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Adult & Pediatric Malnutrition
Documentation: CMS Scrutiny, Global
Conversations, and More!

WiSPEN Spring Conference

April 30th, 2019

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Objectives

- Review clinical characteristics for identifying, diagnosing, and documenting malnutrition in the adult and pediatric populations
- Understand the role of the dietitian, provider, clinical documentation specialists, coding specialists, and physician champions in capturing accurate diagnoses and reimbursement
- Introduce GLIM criteria and the future of malnutrition diagnostic criteria

Overview of Malnutrition

Clinical Characteristics

Clinical Characteristics for Identifying Adult & Pediatric Malnutrition

2012

- Adult consensus recommendations published
- Context-specific criteria (2 of 6 required)
 - Inadequate energy intake
 - Significant weight loss
 - Loss of muscle mass
 - Loss of subcutaneous fat mass
 - Edema
 - Decreased physical functioning

2014

- Pediatric consensus recommendations published
- Criteria (1 of 8 required)
 - Weight for height z score
 - BMI for age z score
 - Length/height z score (severe)
 - MUAC
 - Weight gain velocity (<2 years)
 - Weight loss (2 to 20 years)
 - ↓ in weight for length z score
 - Inadequate nutrient intake

Moderate Malnutrition (Adult)

ICD-10 Code: E44 Moderate protein-calorie malnutrition	Moderate Malnutrition in the context of Acute Illness/Injury	Moderate Malnutrition in the context of Chronic Illness	Moderate Malnutrition in the context of Non-Inflammatory Condition
Weight Loss – is evaluated in light of other clinical findings including hydration. Weight change over time is reported as a percentage of weight lost from baseline	Weight Loss 1-2% in 1 week 5% in 1 month 7.5% in 3 months	Weight Loss 5% in 1 month 7.5% in 3 months 10% in 6 months 20% in 12 months	Weight Loss 5% in 1 month 7.5% in 3 months 10% in 6 months 20% in 12 months
Intake – RD obtains diet history and estimates energy needs. Suboptimal intake is determined as a percentage of estimated needs over time.	Energy Intake <75% of estimated energy requirement for >7 days	Energy Intake <75% of estimated energy requirement for ≥1 month	Energy Intake <75% of estimated energy requirement for ≥3 months
Physical Assessment (Body Fat) – loss of subcutaneous fat (i.e. orbital, triceps, fat overlying ribcage).	Body Fat Mild depletion	Body Fat Mild depletion	Body Fat Mild depletion
Physical Assessment (Muscle Mass) – loss of muscle (i.e. wasting of the temples, clavicles, shoulders, interosseous muscles, scapula, thigh, and calf)	Muscle Mass Mild depletion	Muscle Mass Mild depletion	Muscle Mass Mild depletion
Physical Assessment (Fluid Accumulation) – general or local fluid accumulation (i.e. extremity or vulvar/scrotal edema, ascites)	Fluid Accumulation Mild	Fluid Accumulation Mild	Fluid Accumulation Mild
Functional Assessment (Grip Strength)	Reduced Grip Strength: N/A	Reduced Grip Strength: N/A	Reduced Grip Strength: N/A

Severe Malnutrition (Adult)

ICD-10 Code: E43 Unspecified severe protein-calorie malnutrition	Severe Malnutrition in the context of Acute Illness/Injury	Severe Malnutrition in the context of Chronic Illness	Severe Malnutrition in the context of Non-Inflammatory Condition
Weight Loss – is evaluated in light of other clinical findings including hydration. Weight change over time is reported as a percentage of weight lost from baseline	Weight Loss >2% in 1 week >5% in 1 month >7.5% in 3 months	Weight Loss >5% in 1 month >7.5% in 3 months >10% in 6 months >20% in 12 months	Weight Loss >5% in 1 month >7.5% in 3 months >10% in 6 months >20% in 12 months
Intake – RD obtains diet history and estimates energy needs. Suboptimal intake is determined as a percentage of estimated needs over time.	Energy Intake ≤50% of estimated energy requirement for ≥5 days	Energy Intake ≤75% of estimated energy requirement for ≥1 month	Energy Intake ≤50% of estimated energy requirement for ≥1 month
Physical Assessment (Body Fat) – loss of subcutaneous fat (i.e. orbital, triceps, fat overlying ribcage).	Body Fat Moderate depletion	Body Fat Severe depletion	Body Fat Severe depletion
Physical Assessment (Muscle Mass) – loss of muscle (i.e. wasting of the temples, clavicles, shoulders, interosseous muscles, scapula, thigh, and calf)	Muscle Mass Moderate depletion	Muscle Mass Severe depletion	Muscle Mass Severe depletion
Physical Assessment (Fluid Accumulation) – general or local fluid accumulation (i.e. extremity or vulvar/scrotal edema, ascites)	Fluid Accumulation Moderate to Severe	Fluid Accumulation Severe	Fluid Accumulation Severe
Functional Assessment (Grip Strength) – Consult normative standards supplied by the manufacturer of the measurement device.	Reduced Grip Strength Measurably reduced	Reduced Grip Strength Measurably reduced	Reduced Grip Strength Measurably reduced

How do pediatric indicators compare to adult indicators?

- Pediatric criteria focuses on growth (z-scores)
- Nutrition-focused physical exam findings and grip strength are not part of the pediatric criteria, but can be used to support the malnutrition diagnosis
 - MUAC (mid upper arm circumference) is measured regularly and is part of the pediatric criteria
- Pediatric criteria include mild malnutrition classification, in addition to moderate and severe

Primary Indicators for Pediatric Malnutrition

(single data point available for diagnosis)

Primary Indicators	Mild Malnutrition	Moderate Malnutrition	Severe Malnutrition
Weight for height z score	-1 to -1.9 z score	-2 to -2.9 z score	-3 or less z score
BMI for age z score	-1 to -1.9 z score	-2 to -2.9 z score	-3 or less z score
Length/height z score	No data	No data	-3 or less z score
Mid-upper arm circumference	-1 to -1.9 z score	-2 to -2.9 z score	-3 or less z score

Two modifiers are added to the malnutrition diagnosis, designating it as 1) acute (<3 months) or chronic (>3 months) and 2) illness-related or non-illness related

Primary Indicators for Pediatric Malnutrition

(≥ 2 data points available for diagnosis)

Primary Indicators	Mild Malnutrition	Moderate Malnutrition	Severe Malnutrition
Weight gain velocity (< 2 y of age)	< 75% of the norm for expected weight gain	< 50% of the norm for expected weight gain	< 25% of the norm for expected weight gain
Weight loss (2 to 20 y of age)	5% usual body weight	7.5% usual body weight	10% usual body weight
Deceleration in weight for length/height z score	Decline of 1 z score	Decline of 2 z score	Decline of 3 z score
Inadequate nutrient intake	51% to 75% estimated energy/protein intake	26% to 50% estimated energy/protein intake	$\leq 25\%$ estimated energy/protein intake

EHR Documentation

Dietitian Documentation

- Nutrition Assessment and Diagnosis are part of the Nutrition Care Process
 - NFPE deemed a standard of practice for entry-level dietitians since 2012
 - NFPE included in ACEND Accreditation Standards as a required competency for Dietetic Internships and Coordinated Programs since 2017

3. Domain 3. Clinical and Customer Services: Development and delivery of information, products and services to individuals, groups and populations.

Competencies

Upon completion of the program, graduates are able to:

- CRDN 3.1 Perform the Nutrition Care Process and use standardized nutrition language for individuals, groups and populations of differing ages and health status, in a variety of settings.
- CRDN 3.2 Conduct nutrition focused physical exams.
- CRDN 3.3 Demonstrate effective communications skills for clinical and customer services in a variety of formats and settings.

Dietitian Documentation

- 2018 eNCPT terminology for malnutrition diagnosis

	<u>NCPT Code</u>	<u>ANDUID</u>
Malnutrition Disorders (4)		
<i>Health consequences resulting from insufficient or excessive energy and/or nutrient intake compared to physiologic needs and/or utilization.</i>		
• Malnutrition (undernutrition)	NC-4.1	10657
• Starvation related malnutrition	NC-4.1.1	11130
• Moderate starvation related malnutrition	NC-4.1.1.1	13210
• Severe starvation related malnutrition	NC-4.1.1.2	13211
• Chronic disease or condition related malnutrition	NC-4.1.2	11131
• Moderate chronic disease or condition related malnutrition	NC-4.1.2.1	13212
• Severe chronic disease or condition related malnutrition	NC-4.1.2.2	13213
• Acute disease or injury related malnutrition	NC-4.1.3	11132
• Moderate acute disease or injury related malnutrition	NC-4.1.3.1	13214
• Severe acute disease or injury related malnutrition	NC-4.1.3.2	13215
• Non illness related pediatric malnutrition	NC-4.1.4	13017
• Mild non illness related pediatric malnutrition	NC-4.1.4.1	13216
• Moderate non illness related pediatric malnutrition	NC-4.1.4.2	13217
• Severe non illness related pediatric malnutrition	NC-4.1.4.3	13218
• Illness related pediatric malnutrition	NC-4.1.5	13018
• Mild illness related pediatric malnutrition	NC-4.1.5.1	13219
• Moderate illness related pediatric malnutrition	NC-4.1.5.2	13220
• Severe illness related pediatric malnutrition	NC-4.1.5.3	13221

Provider Documentation

- Providers: MD, DO, NP, APNP, PA-C
- Documents medical diagnoses based on clinical characteristics and findings
 - Required for accurate coding and reimbursement (more on this soon...)

FMLH RD Malnutrition Assessment

Food/Beverage Intake: Patient reports poor appetite and altered taste and states he has been eating much less than normal for the past 3 months; 1 meal and 1 small snack/day compared to 3 meals/day. Estimate intake meeting <75% of estimated energy needs for >1 month.

Admit 132 lbs on 4/9/2019
 Usual Body Weight: 150 lbs
 Weight Change: Confirms 18 lb (12%) weight loss in the last 6 months - significant.

Edema: Mild (2+) edema of hands, Ascites present

Nutrition-focused Physical Exam:

Fat/Muscle							
Date/Time	Exam of Muscle and Subcutaneous Fat Stores Done?	Reason for Deferral	No Depletion	Mild Depletion	Moderate Depletion	Severe Depletion	Barriers
04/10/19 0937	Yes	--	--	Pectoralis Major; Temporalis; Deltoids; Buccal fat pad; Orbital fat pad	Gastrocnemius; Quadriceps	--	unable to sit forward

Micronutrient							
Date/Time	Exam of Skin/Hair/Eyes/Mouth/Nails done?	Skin	Hair/Scalp	Eyes	Oral/Mouth Cavity	Nails	Barriers
04/10/19 0937	Yes	jaundice	--	pale conjunctiva; jaundiced sclera	--	Terry's nails	--

Recommend diagnosis of: Unspecified severe protein-calorie malnutrition
 In the context of chronic illness (end stage liver disease)
 As evidenced by decreased energy intake and significant weight loss

FMLH Provider Documentation

Attestation signed by Achilles, Finn-Im, MD at 4/10/2019 10:20 AM

Provider Documentation

Based on assessment of patient, the diagnosis is Unspecified severe protein-calorie malnutrition

Malnutrition Plan of Care:

Agree with nutrition assessment and plan of care in Medical Nutrition Therapy care plan note.

Malnutrition Present on Admission:

Yes, the condition is present on admission at the time of the order to admit patient to inpatient status.

Finn-Im Achilles, MD

Nutrition Diagnosis Note (Provider Attestation Needed)

Provider: To clarify patient diagnosis, attest and complete the note.

Nutrition Diagnosis:

Recommend diagnosis of Unspecified severe protein-calorie malnutrition
In the context of chronic illness (end stage liver disease)
As evidenced by decreased energy intake and significant weight loss

Nutrition Intervention:

Meals/snacks: Encourage small, frequent meals

Medical Food Supplements: Ordered TID high calorie/high protein oral nutrition supplement

Provider: To clarify patient diagnosis, attest and complete the note.

CHW RD Malnutrition Assessment

Malnutrition assessment date	12/18/18 1130
Dietitian assessment of malnutrition	Mild malnutrition
Primary indicators for malnutrition:	
<ul style="list-style-type: none"> • Weight for Length Z Score • BMI for Age Z Score • Length/Height for Age Z Score • Mid-Upper Arm Circumference Z Score • Weight Gain Velocity (<2years) • Weight Loss (2-20 years) • Decline in Weight for Length/Height Z Score • Inadequate Nutrition Intake 	<ul style="list-style-type: none"> • N/A (12/18/18 1130) • -1 to -1.9 (12/18/18 1130) • N/A (12/18/18 1130) • -2 to -2.9;N/A (12/18/18 1130) • N/A (12/18/18 1130) • N/A (12/18/18 1130) • Decline of 1 Z Score (12/18/18 1130) • 51-75% estimated energy/protein (12/18/18 1130)
Assessment of Physical Findings	Physical findings consistent with mild malnutrition (12/18/18 1130)

Findings from nutrition-focused physical exam:

Subcutaneous Fat Exam

Orbital Region Signs: Somewhat hollow look

Thoracic & Lumbar Region Signs: Ribs apparent, depressions between them less pronounced

Muscle Exam

Scapular Bone Region Signs: Prominent, visible bones

Findings from micronutrient exam:

Hair Exam

Hair Signs: WNL

Eye Exam

Eye Signs: Pale conjunctiva

Mouth Exam

Mouth Signs: Soreness, burning

Nutrition Diagnosis:

Chronic (illness related) mild malnutrition related to inadequate intake as evidenced by malnutrition assessment above.

CHW Provider Documentation

- Current Malnutrition Diagnosis pulls from Clinical Nutrition flowsheet into provider progress note within 24 hours of RD documentation
- Most severe malnutrition diagnosis given during the admission will pull into provider discharge summary

Scenario: Patient had moderate malnutrition upon arrival, but has improved and now has mild malnutrition.

Provider progress note today:

As documented in the most recent Clinical Nutrition assessment, this patient has mild malnutrition.

Documentation in Discharge Summary:

As noted by Clinical Nutrition documentation, during this hospitalization this patient did have the diagnosis of moderate malnutrition.

Translating EHR Documentation to Reimbursable Codes

Clinical Documentation Improvement (CDI) Specialist

- Typically Registered Nurses by background
- Focuses on the clinical picture; i.e. that the patient's severity of illness is accurately documented for quality measures
- Charts reviewed while the patient is still inpatient (real time)
 - Can't review every chart; charts can be identified by specific diagnoses, quality measures, specialties, etc
 - Queries the provider to clarify or establish diagnoses based on clinical picture when necessary
- Ensures that the chart is as complete and specific as possible by the time the coder sees it

Coding Specialist

- No medical background required, but must have extensive knowledge of coding guidelines (black and white rules)
- Charts reviewed after hospital discharge
- Assigns the final codes for reimbursement and ensures that codes meet required legal and insurance rules
 - Can ONLY report what the provider documents
 - Queries the provider to clarify already documented diagnoses when necessary; cannot suggest new diagnoses

Coding for Malnutrition

- ICD-10 Codes for malnutrition diagnosis:
 - E40 Kwashiorkor
 - E41 Nutritional Marasmus
 - E42 Marasmic kwashiorkor
 - E44.1 Mild Protein Calorie Malnutrition
 - E44.0 Moderate Protein Calorie Malnutrition
 - E43 Unspecified Severe Protein Calorie Malnutrition
 - E45 Retarded Development Following PCM
 - E46 Unspecified Protein Calorie Malnutrition

Coding for Malnutrition

- ICD-10 Codes for malnutrition diagnosis:
 - E40 Kwashiorkor (MCC)
 - E41 Nutritional Marasmus (MCC)
 - E42 Marasmic kwashiorkor (MCC)
 - E44.1 Mild Protein Calorie Malnutrition (CC)
 - E44.0 Moderate Protein Calorie Malnutrition (CC)
 - E43 Unspecified Severe Protein Calorie Malnutrition (MCC)
 - E45 Retarded Development Following PCM (CC)
 - E46 Unspecified Protein Calorie Malnutrition (CC)

Impact of Malnutrition on Reimbursement

Cirrhosis (Malnutrition not identified)	Cirrhosis (Moderate malnutrition E44.0)	Cirrhosis (Severe malnutrition E43)
DRG 434	DRG 433	DRG 432
Relative weight = 0.6511	Relative weight = 1.0279	Relative weight = 1.826
Ave LOS = 2.43 days	Ave LOS = 2.99 days	Ave LOS = 4.46 days
SOI 1 / ROM 1	SOI 2 / ROM 1	SOI 3 / ROM 2
\$4,558	\$7,195	\$12,782

*Based on nationally recognized methodology – actual reimbursement can vary

How are we doing?

- Estimated prevalence of malnutrition is 30-50%
- HCUP 2010 (non-neonatal): 3.2% (?? PCM)
- HCUP 2013 (non-neonatal): 7.1% (4.5% PCM)
- HCUP 2016 (non-neonatal): 8% (5.3% PCM)

Coding & Reimbursement Challenges

Severe Protein Calories Malnutrition in the OIG Crosshairs

By Megan Cortazzo, MD

- *The OIG continues to review cases of malnutrition.*

The diagnosis of severe protein calorie malnutrition is under high scrutiny from the Centers for Medicare & Medicaid Services (CMS) and the U.S. Department of Health and Human Services (HHS) Office of Inspector General (OIG).

CMS, HHS, and OIG Scrutiny

...oh my

- Cracking down on severe protein-calorie malnutrition diagnosis
 - MCC = significantly higher reimbursement, SOI, ROM, and CMI
- Stresses the importance of using ASPEN/AND criteria for every diagnosis of malnutrition
 - ~~Albumin~~
 - ~~Prealbumin~~
 - ~~BMI~~
 - ~~Need for nutrition support~~
 - ~~Used as a note section header (#Malnutrition)~~

Insurance Reimbursement Denials

- What happens if an insurance company denies payment for a malnutrition code that doesn't use ASPEN/AND criteria?
 1. ...
- What happens if an insurance company denies payment for a malnutrition code using ASPEN/AND criteria?
 1. Subject matter expert review
 2. Physician champion rebuttal

Setting Your Hospital Up For Success

- Engage your nutrition leadership, CDI, coding team, denials department, compliance, and a physician champion
- Establish a clear, system-wide definition for malnutrition diagnoses that are supported by the medical literature (e.g. ASPEN/AND criteria)
- Ensure that accurate and consistent documentation for malnutrition is present throughout the chart and that the documentation supports the criteria (i.e. be descriptive)
- Develop reports to track malnutrition documentation

What's Coming Next?

National & Global Efforts

GLIM Criteria for the Diagnosis of Malnutrition

Special Report

GLIM Criteria for the Diagnosis of Malnutrition: A Consensus Report From the Global Clinical Nutrition Community



Journal of Parenteral and Enteral
Nutrition
Volume 43 Number 1
January 2019 32–40
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Nutrition and Metabolism and
American Society for Parenteral
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DOI: 10.1002/jpen.1440

GLIM = **G**lobal **L**eadership **I**nitiative on **M**alnutrition

Purpose: To reach global consensus on the identification and endorsement of criteria for the diagnosis of malnutrition in clinical settings

GLIM Consensus Objectives

- Develop evidence-based criteria suitable to diverse clinical settings
 - Simple, readily available, and clinically relevant
 - Can be used *with* other approaches and additional criteria of regional preference
- Global dissemination of consensus criteria
- Adoption by leading diagnosis classification and coding entities across the globe

*Not yet endorsed by any society

GLIM Two-Step Model

1. Malnutrition Screen using any validated screening tool
2. Assess and diagnose malnutrition using the following model

Table 3. Phenotypic and Etiologic Criteria for the Diagnosis of Malnutrition.

Phenotypic Criteria ^a		Etiologic Criteria ^a		
Weight Loss (%)	Low Body Mass Index (kg/m ²)	Reduced Muscle Mass ^b	Reduced Food Intake or Assimilation ^{c,d}	Inflammation ^{e,f,g}
>5% within past 6 months, or >10% beyond 6 months	<20 if <70 years, or <22 if >70 years Asia: <18.5 if <70 years, or <20 if >70 years	Reduced by validated body composition measuring techniques ^b	≤50% of ER > 1 week, or any reduction for >2 weeks, or any chronic GI condition that adversely impacts food assimilation or absorption ^{c,d}	Acute disease/injury ^{e,g} or chronic disease-related ^{f,g}



Phenotypic = used for severity grading

Etiologic = used to guide intervention

Michelle's Interpretation of the GLIM Criteria

Phenotypic and Etiologic Criteria for the Diagnosis of Malnutrition

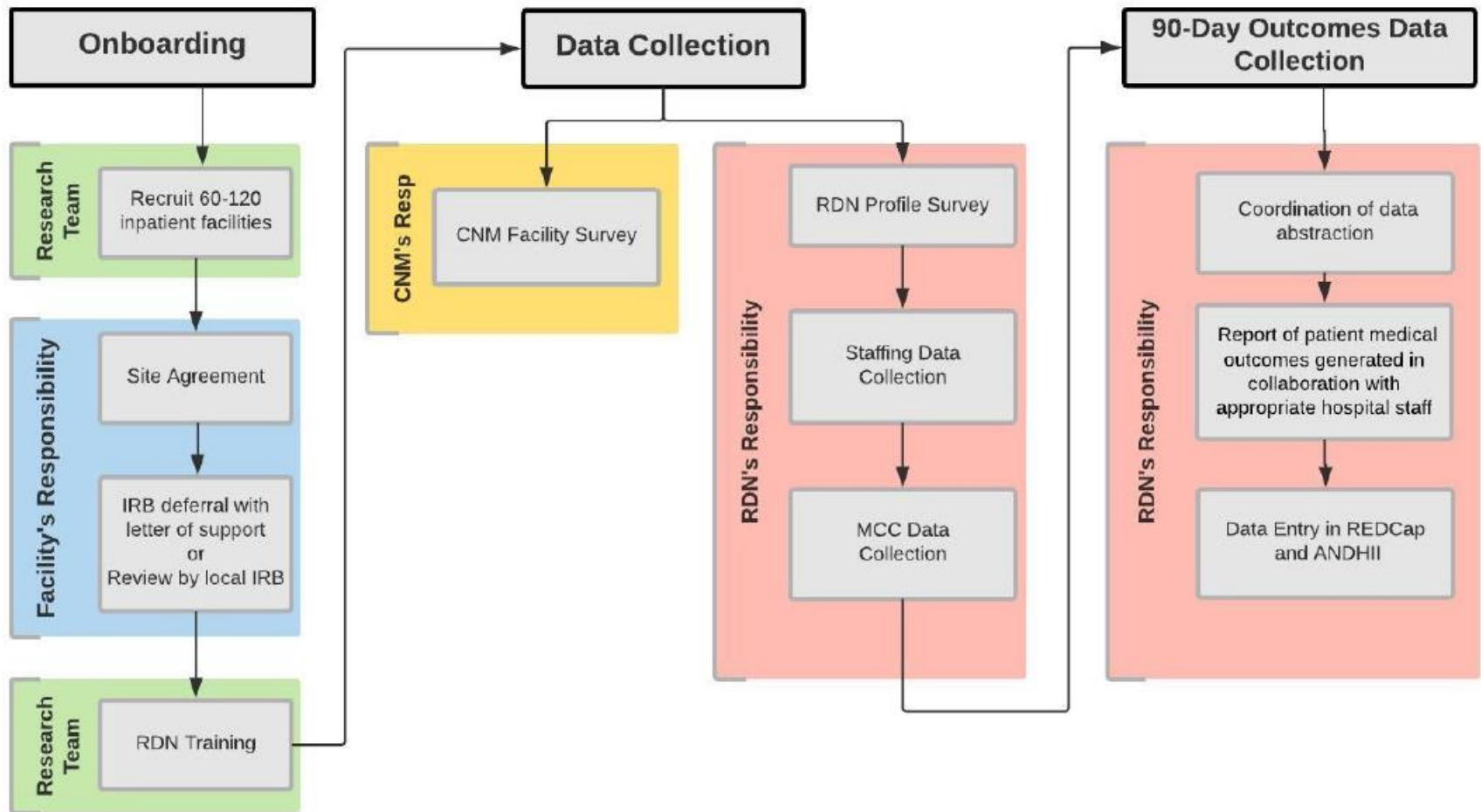
Phenotypic Criteria			Etiologic Criteria	
Weight Loss	Low BMI	Reduced muscle mass (using DXA, BIA, US, CT, MRI, NFPE, MUAC, or calf circumference)	Reduced food intake or assimilation	Inflammation
Moderate 5-10% in the past 6 months OR 10-20% in >6 months	Moderate <20 if <70 years <22 if ≥70 years Moderate (Asia) More research needed	Moderate Mild-moderate deficit	Starvation (including hunger/food shortage associated with socioeconomic factors) resulting in ≤50% of energy needs for >1 week Or any reduction for >2 weeks OR Any chronic disease (or GI condition) with minimal or no perceived inflammation that adversely impacts food absorption or assimilation	Chronic disease with inflammation OR Acute disease or injury with severe inflammation
Severe >10% in the past 6 months OR >20% in >6 months	Severe <18.5 if <70 years <20 if ≥70 years Severe (Asia) More research needed	Severe Severe deficit		

Malnutrition Clinical Characteristics Validation and Staffing Study

- The Academy of Nutrition and Dietetics is conducting a MCC Validation and Staffing study to:
 - Validate the malnutrition clinical characteristics
 - Assess interrater reliability
 - Determine predictive validity of MCC relative to outcomes
 - Identify utility of BIA for body composition
 - Benchmark the level of RD/RDN care needed to improve patient outcomes
- Cohort study
 - Up to 60 adult and 60 pediatric facilities
 - Goal for each site to enroll 20-80 consecutive patients from initial encounter

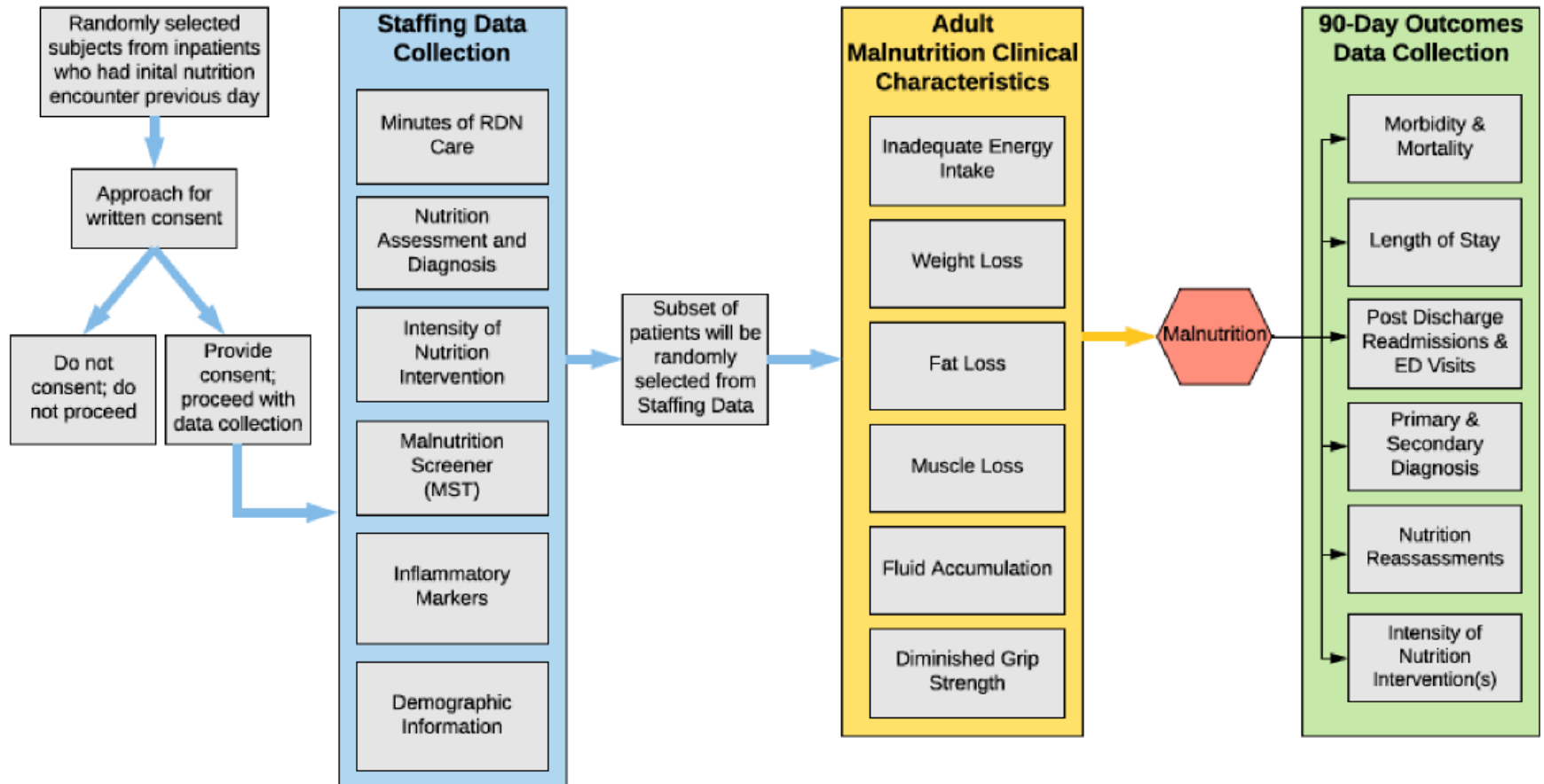
Malnutrition Clinical Characteristics and Staffing Study

Study Design Overview

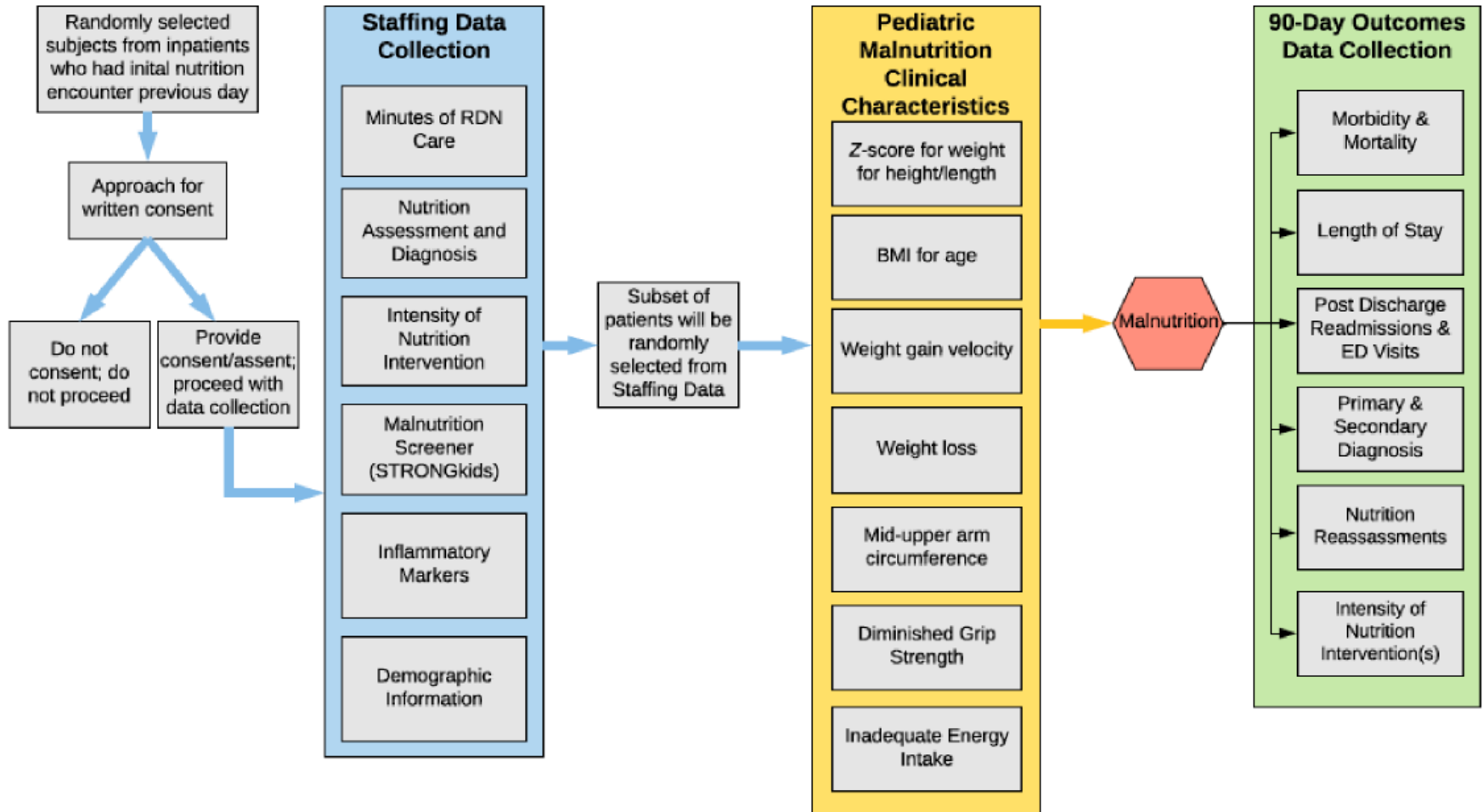


Malnutrition Clinical Characteristics and Staffing Study

Adult Study Flow



Pediatric Study Flow



The future of pediatric malnutrition

- Neonatal criteria were developed in 2017, but have not been universally implemented (CHW is not currently using)
 - FAQ paper as a f/u document to the Preterm Recommended Indicator article is in the works
- A toolkit for pediatrics has been proposed to the Academy of Nutrition and Dietetics to adapt the MQii (Malnutrition Quality improvement initiative)
- A systematic review of the validity and reliability of nutrition screening tools for pediatric malnutrition was recently published in AND's Evidence Analysis Library

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