12: Describe Growth Charts										
Reference Document	Cashin and Oot (2018) WHO (2008a)										
Input (IF)									Output (THEN)	Action	Annotations
(-2 ≤ "bmiaz_score" ≤ 1) OR ("bmiaz_score" = NULL)	("bmiaz_interpretation" = "bmiaz_normal" OR "bmiaz_na" OR NULL)	(-2 ≤ "haz_score" ≤ 3) OR ("haz_score" = NULL)	("haz_interpretation" = "haz_normal" OR "haz_na" OR NULL)	(-2 ≤ "whz_score" ≤ 1) OR ("whz_score" = NULL)	("whz_interpretation" = "whz_normal" OR "whz_na" OR NULL)	("waz_score" ≥ -2) OR ("waz_score" = NULL)	("waz_interpretation" = "waz_normal" OR "waz_na" OR NULL)	("muac_cm" ≥ 12.5) OR ("muac_cm" = NULL)	"growthprob_yn" = NO	The application displays the annotation.	The child's nutritional status or growth is normal and does not indicate a problem or possible problem.
(-3 ≤ "bmiaz_score" < -2) OR (1 < "bmiaz_score" ≤ 3) OR ("bmiaz_interpretation" = "bmiaz_incline") OR ("bmiaz_interpretation" = "bmiaz_stagnant") OR ("bmiaz_interpretation" = "bmiaz_decline") OR									"growthprob_yn" = YES	The application displays the annotation.	The child's nutritional status or growth indicates a possible problem. It is
(-3 ≤ "whz_score" < -2) OR (1 < "whz_score" ≤ 3) OR ("whz_interpretation" = "whz_incline") OR ("whz_interpretation" = "whz_stagnant") OR ("whz_interpretation" = "whz_decline") OR											
(11.5 ≤ "muac_cm" < 12.5) OR											

Decision ID	DT.GM.10		
Business Rule	For children who do not require immediate referral, the application determines whether the child is growing well or has a possible growth problem and notifies the health worker.		
Trigger	Step 3.12: Describe Growth Charts		
Reference Document	Cashin and Oot (2018) WHO (2008a)		
Input (IF)	Output (THEN)	Action	Annotations
<p>$(-3 \geq \text{"waz_score"} < -2)$ OR ($\text{"waz_interpretation"} = \text{"waz_incline"}$) OR ($\text{"waz_interpretation"} = \text{"waz_stagnant"}$) OR ($\text{"waz_interpretation"} = \text{"waz_decline"}$) OR</p> <p>$(\text{"haz_score"} < -2)$ OR ($\text{"haz_interpretation"} = \text{"haz_incline"}$) OR ($\text{"haz_interpretation"} = \text{"haz_stagnant"}$) OR ($\text{"haz_interpretation"} = \text{"haz_decline"}$)</p>			important to explore possible causes and ways to address the growth problem during the Counseling Workflow.

Counseling

Decision ID	DT.CN.01					
Business Rule	The application provides the health worker with a list of behaviors for the health worker to take into consideration when praising the caregiver.					
Trigger	Step 4.4: Praise Caregiver					
Reference Document	WHO (2008a); UNICEF (2012)					
Input (IF)				Output (THEN)	Action	Annotations
"visit_concerns" = "concerns_none" OR NULL	"breastfeeding_difficulties" = "bfdifficulties_none" OR NULL	"feeding_difficulties" = "feeedifficulties_none" OR NULL	"development_difficulties" = "devdifficulties_none" OR NULL	Annotation added to the list of behaviors for praise.	The health worker praises the caregiver, taking into consideration the list of behaviors provided by the application.	The caregiver didn't have any concerns about [child_first].
"caregiver_checkin" = "checkin_well"	-	-	-	Annotation added to the list of behaviors for praise.	The health worker praises the caregiver, taking into consideration the list of behaviors provided by the application.	The caregiver reported generally doing well or having no problems or concerns about her or himself.
"consumption_amount" = "consumption_more"	-	-	-	Annotation added to the list of behaviors for praise.	The health worker praises the caregiver, taking into consideration the list of behaviors provided by the application.	The child was recently ill but is eating, drinking, and/or breastfeeding more than the usual amount.
"termination_bf" = "terminationbf_no"	-	-	-	Annotation added to the list of behaviors for praise.	The health worker praises the caregiver, taking into consideration the list of behaviors provided by the application.	The child is [child_agemonths] months old and is still breastfeeding.

Decision ID	DT.CN.01					
Business Rule	The application provides the health worker with a list of behaviors for the health worker to take into consideration when praising the caregiver.					
Trigger	Step 4.4: Praise Caregiver					
Reference Document	WHO (2008a); UNICEF (2012)					
Input (IF)				Output (THEN)	Action	Annotations
“breastfeeding_frequency” = breastfeeding_frequency_8or9” OR “breastfeeding_frequency_10 or11” OR “breastfeeding_frequency_12 ormore”	“child_age” < 0.5	-	-	Annotation added to the list of behaviors for praise.	The health worker praises the caregiver, taking into consideration the list of behaviors provided by the application.	The child is [child_agemonths] months old and is breastfeeding at least eight times per day.
"termination_bf" = "terminationbf_no"	“other_fluids” = “otherfluids_no”	“feeding_food” = “feedingf_no”	“child_age” < 0.5	Annotation added to the list of behaviors for praise.	The health worker praises the caregiver, taking into consideration the list of behaviors provided by the application.	The child is [child_agemonths] months old and is exclusively breastfeeding. The child does not eat any semi-solid or solid foods or drink any liquids other than breast milk.
“meal_frequency” OR “meal_frequency_4or5” OR “meal_frequency_6ormore”	0.5 ≤ “child_age” < 1.0	-	-	Annotation added to the list of behaviors for praise.	The health worker praises the caregiver, taking into consideration the list of behaviors provided by the application.	The child is [child_agemonths] months old and eats four or more times per day.
“ownplate” = “ownplate_yes”	“child_age” ≥ 0.5	-	-	Annotation added to the list of behaviors for praise.	The health worker praises the caregiver, taking into consideration the list of behaviors provided by the application.	The child is [child_agemonths] months old and is served her/his own plate or bowl of food.

Decision ID	DT.CN.01					
Business Rule	The application provides the health worker with a list of behaviors for the health worker to take into consideration when praising the caregiver.					
Trigger	Step 4.4: Praise Caregiver					
Reference Document	WHO (2008a); UNICEF (2012)					
Input (IF)				Output (THEN)	Action	Annotations
“child_handwash” = “child_handwash_soap”	-	-	-	Annotation added to the list of behaviors for praise.	The health worker praises the caregiver, taking into consideration the list of behaviors provided by the application.	The caregiver washes the child’s hands with soap before eating/feeding.
“caregiver_handwash” = “caregiver_handwash_soap”	-	-	-	Annotation added to the list of behaviors for praise.	The health worker praises the caregiver, taking into consideration the list of behaviors provided by the application.	The caregiver washes his/her own hands with soap before feeding the child.
“understand_child” = “understandchild_expressions” OR “understandchild_sounds” OR “understandchild_movements”	-	-	-	Annotation added to the list of behaviors for praise.	The health worker praises the caregiver, taking into consideration the list of behaviors provided by the application.	The caregiver appears to understand the child’s nonverbal cues (expressions, sounds, and movements).
“communicate_child” = “communicate_eye” OR “communicate_questions” OR “communicate_talksoft” OR “communicate_gestures” OR “communicate_sounds” OR “communicate_touch” OR “communicate_loving”	-	-	-	Annotation added to the list of behaviors for praise.	The health worker praises the caregiver, taking into consideration the list of behaviors provided by the application.	The caregiver appears to communicate with the child in appropriate, loving ways (eye contact, questions, talking softly, gestures, sounds, touch, etc.).

Decision ID	DT.CN.01					
Business Rule	The application provides the health worker with a list of behaviors for the health worker to take into consideration when praising the caregiver.					
Trigger	Step 4.4: Praise Caregiver					
Reference Document	WHO (2008a); UNICEF (2012)					
Input (IF)				Output (THEN)	Action	Annotations
“decide_feed” = “decidefeed_sign”	“child_age” < 2.0	-	-	Annotation added to the list of behaviors for praise.	The health worker praises the caregiver, taking into consideration the list of behaviors provided by the application.	The child is [child_agemonths] months old. The caregiver decides to feed when the child gives an early sign or gesture of hunger.
“decide_stop” = “decidestop_sign”	“child_age” < 2.0	-	-	Annotation added to the list of behaviors for praise.	The health worker praises the caregiver, taking into consideration the list of behaviors provided by the application.	The child is [child_agemonths] months old. The caregiver decides to stop feeding when the child gives a sign of satiety or being full.
“smile_behavior” = “smile_interests” OR “smile_songs” OR “smile_drawssmile”	-	-	-	Annotation added to the list of behaviors for praise.	The health worker praises the caregiver, taking into consideration the list of behaviors provided by the application.	The caregiver appears to understand how to get the child to smile in an appropriate manner.
“play_style” = “play_gamesappropriate” OR “play_toysappropriate”	-	-	-	Annotation added to the list of behaviors for praise.	The health worker praises the caregiver, taking into consideration the list of behaviors provided by the application.	The caregiver appears to know how to play with the child in an appropriate manner.
IF none of the above are TRUE	-	-	-	Application prompts the health worker		Think about any behaviors that you discussed during the assessment that you could praise.

Decision ID	DT.CN.01					
Business Rule	The application provides the health worker with a list of behaviors for the health worker to take into consideration when praising the caregiver.					
Trigger	Step 4.4: Praise Caregiver					
Reference Document	WHO (2008a); UNICEF (2012)					
Input (IF)				Output (THEN)	Action	Annotations
				using the annotation text.		

Decision ID	DT.CN.02					
Business Rule	The application provides the health worker with a list of characteristics, questions, concerns, and behaviors identified during the assessments to consider discussing with the caregiver.					
Trigger	Step 4.5: Review Responses					
Reference Document	ENN (2021); FANTA (2018); UNICEF (2012); WHO (2008a)					
Input (IF)			Output (IF)	Action	Annotations	
"caregiver_age" ≠ NULL	-	-	Annotation added to list of characteristics, questions, concerns, and behaviors.	The health worker considers discussing with the caregiver the characteristic, question, concern, or behavior.	The child's primary caregiver is [caregiver_age] years old.	
"child_age" ≠ NULL	-	-	Annotation added to list of characteristics, questions, concerns, and behaviors.	The health worker considers discussing with the caregiver the characteristic, question, concern, or behavior.	The child is [child_agemonths] months old.	

Decision ID			DT.CN.02		
Business Rule			The application provides the health worker with a list of characteristics, questions, concerns, and behaviors identified during the assessments to consider discussing with the caregiver.		
Trigger			Step 4.5: Review Responses		
Reference Document			ENN (2021); FANTA (2018); UNICEF (2012); WHO (2008a)		
Input (IF)			Output (IF)	Action	Annotations
(“gestational_age” < 39) OR (“gestationalage_estimate” = “gestionationalage_veryearly” OR “gestionationalage_someearly”)	-	-	Annotation added to list of characteristics, questions, concerns, and behaviors.	The health worker considers discussing with the caregiver the characteristic, question, concern, or behavior.	The child was born early (pre- or early-term).
“birthweight_kg” < 2.5			Annotation added to list of characteristics, questions, concerns, and behaviors.	The health worker considers discussing with the caregiver the characteristic, question, concern, or behavior.	The child had a low birth weight.
“birthweight_estimate” = “bwestimate_small” OR “bwestimate_verysmall”	-	-	Annotation added to list of characteristics, questions, concerns, and behaviors.	The health worker considers discussing with the caregiver the characteristic, question, concern, or behavior.	The child’s caregiver estimated that the child was smaller than average at birth.
“birth_order” ≠ NULL	-	-	Annotation added to list of characteristics, questions, concerns, and behaviors.	The health worker considers discussing with the caregiver the characteristic, question, concern, or behavior.	The child is the [birth_order] born.

Decision ID			DT.CN.02		
Business Rule			The application provides the health worker with a list of characteristics, questions, concerns, and behaviors identified during the assessments to consider discussing with the caregiver.		
Trigger			Step 4.5: Review Responses		
Reference Document			ENN (2021); FANTA (2018); UNICEF (2012); WHO (2008a)		
Input (IF)			Output (IF)	Action	Annotations
"birth_number" = "birth_multiple"	-	-	Annotation added to list of characteristics, questions, concerns, and behaviors.	The health worker considers discussing with the caregiver the characteristic, question, concern, or behavior.	The child is a multiple.
"sibling_younger" = YES	-	-	Annotation added to list of characteristics, questions, concerns, and behaviors.	The health worker considers discussing with the caregiver the characteristic, question, concern, or behavior.	The child has a younger sibling who is [sibling_monthspacing] younger than her/him.
"previous_malnutrition" = YES	-	-	Annotation added to list of characteristics, questions, concerns, and behaviors.	The health worker considers discussing with the caregiver the characteristic, question, concern, or behavior.	The child has a history of malnutrition.
"whz_score" ≠ NULL	-	-	Annotation added to list of characteristics, questions, concerns, and behaviors.	The health worker considers discussing with the caregiver the characteristic, question, concern, or behavior.	The child's WHZ is [whz_score] and is considered [whz_status].
"whz_interpretation" ≠ NULL	-	-	Annotation added to list of characteristics,	The health worker considers discussing with the caregiver the	The child's WHZ [whz_interpretation].

Decision ID			DT.CN.02		
Business Rule			The application provides the health worker with a list of characteristics, questions, concerns, and behaviors identified during the assessments to consider discussing with the caregiver.		
Trigger			Step 4.5: Review Responses		
Reference Document			ENN (2021); FANTA (2018); UNICEF (2012); WHO (2008a)		
Input (IF)			Output (IF)	Action	Annotations
			questions, concerns, and behaviors.	characteristic, question, concern, or behavior.	
"bmiaz_score" ≠ NULL	-	-	Annotation added to list of characteristics, questions, concerns, and behaviors.	The health worker considers discussing with the caregiver the characteristic, question, concern, or behavior.	The child's BMI-for-age z-score is [bmiaz_score] and is considered [bmiaz_status].
"bmiaz_interpretation" ≠ NULL	-	-	Annotation added to list of characteristics, questions, concerns, and behaviors.	The health worker considers discussing with the caregiver the characteristic, question, concern, or behavior.	The child's BMI-for-age z-score [bmiaz_interpretation].
"muac_cm" ≠ NULL	-	-	Annotation added to list of characteristics, questions, concerns, and behaviors.	The health worker considers discussing with the caregiver the characteristic, question, concern, or behavior.	The child's MUAC is [muac_cm] and is considered [muac_status].
"waz_score" ≠ NULL	-	-	Annotation added to list of characteristics, questions, concerns, and behaviors.	The health worker considers discussing with the caregiver the characteristic, question, concern, or behavior.	The child's WAZ is [waz_score] and is considered [waz_status].

Decision ID			DT.CN.02		
Business Rule			The application provides the health worker with a list of characteristics, questions, concerns, and behaviors identified during the assessments to consider discussing with the caregiver.		
Trigger			Step 4.5: Review Responses		
Reference Document			ENN (2021); FANTA (2018); UNICEF (2012); WHO (2008a)		
Input (IF)			Output (IF)	Action	Annotations
“waz_interpretation” ≠ NULL	-	-	Annotation added to list of characteristics, questions, concerns, and behaviors.	The health worker considers discussing with the caregiver the characteristic, question, concern, or behavior.	The child’s WAZ [waz_interpretation].
“haz_score” ≠ NULL	-	-	Annotation added to list of characteristics, questions, concerns, and behaviors.	The health worker considers discussing with the caregiver the characteristic, question, concern, or behavior.	The child’s HAZ is [haz_score] and is considered [haz_status].
“haz_interpretation” ≠ NULL	-	-	Annotation added to list of characteristics, questions, concerns, and behaviors.	The health worker considers discussing with the caregiver the characteristic, question, concern, or behavior.	The child’s HAZ [haz_interpretation].
“growthprob_yn”= YES	(CurrentDate-365 days) < “visit_date” < “CurrentDate”	-	Annotation added to list of characteristics, questions, concerns, and behaviors.	The health worker considers discussing with the caregiver the characteristic, question, concern, or behavior.	The child has been flagged as having a possible growth problem [COUNT of “status_possibleproblem” in last year] in the past year.
“visit_concerns” = “concerns_restless”	-	-	Annotation added to list of characteristics,	The health worker considers discussing with the caregiver the	The caregiver mentioned having questions or concerns about the child

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Trigger			Step 4.5: Review Responses		
Reference Document			ENN (2021); FANTA (2018); UNICEF (2012); WHO (2008a)		
Input (IF)			Output (IF)	Action	Annotations
			questions, concerns, and behaviors.	characteristic, question, concern, or behavior.	being restless, fussy, or irritable.
“visit_concerns” = “concerns_lethargy”	-	-	Annotation added to list of characteristics, questions, concerns, and behaviors.	The health worker considers discussing with the caregiver the characteristic, question, concern, or behavior.	The caregiver mentioned having questions or concerns about the child’s energy level. The child exhibits lethargy or is very tired.
“visit_concerns” = “concerns_growth”	-	-	Annotation added to list of characteristics, questions, concerns, and behaviors.	The health worker considers discussing with the caregiver the characteristic, question, concern, or behavior.	The caregiver mentioned having questions or concerns about the child’s growth.
“visit_concerns” = “concerns_breastfeeding” OR “caregiver_checkin” = “checkin_breastfeeding”	-	-	Annotation added to list of characteristics, questions, concerns, and behaviors.	The health worker considers discussing with the caregiver the characteristic, question, concern, or behavior.	The caregiver mentioned having questions or concerns about breastfeeding.
“visit_concerns” = “concerns_feeding”	-	-	Annotation added to list of characteristics,	The health worker considers discussing with the caregiver the	The caregiver mentioned having questions or concerns about feeding the child.

Decision ID			DT.CN.02		
Business Rule			The application provides the health worker with a list of characteristics, questions, concerns, and behaviors identified during the assessments to consider discussing with the caregiver.		
Trigger			Step 4.5: Review Responses		
Reference Document			ENN (2021); FANTA (2018); UNICEF (2012); WHO (2008a)		
Input (IF)			Output (IF)	Action	Annotations
			questions, concerns, and behaviors.	characteristic, question, concern, or behavior.	
“visit_concerns” = “concerns_development”	-	-	Annotation added to list of characteristics, questions, concerns, and behaviors.	The health worker considers discussing with the caregiver the characteristic, question, concern, or behavior.	The caregiver mentioned having questions or concerns about the child’s development.
“visit_concerns” = “concerns_movement” OR “developmental_difficulties” = “devdifficulties_movement”	-	-	Annotation added to list of characteristics, questions, concerns, and behaviors.	The health worker considers discussing with the caregiver the characteristic, question, concern, or behavior.	The caregiver mentioned having questions or concerns about how the child moves. The child has difficulty moving.
“visit_concerns” = “concerns_useofhands” OR “development_difficulties” = “devdifficulties_useofhands”	-	-	Annotation added to list of characteristics, questions, concerns, and behaviors.	The health worker considers discussing with the caregiver the characteristic, question, concern, or behavior.	The caregiver mentioned having questions or concerns about how the child uses his/her hands or fingers.
“visit_concerns” = “concerns_hearing”	-	-	Annotation added to list of characteristics, questions, concerns, and behaviors.	The health worker considers discussing with the caregiver the characteristic, question, concern, or behavior.	The caregiver mentioned having questions or concerns about the child’s hearing.

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Business Rule			The application provides the health worker with a list of characteristics, questions, concerns, and behaviors identified during the assessments to consider discussing with the caregiver.		
Trigger			Step 4.5: Review Responses		
Reference Document			ENN (2021); FANTA (2018); UNICEF (2012); WHO (2008a)		
Input (IF)			Output (IF)	Action	Annotations
“visit_concerns” = “concerns_vision”	-	-	Annotation added to list of characteristics, questions, concerns, and behaviors.	The health worker considers discussing with the caregiver the characteristic, question, concern, or behavior.	The caregiver mentioned having questions or concerns about the child’s eyesight.
“visit_concerns” = “concerns_other”	-	-	Annotation added to list of characteristics, questions, concerns, and behaviors.	The health worker considers discussing with the caregiver the characteristic, question, concern, or behavior.	The caregiver mentioned some other question or concern [concerns_otherspc].
“caregiver_checkin” = “checkin_depressed”	-	-	Annotation added to list of characteristics, questions, concerns, and behaviors.	The health worker considers discussing with the caregiver the characteristic, question, concern, or behavior.	The caregiver mentioned feeling down, depressed, hopeless, or like a failure.
“caregiver_checkin” = “checkin_anxious”	-	-	Annotation added to list of characteristics, questions, concerns, and behaviors.	The health worker considers discussing with the caregiver the characteristic, question, concern, or behavior.	The caregiver mentioned feeling anxious or worried.
“caregiver_checkin” = “checkin_attention”	-	-	Annotation added to list of characteristics,	The health worker considers discussing with the caregiver the	The caregiver mentioned having trouble concentrating or paying attention.

Decision ID			DT.CN.02		
Business Rule			The application provides the health worker with a list of characteristics, questions, concerns, and behaviors identified during the assessments to consider discussing with the caregiver.		
Trigger			Step 4.5: Review Responses		
Reference Document			ENN (2021); FANTA (2018); UNICEF (2012); WHO (2008a)		
Input (IF)			Output (IF)	Action	Annotations
			questions, concerns, and behaviors.	characteristic, question, concern, or behavior.	
“caregiver_checkin” = “checkin_sleep”	-	-	Annotation added to list of characteristics, questions, concerns, and behaviors.	The health worker considers discussing with the caregiver the characteristic, question, concern, or behavior.	The caregiver mentioned having trouble falling asleep, staying asleep, or sleeping too much.
“caregiver_checkin” = “checkin_tired”	-	-	Annotation added to list of characteristics, questions, concerns, and behaviors.	The health worker considers discussing with the caregiver the characteristic, question, concern, or behavior.	The caregiver mentioned feeling very tired or having little energy.
“caregiver_checkin” = “checkin_appetite”	-	-	Annotation added to list of characteristics, questions, concerns, and behaviors.	The health worker considers discussing with the caregiver the characteristic, question, concern, or behavior.	The caregiver mentioned having questions or concerns about appetite—either having a poor appetite (not wanting to eat) or overeating.
“caregiver_checkin” = “checkin_lackfood”	-	-	Annotation added to list of characteristics, questions, concerns, and behaviors.	The health worker considers discussing with the caregiver the characteristic, question, concern, or behavior.	The caregiver mentioned having questions or concerns about the lack of food available.

Decision ID			DT.CN.02		
Business Rule			The application provides the health worker with a list of characteristics, questions, concerns, and behaviors identified during the assessments to consider discussing with the caregiver.		
Trigger			Step 4.5: Review Responses		
Reference Document			ENN (2021); FANTA (2018); UNICEF (2012); WHO (2008a)		
Input (IF)			Output (IF)	Action	Annotations
“caregiver_checkin” = “checkin_financialconcerns”	-	-	Annotation added to list of characteristics, questions, concerns, and behaviors.	The health worker considers discussing with the caregiver the characteristic, question, concern, or behavior.	The caregiver mentioned having questions or concerns about finances (lack of money).
“caregiver_checkin” = “checkin_abuse”	-	-	Annotation added to list of characteristics, questions, concerns, and behaviors.	The health worker considers discussing with the caregiver the characteristic, question, concern, or behavior.	The caregiver mentioned abuse (physical, sexual, or verbal).
“caregiver_checkin” = “checkin_fp”	-	-	Annotation added to list of characteristics, questions, concerns, and behaviors.	The health worker considers discussing with the caregiver the characteristic, question, concern, or behavior.	The caregiver mentioned family planning (wishing to delay/avoid pregnancy or wanting information).
“caregiver_checkin” = “checkin_other”	-	-	Annotation added to list of characteristics, questions, concerns, and behaviors.	The health worker considers discussing with the caregiver the characteristic, question, concern, or behavior.	The caregiver mentioned some other question or concern [checkin_otherspc].
“recent_illness” = “recentillness_yes”	-	-	Annotation added to list of characteristics,	The health worker considers discussing with the caregiver the	The child was recently ill and the symptoms included [previous_symptoms].

Decision ID			DT.CN.02		
Business Rule			The application provides the health worker with a list of characteristics, questions, concerns, and behaviors identified during the assessments to consider discussing with the caregiver.		
Trigger			Step 4.5: Review Responses		
Reference Document			ENN (2021); FANTA (2018); UNICEF (2012); WHO (2008a)		
Input (IF)			Output (IF)	Action	Annotations
			questions, concerns, and behaviors.	characteristic, question, concern, or behavior.	According to the caregiver, the child is eating, drinking, or breastfeeding [consumption_amount].
“consumption_amount” = “consumption_less”	-	-	Annotation added to list of characteristics, questions, concerns, and behaviors.	The health worker considers discussing with the caregiver the characteristic, question, concern, or behavior.	The child was recently ill and is eating, drinking, or breastfeeding less than usual (before becoming ill).
“consumption_amount” = “consumption_notsure”	-	-	Annotation added to list of characteristics, questions, concerns, and behaviors.	The health worker considers discussing with the caregiver the characteristic, question, concern, or behavior.	The child was recently ill and the caregiver does not know if the child has been eating, drinking, or breastfeeding more, less, or the same as usual (before becoming ill).
“chronic_disease” = “chronicdisease_yes”	-	-	Annotation added to list of characteristics, questions, concerns, and behaviors.	The health worker considers discussing with the caregiver the characteristic, question, concern, or behavior.	The child has a chronic disease that could cause undernutrition [chronicdisease_type].

Decision ID			DT.CN.02		
Business Rule			The application provides the health worker with a list of characteristics, questions, concerns, and behaviors identified during the assessments to consider discussing with the caregiver.		
Trigger			Step 4.5: Review Responses		
Reference Document			ENN (2021); FANTA (2018); UNICEF (2012); WHO (2008a)		
Input (IF)			Output (IF)	Action	Annotations
"change_trauma" = "changetrauma_yes"	-	-	Annotation added to list of characteristics, questions, concerns, and behaviors.	The health worker considers discussing with the caregiver the characteristic, question, concern, or behavior.	The child has experienced a big change or trauma [changetrauma_descr].
IF "termination_bf" = "terminationbf_no"	"other_fluids" ≠ "otherfluids_no" OR "feeding_food" ≠ "feedingf_no"	"child_age" < 0.5	Annotation added to list of characteristics, questions, concerns, and behaviors.	The health worker considers discussing with the caregiver the characteristic, question, concern, or behavior.	The child is [child_agemonths] months old and is breastfeeding, but not exclusively breastfeeding.
IF "termination_bf" = "terminationbf_yes"	"child_age" < 2.0	-	Annotation added to list of characteristics, questions, concerns, and behaviors.	The health worker considers discussing with the caregiver the characteristic, question, concern, or behavior.	The child is [child_agemonths] months old and has stopped breastfeeding. The child stopped breastfeeding at [terminationbf_age] months of age.

Decision ID			DT.CN.02				
Business Rule			The application provides the health worker with a list of characteristics, questions, concerns, and behaviors identified during the assessments to consider discussing with the caregiver.				
Trigger			Step 4.5: Review Responses				
Reference Document			ENN (2021); FANTA (2018); UNICEF (2012); WHO (2008a)				
Input (IF)			Output (IF)	Action	Annotations		
“breastfeeding_frequency” = “breastfeeding_frequency_1orless” OR “breastfeeding_frequency_2or3” OR “breastfeeding_frequency_4or5” OR “breastfeeding_frequency_6or7”			“child_age” < 0.5 -	Annotation added to list of characteristics, questions, concerns, and behaviors.	The health worker considers discussing with the caregiver the characteristic, question, concern, or behavior.	The child is [child_agemonths] months old and breastfeeds less than eight times per day.	
“breastfeeding_difficulties” = “bfdifficulties_lackofsupport”			-	-	Annotation added to list of possible causes of nutritional status/growth problems	The health worker considers discussing with the caregiver the characteristic, question, concern, or behavior.	The child’s mother has family opposition/lack of family support for breastfeeding.
“breastfeeding_difficulties” = “bfdifficulties_separatedfrombaby”			-	-	Annotation added to list of possible causes of nutritional status/growth problems	The health worker considers discussing with the caregiver the characteristic, question, concern, or behavior.	The child’s mother is separated from the child because of work.
“breastfeeding_difficulties” = “bfdifficulties_pain”					Annotation added to list of possible causes of nutritional status/growth problems	The health worker considers discussing with the caregiver the characteristic, question, concern, or behavior.	The child’s mother is unable to breastfeed and/or exhibits pain before or after breastfeeding.

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Trigger			Step 4.5: Review Responses		
Reference Document			ENN (2021); FANTA (2018); UNICEF (2012); WHO (2008a)		
Input (IF)			Output (IF)	Action	Annotations
“breastfeeding_difficulties” = “bfdifficulties_hungry”	-	-	Annotation added to list of possible causes of nutritional status/growth problems	The health worker considers discussing with the caregiver the characteristic, question, concern, or behavior.	The child is still hungry after breastfeeding, not sated.
“breastfeeding_difficulties” = “bfdifficulties_feedsveryfrequent”	-	-	Annotation added to list of possible causes of nutritional status/growth problems	The health worker considers discussing with the caregiver the characteristic, question, concern, or behavior.	The child breastfeeds very frequently and/or for a long time.
“breastfeeding_difficulties” = “bfdifficulties_refuses”	-	-	Annotation added to list of possible causes of nutritional status/growth problems	The health worker considers discussing with the caregiver the characteristic, question, concern, or behavior.	The child refuses to breastfeed, cries or fights at the breast, or doesn’t suckle well.
“bfobservation_problem” = “bfobservation_sore_crack”	-	-	Annotation added to list of possible causes of nutritional status/growth problems	The health worker considers discussing with the caregiver the characteristic, question, concern, or behavior.	The child’s mother has sore/cracked nipples.
“bfobservation_problem” = “bfobservation_flat_inverted”	-	-	Annotation added to list of possible causes of nutritional status/growth problems	The health worker considers discussing with the caregiver the	The child’s mother has flat and inverted nipples.

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Trigger			Step 4.5: Review Responses		
Reference Document			ENN (2021); FANTA (2018); UNICEF (2012); WHO (2008a)		
Input (IF)			Output (IF)	Action	Annotations
			status/growth problems	characteristic, question, concern, or behavior.	
“bfobservation_problem” = “bfobservation_engorged”	-	-	Annotation added to list of possible causes of nutritional status/growth problems	The health worker considers discussing with the caregiver the characteristic, question, concern, or behavior.	The child’s mother has engorged breasts.
“bfobservation_problem” = “bfobservation_duct”	-	-	Annotation added to list of possible causes of nutritional status/growth problems	The health worker considers discussing with the caregiver the characteristic, question, concern, or behavior.	The child’s mother has blocked ducts/mastitis.
“bfobservation_problem” = “bfobservation_position”	-	-	Annotation added to list of possible causes of nutritional status/growth problems	The health worker considers discussing with the caregiver the characteristic, question, concern, or behavior.	You observed that the child has a poor position while breastfeeding.
“bfobservation_problem” = “bfobservation_latch”	-	-	Annotation added to list of possible causes of nutritional status/growth problems	The health worker considers discussing with the caregiver the characteristic, question, concern, or behavior.	You observed that the child has poor latch while breastfeeding.

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Trigger			Step 4.5: Review Responses		
Reference Document			ENN (2021); FANTA (2018); UNICEF (2012); WHO (2008a)		
Input (IF)			Output (IF)	Action	Annotations
“bfobservation_problem” = “bfobservation_suckle”	-	-	Annotation added to list of possible causes of nutritional status/growth problems	The health worker considers discussing with the caregiver the characteristic, question, concern, or behavior.	You observed that the child has a weak suckle while breastfeeding.
“irregular_stools” = “irregular_stools_yes”	-	-	Annotation added to list of possible causes of nutritional status/growth problems.	The health worker considers discussing with the caregiver the characteristic, question, concern, or behavior.	The child has hard, dry, or green stools, or infrequent, small stools.
“feeding_food” = “feedingf_no”	“child_age” ≥ 0.5	-	Annotation added to list of possible causes of nutritional status/growth problems	The health worker considers discussing with the caregiver the characteristic, question, concern, or behavior.	The child is [child_agemonths] months old and is still not fed any semi-solid or solid foods.
“feeding_difficulties” = “feeddificulties_lackofsupport”	-	-	Annotation added to list of possible causes of nutritional status/growth problems	The health worker considers discussing with the caregiver the characteristic, question, concern, or behavior.	The child’s caregiver expressed concern that there is a lack of family support for feeding the child.

Decision ID			DT.CN.02		
Business Rule			The application provides the health worker with a list of characteristics, questions, concerns, and behaviors identified during the assessments to consider discussing with the caregiver.		
Trigger			Step 4.5: Review Responses		
Reference Document			ENN (2021); FANTA (2018); UNICEF (2012); WHO (2008a)		
Input (IF)			Output (IF)	Action	Annotations
“feeding_difficulties” = “feeddificulties_lowappetite”	-	-	Annotation added to list of possible causes of nutritional status/growth problems	The health worker considers discussing with the caregiver the characteristic, question, concern, or behavior.	The child’s caregiver expressed concern that the child has little or no appetite.
“feeding_difficulties” = “feeddificulties_refusesfood”	-	-	Annotation added to list of possible causes of nutritional status/growth problems	The health worker considers discussing with the caregiver the characteristic, question, concern, or behavior.	The child’s caregiver expressed concern that the child refuses to eat what is offered or is a picky eater.
“feeding_difficulties” = “feeddificulties_hungryaftereat”	-	-	Annotation added to list of possible causes of nutritional status/growth problems	The health worker considers discussing with the caregiver the characteristic, question, concern, or behavior.	The child’s caregiver expressed concern that the child is hungry even after eating.
“feeding_difficulties” = “feeddificulties_chewing”	-	-	Annotation added to list of possible causes of nutritional status/growth problems	The health worker considers discussing with the caregiver the characteristic, question, concern, or behavior.	The child’s caregiver expressed concern that the child has difficulty chewing.

Decision ID			DT.CN.02		
Business Rule			The application provides the health worker with a list of characteristics, questions, concerns, and behaviors identified during the assessments to consider discussing with the caregiver.		
Trigger			Step 4.5: Review Responses		
Reference Document			ENN (2021); FANTA (2018); UNICEF (2012); WHO (2008a)		
Input (IF)			Output (IF)	Action	Annotations
“feeding_difficulties” = “feeddificulties_swallowing”	-	-	Annotation added to list of possible causes of nutritional status/growth problems	The health worker considers discussing with the caregiver the characteristic, question, concern, or behavior.	The child’s caregiver expressed concern that the child has difficulty swallowing.
“feeding_difficulties” = “feeddificulties_coughortears”	-	-	Annotation added to list of possible causes of nutritional status/growth problems	The health worker considers discussing with the caregiver the characteristic, question, concern, or behavior.	The child’s caregiver expressed concern that the child frequently coughs or tears when feeding.
“feeding_difficulties” = “feeddificulties_rigidjaw”	-	-	Annotation added to list of possible causes of nutritional status/growth problems	The health worker considers discussing with the caregiver the characteristic, question, concern, or behavior.	The child’s caregiver expressed concern that the child has rigid muscles or clenches her/his jaw when feeding.
“feeding_difficulties” = “feeddificulties_sweats”	-	-	Annotation added to list of possible causes of nutritional status/growth problems	The health worker considers discussing with the caregiver the characteristic, question, concern, or behavior.	The child’s caregiver expressed concern that the child sweats excessively when feeding.
“feeding_difficulties” = “feeddificulties_vomits	-	-	Annotation added to list of possible causes of nutritional	The health worker considers discussing with the caregiver the	The child’s caregiver expressed concern that the

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Trigger			Step 4.5: Review Responses		
Reference Document			ENN (2021); FANTA (2018); UNICEF (2012); WHO (2008a)		
Input (IF)			Output (IF)	Action	Annotations
			status/growth problems	characteristic, question, concern, or behavior.	child vomits or spits up when feeding.
“feeding_difficulties” = “feeddificulties_tiresquickly”	-	-	Annotation added to list of possible causes of nutritional status/growth problems	The health worker considers discussing with the caregiver the characteristic, question, concern, or behavior.	The child’s caregiver expressed concern that the child tires quickly when eating.
“feeding_difficulties” = “feeddificulties_notenoughfood”	-	-	Annotation added to list of possible causes of nutritional status/growth problems	The health worker considers discussing with the caregiver the characteristic, question, concern, or behavior.	The child’s caregiver expressed concern about not having enough food.
“meal_frequency” = “meal_frequency_1orless” OR “meal_frequency_2” OR “meal_frequency_3”	$0.5 \leq \text{“child_age”} < 1.0$	-	Annotation added to list of possible causes of nutritional status/growth problems	The health worker considers discussing with the caregiver the characteristic, question, concern, or behavior.	The child is [child_agemonths] months old and eats less than four times a day.
“meal_intake” = “mealintake_much”	-	-	Annotation added to list of possible causes of nutritional status/growth problems	The health worker considers discussing with the caregiver the characteristic, question, concern, or behavior.	The caregiver feels that the child eats too much at each meal.

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Business Rule			The application provides the health worker with a list of characteristics, questions, concerns, and behaviors identified during the assessments to consider discussing with the caregiver.		
Trigger			Step 4.5: Review Responses		
Reference Document			ENN (2021); FANTA (2018); UNICEF (2012); WHO (2008a)		
Input (IF)			Output (IF)	Action	Annotations
“meal_intake” = “mealintake_little”	-	-	Annotation added to list of possible causes of nutritional status/growth problems	The health worker considers discussing with the caregiver the characteristic, question, concern, or behavior.	The caregiver feels that the child eats too little at each meal.
“diet_diversity” = “diet_sugar”	-	-	Annotation added to list of possible causes of nutritional status/growth problems	The health worker considers discussing with the caregiver the characteristic, question, concern, or behavior.	The child eats sugary foods, such as chocolates, sweets, candies, pastries, cakes, or biscuits.
“diet_diversity” = “diet_palmoil”	-	-	Annotation added to list of possible causes of nutritional status/growth problems	The health worker considers discussing with the caregiver the characteristic, question, concern, or behavior.	The child eats foods made with palm oil.
(“other_fluids” = “otherfluids_chocolate” OR “otherfluids_juice” OR “otherfluids_soda”) OR (“liquid_intake” = “liquid_chocolate” OR “liquid_juice” OR “liquid_soda”)	-	-	Annotation added to list of possible causes of nutritional status/growth problems	The health worker considers discussing with the caregiver the characteristic, question, concern, or behavior.	The child drinks sugar-sweetened juices or soft drinks.

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Trigger		Step 4.5: Review Responses			
Reference Document		ENN (2021); FANTA (2018); UNICEF (2012); WHO (2008a)			
Input (IF)		Output (IF)	Action	Annotations	
“ownplate” = “ownplate_no”	-	“child_age” ≥ 0.5	Annotation added to list of possible causes of nutritional status/growth problems	The health worker considers discussing with the caregiver the characteristic, question, concern, or behavior.	The child is [child_agemonths] months old and is not served her/his own plate or bowl of food.
“child_handwash” = “child_handwash_nosoap”	-	-	Annotation added to list of possible causes of nutritional status/growth problems	The health worker considers discussing with the caregiver the characteristic, question, concern, or behavior.	The caregiver does not wash the child’s hands with soap before eating or being fed.
“child_handwash” = “child_handwash_no”	-	-	Annotation added to list of possible causes of nutritional status/growth problems	The health worker considers discussing with the caregiver the characteristic, question, concern, or behavior.	The caregiver does not wash the child’s hands at all before eating or being fed.
“caregiver_handwash” = “caregiver_handwash_nosoap”	-	-	Annotation added to list of possible causes of nutritional status/growth problems	The health worker considers discussing with the caregiver the characteristic, question, concern, or behavior.	The child’s caregiver does not wash her/his hands with soap before feeding the child.
“caregiver_handwash” = “caregiver_handwash_no”	-	-	Annotation added to list of possible causes of nutritional	The health worker considers discussing with the caregiver the	The child’s caregiver does not wash her/his hands before feeding the child.

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Trigger			Step 4.5: Review Responses		
Reference Document			ENN (2021); FANTA (2018); UNICEF (2012); WHO (2008a)		
Input (IF)			Output (IF)	Action	Annotations
			status/growth problems	characteristic, question, concern, or behavior.	
"inactive_hrs" > 2	("whz_score" > 1) OR ("bmiaz_score" > 1)	"child_age" ≥ 2.0	Annotation added to list of possible causes of nutritional status/growth problems	The health worker considers discussing with the caregiver the characteristic, question, concern, or behavior.	The child is overweight or at risk of becoming overweight and spends [inactive_hrs] hours per day physically inactive.
"tv_hrs" > 2	("whz_score" > 1) OR ("bmiaz_score" > 1)	"child_age" ≥ 2.0	Annotation added to list of possible causes of nutritional status/growth problems	The health worker considers discussing with the caregiver the characteristic, question, concern, or behavior.	The child is overweight or at risk of becoming overweight and spends [tv_hrs] hours per day watching or playing on the television, tablet, phone, or gaming device.
"development_difficulties" = "devdifficulties_development"	-	-	Annotation added to list of possible causes of nutritional status/growth problems	The health worker considers discussing with the caregiver the characteristic, question, concern, or behavior.	The caregiver is concerned about the child's development.

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Trigger			Step 4.5: Review Responses		
Reference Document			ENN (2021); FANTA (2018); UNICEF (2012); WHO (2008a)		
Input (IF)			Output (IF)	Action	Annotations
“development_difficulties” = “devdifficulties_learning”	-	-	Annotation added to list of possible causes of nutritional status/growth problems	The health worker considers discussing with the caregiver the characteristic, question, concern, or behavior.	The caregiver is concerned about the child’s learning.
“development_difficulties” = “devdifficulties_communicating”	-	-	Annotation added to list of possible causes of nutritional status/growth problems	The health worker considers discussing with the caregiver the characteristic, question, concern, or behavior.	The caregiver is concerned about the child’s communication.
“development_difficulties” = “devdifficulties_understanding”	-	-	Annotation added to list of possible causes of nutritional status/growth problems	The health worker considers discussing with the caregiver the characteristic, question, concern, or behavior.	The caregiver is concerned about the child’s understanding.
“development_difficulties” = “devdifficulties_relating”	-	-	Annotation added to list of possible causes of nutritional status/growth problems	The health worker considers discussing with the caregiver the characteristic, question, concern, or behavior.	The caregiver is concerned about how the child relates to or interacts with other people.

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Business Rule			The application provides the health worker with a list of characteristics, questions, concerns, and behaviors identified during the assessments to consider discussing with the caregiver.		
Trigger			Step 4.5: Review Responses		
Reference Document			ENN (2021); FANTA (2018); UNICEF (2012); WHO (2008a)		
Input (IF)			Output (IF)	Action	Annotations
“understand_child” = “understandchild_difficult” OR “understandchild_dk”	-	-	Annotation added to list of possible causes of nutritional status/growth problems	The health worker considers discussing with the caregiver the characteristic, question, concern, or behavior.	The caregiver does not appear to understand the child’s nonverbal cues.
“communicate_child” = “communicate_noeye” OR “communicate_talkharsh” OR “communicate_harsh” OR “communicate_no”	-	-	Annotation added to list of possible causes of nutritional status/growth problems	The health worker considers discussing with the caregiver the characteristic, question, concern, or behavior.	The caregiver does not appear to communicate appropriately with the child.
(“decide_feed” = “decidefeed_dk” OR “decidefeed_schedule” OR “decidefeed_cries”) OR (“decide_feed” ≠ “decidefeed_sign”)	“child_age” < 2.0	-	Annotation added to list of possible causes of nutritional status/growth problems	The health worker considers discussing with the caregiver the characteristic, question, concern, or behavior.	The child is [child_agemonths] months old. The caregiver does not use early signs of hunger to decide when to feed the child.
(“decide_stop” = “decidestop_time” OR “decidestop_cries”) OR (“decide_stop” ≠ “decidestop_sign”)	“child_age” < 2.0	-	Annotation added to list of possible causes of nutritional status/growth problems	The health worker considers discussing with the caregiver the characteristic, question, concern, or behavior.	The child is [child_agemonths] months old. The caregiver does not use signs of satiety to decide when the child is full.

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Trigger			Step 4.5: Review Responses		
Reference Document			ENN (2021); FANTA (2018); UNICEF (2012); WHO (2008a)		
Input (IF)			Output (IF)	Action	Annotations
“smile_behavior” = “smile_force” OR “smile_force” OR “smile_doesnotknow”	-	-	Annotation added to list of possible causes of nutritional status/growth problems	The health worker considers discussing with the caregiver the characteristic, question, concern, or behavior.	The caregiver does not appear to know how to get the child to smile.
“play_style” = “play_noplay” OR “play_doesnotknow”	-	-	Annotation added to list of possible causes of nutritional status/growth problems	The health worker considers discussing with the caregiver the characteristic, question, concern, or behavior.	The caregiver does not appear to know how to play with the child in an appropriate manner.
IF none of the above are TRUE	-	-	The application does not generate a table of characteristics, questions, concerns, or behaviors.	The application moves to Step 4.6 .	No message to the health worker because this is processed in the backend.

Decision ID	DT.CN.03			
Business Rule	The application provides the health worker with a list of counseling topics¹ based on characteristics, questions, concerns, or behaviors identified during the assessments for the health worker to take into consideration when counseling the caregiver.			
Trigger	Step 4.6: Counsel Caregiver			
Reference Document	WHO (2008a); UNICEF (2012); ENN (2021)			
Input (IF)		Output (THEN)²	Action	Annotations
“mother_age” < 20	-	Annotation added to list of possible counseling topic(s).	The health worker considers the list of relevant counseling topics provided by the application.	Adolescent mother
“birth_number” = “birth_multiple”	-	Annotation added to list of possible counseling topic(s).	The health worker considers the list of relevant counseling topics provided by the application.	Multiple births
“birthweight_kg” < 2.5 OR “birthweight_estimate” = “bwestimate_verysmall”	“child_age” < 0.5	Annotation added to list of possible counseling topic(s).	The health worker considers the list of relevant counseling topics provided by the application.	Low weight infant; feeding a low birth-weight baby

¹ This is a list of topics only. This guidance package does not include specific counseling messages for each topic because they should be adapted to country contexts. We highly recommend linking each topic to country-specific counseling cards, key messages, or videos so that when the health worker selects a topic, the key messages, images, or video appears. The counseling topics and their related counseling cards can be included in the application as a content library. We provide a list of counseling cards and videos in Annex 7 that users of this guidance package may wish to use and/or adapt.

² The counseling topics come from the following resources: FANTA 2018; ENN 2021; UNICEF 2012; USAID Advancing Nutrition 2021; WHO 2008a; WHO and UNICEF 2021b.

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Business Rule	The application provides the health worker with a list of counseling topics¹ based on characteristics, questions, concerns, or behaviors identified during the assessments for the health worker to take into consideration when counseling the caregiver.			
Trigger	Step 4.6: Counsel Caregiver			
Reference Document	WHO (2008a); UNICEF (2012); ENN (2021)			
Input (IF)		Output (THEN)²	Action	Annotations
"termination_bf" = "terminationbf_yes"	"child_age" < 2.0	Annotation added to list of possible counseling topic(s).	The health worker considers the list of relevant counseling topics provided by the application.	Relactation
("breastfeeding_difficulties" = "bfdifficulties_pain" OR "bfdifficulties_hungry" OR "bfdifficulties_feedsveryfrequent" OR "bfdifficulties_refuses") OR ("bfobservation_problem" = "bfobservation_sore_cracked" OR "bfobservation_position" OR "bfobservation_latch" OR "bfobservation_suckle" OR "bfobservation_flat_inverted" OR "bfobservation_engorged" OR "bfobservation_duct") OR ("irregular_stools" = "irregular_stools_yes")	-	Annotation added to list of possible counseling topic(s).	The health worker considers the list of relevant counseling topics provided by the application.	<ul style="list-style-type: none"> • Breast condition: breast engorgement • Breast condition: sore or cracked nipples • Breast condition: flat, inverted, large, or long nipples • Oral thrush infant and maternal nipple thrush
"child_age" < 0.5	-	Annotation added to list of	The health worker considers the list of	<ul style="list-style-type: none"> • Exclusive breastfeeding during the first six months

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Trigger	Step 4.6: Counsel Caregiver			
Reference Document	WHO (2008a); UNICEF (2012); ENN (2021)			
Input (IF)		Output (THEN)²	Action	Annotations
		possible counseling topic(s).	relevant counseling topics provided by the application.	<ul style="list-style-type: none"> • Breastfeeding on demand, both day and night (8 to 12 times) • Excessive crying and lack of sleep • Responsive feeding • Good breastfeeding positioning and attachment • Effective suckling • “Not enough” breastmilk • Mother lacks confidence to breastfeed • Breastfeeding if living with HIV • Feeding breast milk when separated from your baby • Breast milk expression and storage • How to heat-treat breast milk • Cup feeding • Conditions needed to avoid all breastfeeding • Non-breastfeeding infants • Conditions needed for safe use of replacement feeding • Use of infant formula • Preparing infant formula • Regular growth monitoring and promotion • Responsive care

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Trigger	Step 4.6: Counsel Caregiver			
Reference Document	WHO (2008a); UNICEF (2012); ENN (2021)			
Input (IF)	Output (THEN)²	Action	Annotations	
			<ul style="list-style-type: none"> • Communication • Play • Monitoring child development • Good hygiene (cleanliness) practices prevent disease • Recommendations for safe food preparation and hygiene • When to bring your child to the health facility • Mother or infant has suspected or confirmed COVID-19 • Mother tested positive for HIV • Feeding the sick child older than six months of age • Feeding difficulties • Satisfactory slow weight gain • Caring for the caregiver • Relaxation • Nutrition for pregnant and breastfeeding women • Family planning • Family and partner support to the caregiver • Community support 	

Decision ID	DT.CN.03			
Business Rule	The application provides the health worker with a list of counseling topics¹ based on characteristics, questions, concerns, or behaviors identified during the assessments for the health worker to take into consideration when counseling the caregiver.			
Trigger	Step 4.6: Counsel Caregiver			
Reference Document	WHO (2008a); UNICEF (2012); ENN (2021)			
Input (IF)		Output (THEN)²	Action	Annotations
0.5 ≤ “child_age” < 0.75	-	Annotation added to list of possible counseling topic(s).	The health worker considers the list of relevant counseling topics provided by the application.	<ul style="list-style-type: none"> • Start complementary feeding at six months of age • Feeding non-breastfed children from six up to 24 months • Complementary feeding of children from six up to nine months • Recommended foods for babies and children ages six months to five years • Food variety • How to add micronutrient powder to complementary foods • Excessive crying and lack of sleep • Responsive feeding • Good breastfeeding positioning and attachment • Effective suckling • “Not enough” breastmilk • Mother lacks confidence to breastfeed • Breastfeeding if living with HIV • Feeding breast milk when separated from your baby • Breast milk expression and storage • How to heat-treat breast milk • Cup feeding • Conditions needed to avoid all

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Trigger	Step 4.6: Counsel Caregiver			
Reference Document	WHO (2008a); UNICEF (2012); ENN (2021)			
Input (IF)	Output (THEN)²	Action	Annotations	
			breastfeeding <ul style="list-style-type: none"> • Non-breastfeeding infants • Conditions needed for safe use of replacement feeding • Use of infant formula • Preparing infant formula • Regular growth monitoring and promotion • Responsive care • Communication • Play • Monitoring child development • Good hygiene (cleanliness) practices prevent disease • Recommendations for safe food preparation and hygiene • When to bring your child to the health facility • Mother or infant has suspected or confirmed COVID-19 • Mother tested positive for HIV • Feeding the sick child older than six months of age • Feeding difficulties • Satisfactory slow weight gain • Caring for the caregiver 	

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Business Rule	The application provides the health worker with a list of counseling topics¹ based on characteristics, questions, concerns, or behaviors identified during the assessments for the health worker to take into consideration when counseling the caregiver.			
Trigger	Step 4.6: Counsel Caregiver			
Reference Document	WHO (2008a); UNICEF (2012); ENN (2021)			
Input (IF)		Output (THEN)²	Action	Annotations
				<ul style="list-style-type: none"> • Relaxation • Nutrition for pregnant and breastfeeding women • Family planning • Family and partner support to the caregiver • Community support
$0.75 \leq \text{“child_age”} < 1.0$	-	Annotation added to list of possible counseling topic(s).	The health worker considers the list of relevant counseling topics provided by the application.	<ul style="list-style-type: none"> • Feeding non-breastfed children from six up to 24 months • Complementary feeding of children from nine up to 12 months • Recommended foods for babies and children ages six months to five years • Food variety • How to add MNP to complementary foods • Excessive crying and lack of sleep • Responsive feeding • Good breastfeeding positioning and attachment • Effective suckling • “Not enough” breastmilk • Mother lacks confidence to breastfeed • Breastfeeding if living with HIV • Feeding breast milk when separated from your baby

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Business Rule	The application provides the health worker with a list of counseling topics ¹ based on characteristics, questions, concerns, or behaviors identified during the assessments for the health worker to take into consideration when counseling the caregiver.			
Trigger	Step 4.6: Counsel Caregiver			
Reference Document	WHO (2008a); UNICEF (2012); ENN (2021)			
Input (IF)	Output (THEN)²	Action	Annotations	
			<ul style="list-style-type: none"> • Breast milk expression and storage • How to heat-treat breast milk • Cup feeding • Conditions needed to avoid all breastfeeding • Conditions needed for safe use of replacement feeding • Use of infant formula • Preparing infant formula • Regular growth monitoring and promotion • Responsive care • Communication • Play • Monitoring child development • Good hygiene (cleanliness) practices prevent disease • Recommendations for safe food preparation and hygiene • When to bring your child to the health facility • Mother or infant has suspected or confirmed COVID-19 • Mother tested positive for HIV • Feeding the sick child older than six months of age 	

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Trigger	Step 4.6: Counsel Caregiver			
Reference Document	WHO (2008a); UNICEF (2012); ENN (2021)			
Input (IF)		Output (THEN)²	Action	Annotations
				<ul style="list-style-type: none"> • Feeding difficulties • Satisfactory slow weight gain • Caring for the caregiver • Relaxation • Nutrition for pregnant and breastfeeding women • Family planning • Family and partner support to the caregiver • Community support
1.0 ≤ “child_age” < 2.0	-	Annotation added to list of possible counseling topic(s).	The health worker considers the list of relevant counseling topics provided by the application.	<ul style="list-style-type: none"> • Feeding non-breastfed children from six up to 24 months • Complementary feeding of children from 12 up to 24 months • Recommended foods for babies and children ages six months to five years • Food variety • How to add MNP to complementary foods • Responsive feeding • Breastfeeding if living with HIV • Feeding breast milk when separated from your baby • Breast milk expression and storage • How to heat-treat breast milk • Conditions needed for safe use of

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Trigger	Step 4.6: Counsel Caregiver			
Reference Document	WHO (2008a); UNICEF (2012); ENN (2021)			
Input (IF)		Output (THEN)²	Action	Annotations
				<ul style="list-style-type: none"> replacement feeding • Use of infant formula • Preparing infant formula • Regular growth monitoring and promotion • Responsive care • Communication • Play • Monitoring child development • Good hygiene (cleanliness) practices prevent disease • Recommendations for safe food preparation and hygiene • When to bring your child to the health facility • Mother or infant has suspected or confirmed COVID-19 • Mother tested positive for HIV • Feeding the sick child older than six months of age • Feeding difficulties • Satisfactory slow weight gain • Caring for the caregiver • Relaxation • Nutrition for pregnant and breastfeeding women

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Trigger	Step 4.6: Counsel Caregiver			
Reference Document	WHO (2008a); UNICEF (2012); ENN (2021)			
Input (IF)		Output (THEN)²	Action	Annotations
				<ul style="list-style-type: none"> • Family planning • Family and partner support to the caregiver • Community support
“child_age” ≥ 2.0	-	Annotation added to list of possible counseling topic(s).	The health worker considers the list of relevant counseling topics provided by the application.	<ul style="list-style-type: none"> • Feeding of children from two to five years • Recommended foods for babies and children ages six months to five years • Food variety • How to add MNP to complementary foods • Regular growth monitoring and promotion • Responsive care • Communication • Play • Monitoring child development • Good hygiene (cleanliness) practices prevent disease • Recommendations for safe food preparation and hygiene • When to bring your child to the health facility • Mother or infant has suspected or confirmed COVID-19 • Mother tested positive for HIV • Feeding the sick child older than six months of age

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Trigger	Step 4.6: Counsel Caregiver			
Reference Document	WHO (2008a); UNICEF (2012); ENN (2021)			
Input (IF)		Output (THEN)²	Action	Annotations
				<ul style="list-style-type: none"> • Feeding difficulties • Satisfactory slow weight gain • Caring for the caregiver • Relaxation • Nutrition for pregnant and breastfeeding women • Family planning • Family and partner support to the caregiver • Community support



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FROM THE AMERICAN PEOPLE

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