- Constipation and abdominal cramp
- Severe itching
- Clouded mental function
- Nausea and vomiting
- Drug craving
- Being conscious and semiconscious [7]

Physical Examination

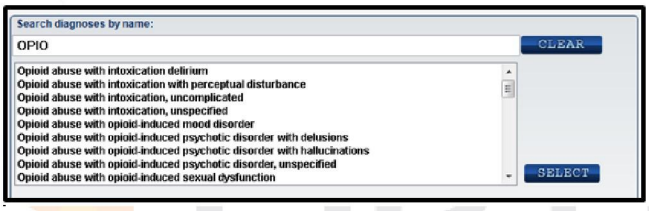
- Muscle Twitching
- Anxiety
- Anorexia
- Increase pulse, respiration rate, increase blood pressure
- Lacrimation
- Rhinorrhea
- Collapsed veins
- Damage tissue inside the nose
- Abscesses or track marks
- Abnormal Liver and Kidney lab data
- Pneumonia

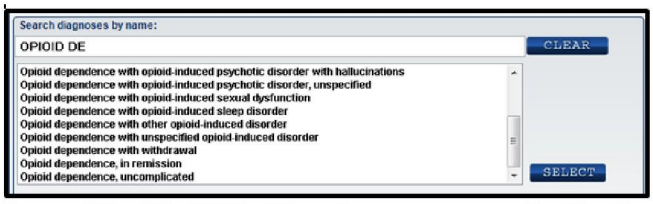
Diagnosing Opioid Use

Tablet logic:

If 'drug use' is selected in the social history section – 'substance abuse' diagnosis will be auto-populated on the diagnosis confirmation page. Evaluate if this diagnosis is appropriate for the member on page 15.

- **Select the most specific diagnosis in the tablet based on your assessment findings and remove the diagnosis of 'Substance abuse' if prepopulated by tablet logic.**





Referrals

- Behavioral Health
  - Ask the member if our behavioral health team can contact them to discuss their substance use.

- PCP
  - A referral to the member's PCP may be indicated if the member declines a behavioral health referral.
  - Document relevant findings on page 15 in the Communication Details section.

References

Dowell,D. Haegerich TM, Chou, R. CDC guideline for prescribing opioids for chronic pain – United States, 2016.MMWR Recomm Rep 2016;65, 1-49. DOI: http:dx.doi.org/10.15585/mmwr.rr6501e1

NIDA. (2012, December 1). Principles of drug addiction treatment: A research-based guide (Third Edition). Retrieved from https://www.drugabuse.gov/publications/principles-drug-addiction-treatment-research-based-guide-third-edition on 2017, November 12 link ok

NIDA. (2017, July 1). Heroin. Retrieved from https://www.drugabuse.gov/publications/drugfacts/heroin

Osteoporosis

Fast Facts:

Osteoporosis is characterized by a decrease in bone strength which causes an increased risk of fracture. Decreased bone strength is related to bone mineral density, rate of bone formation and resorption, bone geometry and bone microarchitecture. It causes weak and brittle bones resulting in fractures if area is over stressed. Fractures mostly occur in hip, wrist and/or spine.

- Percentage of women 65 and over with osteoporosis of the femur neck or lumbar spine in the US: 24.2%
- Percentage of men 65 years and over with osteoporosis of the femur neck or lumbar spine in the US: 5.1%
- There are no visible signs and symptoms in early stages. In advanced stages, member may experience back pain, loss of height over time, and a stooped posture. With stressed areas, a break may occur much more easily. Vertebral fractures are the most common and produce no symptoms in two-thirds of cases
- While less common in males, over 8 million men in the US have low bone mass or osteoporosis and mortality rate associated hip and vertebral fractures is higher in men than women

Risk Factors:

- Female gender
- Advancing age
- Small body type
- Smoking
- Thyroid problems
- Eating disorders, such as anorexia nervosa
- Low calcium and Vitamin intake
- Taking certain medications such as steroids
- Family history of hip fracture
- Medical conditions – celiac, IBD, Cancer, lupus, Multiple myeloma, RA
- Early menopause (Svejme, O. 2012)
- White or Asian ethnicity
- Previous fracture
- Low estrogen levels
- Drinking alcohol
- Tobacco use
- Family hx of osteoporosis (Robitaille, J, et al 2008)

Screening for Osteoporosis

Bone Mineral Density (BMD) testing is used to compare an individual's bone mineral density to the ideal bone mineral density of a healthy 30-year-adult. The result is given in the form of a T score, with 0 meaning the individual being tested has the bone mineral densities equal to the standard and the difference from the standard are called standard deviations (SD). The more standard deviations below 0 (which is indicated as negative numbers) the lower the BMD score and the higher risk for fracture.

Recommendations for Screening:

Women: All women 65 years and over and postmenopausal women younger than 65 with clinical risk factors for fracture.

APC should always request the last time a member had a DEXA Scan and what the results were. It is important to complete Dexa Scan review on Preventive Screening section with member and documenting accordingly.

Men: No routine recommendations but screening is recommended in men with clinical manifestations of low bone mass (osteopenia, history of low-trauma fractures) and those at risk for fracture due to long term steroid use, treatment for prostate cancer, hypogonadism, primary hyperparathyroidism and intestinal disorders.

Documentation for male members should be Not Indicated.

Diagnosing Osteoporosis
A clinical diagnosis of osteoporosis can be made in the presence of a fragility fracture, usually at the spine, hip, wrist, humerus, rib or pelvis or a T-score of <2.5 at any site using dual energy x-ray (DXA).
Fragility fractures are those that occur following a fall from a standing height with little or no trauma. The most common sites for fragility fractures occur in spine (vertebral compression fractures), hip and wrist. (Yu, E. (2021) Screening for osteoporosis is important for both women and men. (Yu, E., 2021).

Level	Definitions
Normal	BMD* is within 1 SD** of the young adult female reference mean (T score > -1 SD)
Low bone mass (osteopenia)	BMD is > 1 but < 2.5 SD below the young adult female mean (T score <−1 and > −2.5 SD)
Osteoporosis	BMD is 2.5 SD or > below the young adult female reference mean (T score < - 2.5 SD)
Severe (established) Osteoporosis	BMD > 2.5 SD below the young adult female reference mean in the presence of 1 or more fragility fractures

**BMD: Bone Mineral Density **SD: Standard Deviation

CRD Tool:
If the APC documents a T score between -2.5 and .5 Osteoporosis will auto-check referral auto generated by CRD tool

HEDIS Measures for Osteoporosis:
Osteoporosis management in women aged 67-85 years of age evaluates who suffered a fracture and who had a bone mineral test or Rx for a medication to treat Osteoporosis within 6 months of a fracture (excludes fractures of the finger, toes, face and skull).

SMART LOGIC and ICD-10 CODES

This is a feature that is based on the clinical findings documented in the encounter and is populated on page 15 for review and consideration.

- In the Preventative Screening section (pg. 6), if osteoporosis is checked as the result of the Bone Density Screening and the member is age 15 or >Dexa Scan, and the member is age 65 or >, Osteoporosis will be added as a diagnosis on page 15
- In the Preventative Screening section (pg. 6), if osteopenia is checked as the result of the Bone Density Screening, Osteopenia will be added as a diagnosis on page 15
- In the Preventative Screening section in the bone density screening row (pg. 6), if a T-score is entered within the Osteopenia range, Osteopenia will be checked within the results column and Osteopenia will be added as a diagnosis on page 15
- In the Preventative Screening section in the bone density screening row (pg. 6), if a T-score is entered within the Osteoporosis range, Osteoporosis will be checked within the results column and Osteoporosis will be added as a diagnosis on page 15

Diagnosis in eHC

- Age-related osteoporosis with current pathological fracture, unspecified femur, sequela
- Age-related osteoporosis with current pathological fracture, vertebra, sequela
- Osteopathy after poliomyelitis, multiple sites
- Osteopathy after poliomyelitis, unspecified sites
- Osteopathy in diseases classified elsewhere, multiple sites
- Osteopathy in diseases classified elsewhere, unspecified sites
- Osteopenia
- Osteoporosis
- Personal history of (healed) osteoporosis fracture.

CASE STUDY

Example of Osteoporosis:

HPI: 65-year-old female being seen for HouseCalls visit.

PMH: Fracture of right wrist after fall off a chair in her home 3 months ago; HTN, Hyperlipidemia.

ROS: WNL except stiffness in right wrist

Screenings: DEXA: Osteoporosis documented on eHC preventive screening page

MEDS: Lisinopril 10 mg QD, atorvastatin 20 mg QHS, Boniva 150 mg once a month, Calcium 600 mg BID

EXAM: BP 132/80, P 84, R 16; exam WNL

Description with Plan:	**Age-related osteoporosis with pathological fracture, right hand, subsequent encounter for fracture** **Hypertension, primary** **Hyperlipidemia, unspecified** **Teaching Points/Recommendations:** • Take calcium as prescribed. • Eat calcium rich foods. • Participate in regular weight bearing exercise. • Limit alcohol • To reduce risk of falls, engaged in balance, flexibility, and strength training. Plan: FU with PCP Recommend Bone Density when appropriate & document on AYPCP form and if performing Mini Omni in the home when there are abnormal values, the member should be informed there will be follow up. Recommend Bone density if women are 65 or older or women age 64 and younger with risk factors.

References

1 Rosen, H.N, and Drezner, M.K. (May 2018) Clinical manifestations, diagnosis and evaluation of osteoporosis in postmenopausal women. Up-to-Date, https://www.uptodate.com/contents/clinical-manifestations-diagnosis-and-evaluation-of-osteoporosis-in-postmenopausal-women?search=osteoporosis&source=search_result&selectedTitle=3~150&usage_type=default&display_rank=3

2 Osteoporosis, National Center for Health Statistics, FastStats, (August 2016) https://www.cdc.gov/nchs/fastats/osteoporosis.htm

3 What is Osteoporosis? NIH-National Osteoporosis and Related Bone Diseases National Resource Center, Nov 2014, https://www.bones.nih.gov/health-info/bone/osteoporosis/osteoporosis-ff#cause

4 Finkelstein, J.S. and Yu, E.W. (Oct 2017) Treatment of Osteoporosis in men, Up-To-Date, https://www.uptodate.com/contents/treatment-of-osteoporosis-in-men?search=T%20scores%20in%20relation%20to%20fragility%20fractures&source=search_result&selectedTitle=7~150&usage_type=default&display_rank=7

5 Yu, E W. Screening for osteoporosis (August 2018) Up To Date, https://www.uptodate.com/contents/screening-for-osteoporosis?search=diangosing%20osteoporosis&source=search_result&selectedTitle=3~150&usage_type=default&display_rank=3

6 Bone Mass Measurement: What the Numbers Mean, NIH-National Osteoporosis and Related Bone Diseases National Resource Center, June 2016, https://www.bones.nih.gov/health-info/bone/bone-health/bone-mass-measurement-what-numbers-mean

eHouseCalls

Release Notes

2.10.13.0 Release

Revision History

Version Number	Effective Date	Author's Name	Document Reviewed By	Technical Content Reviewed By	Approved By	Reference to Changes
1.0	07/20/2016	[redacted]				Baseline Document

Table of Contents

Table of Figures

1. Objective

The objective of this document is to describe the enhancements and updates to the eHouseCalls with the Release 2.10.13.0.

2. Reference Documents

The following documents are updated in Reference Documents section..

- The State by State Contact Information document is replaced with the APS State by State Contact Information document and is placed under category Adult Protective Services.

APS State by State Contact Information.

- The Preventive Screenings and Immunizations document is replaced with the Recommended Screenings and Vaccinations document and is placed under category Clinical Guidelines.

Recommended Screenings and Vaccir

- The Telephone Numbers-Where to Go for Help document is replaced under category Contact Us.

Telephone numbers - Where to Go For Help

The below screen shows the above documents:

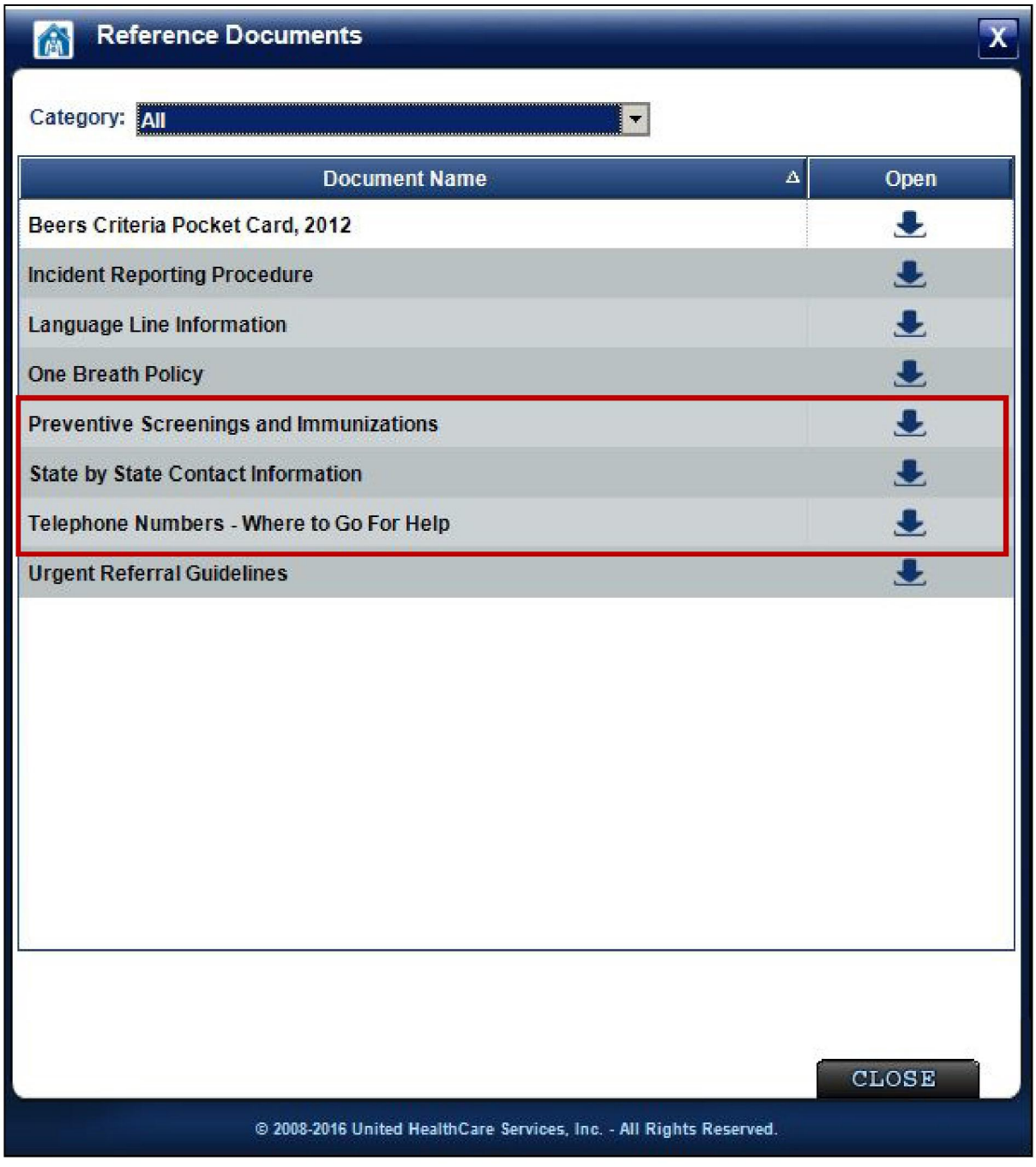


Figure 1: Reference Documents

3. Assessment Version Changes

The version number of the assessment is updated to version 23. Various changes implemented to support the version 23 assessments are listed below.

1. The assessment pages screens are updated as per the version 23.
2. The assessment popup-up screens are updated as per the version 23.
3. The assessment for referrals generation are updated as per the version 23.

4. The Letters and Final PDF generation are updated as per the assessment version 23.

4. Diagnosis Updates

4.1. Added Diagnoses

The following diagnoses are added to Level 3.

Diagnosis: Depression, Not Otherwise Specified

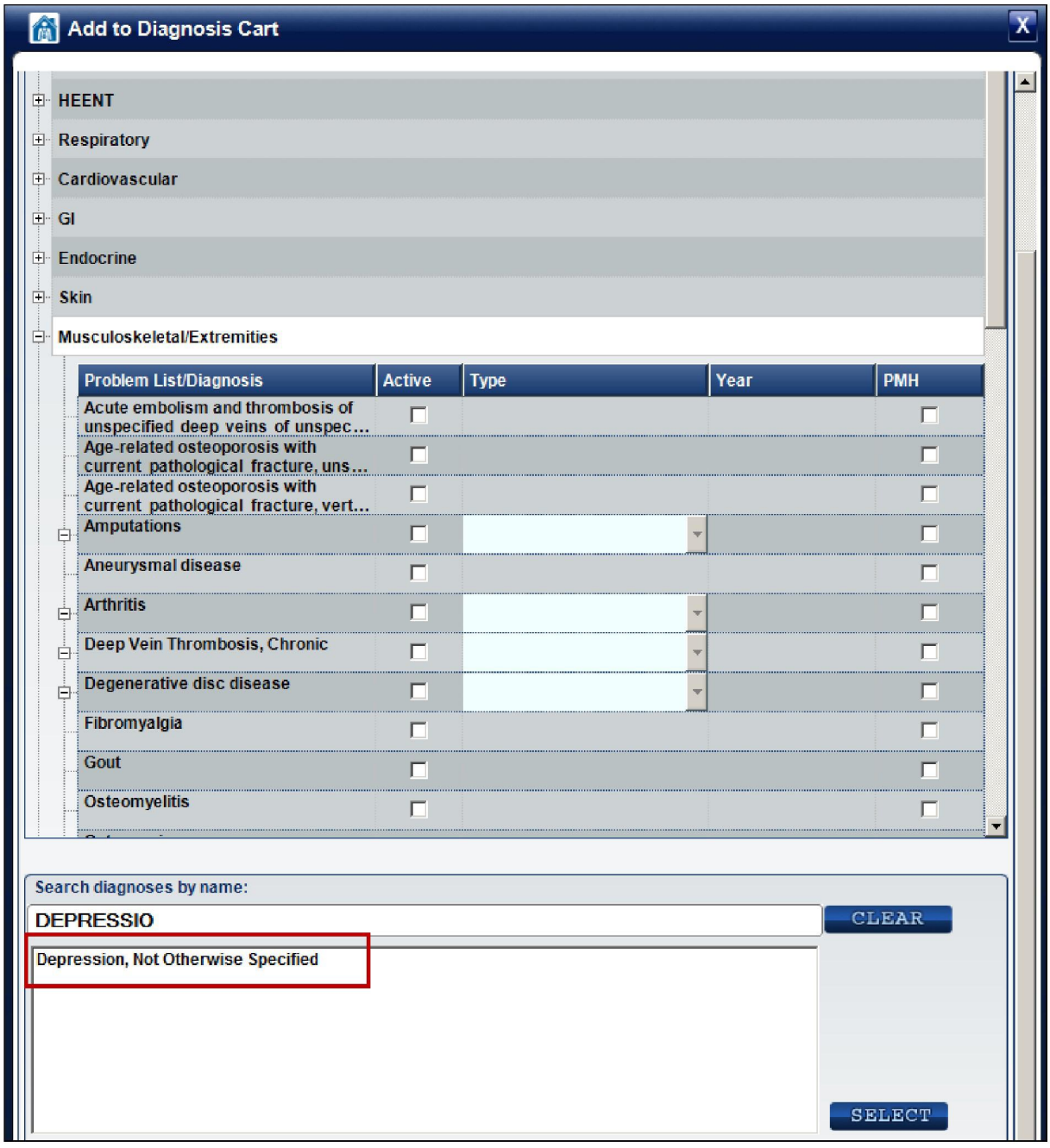


Figure 2: Depression, Not Otherwise Specified

Diagnosis: Schizoaffective disorder, Depressive Type

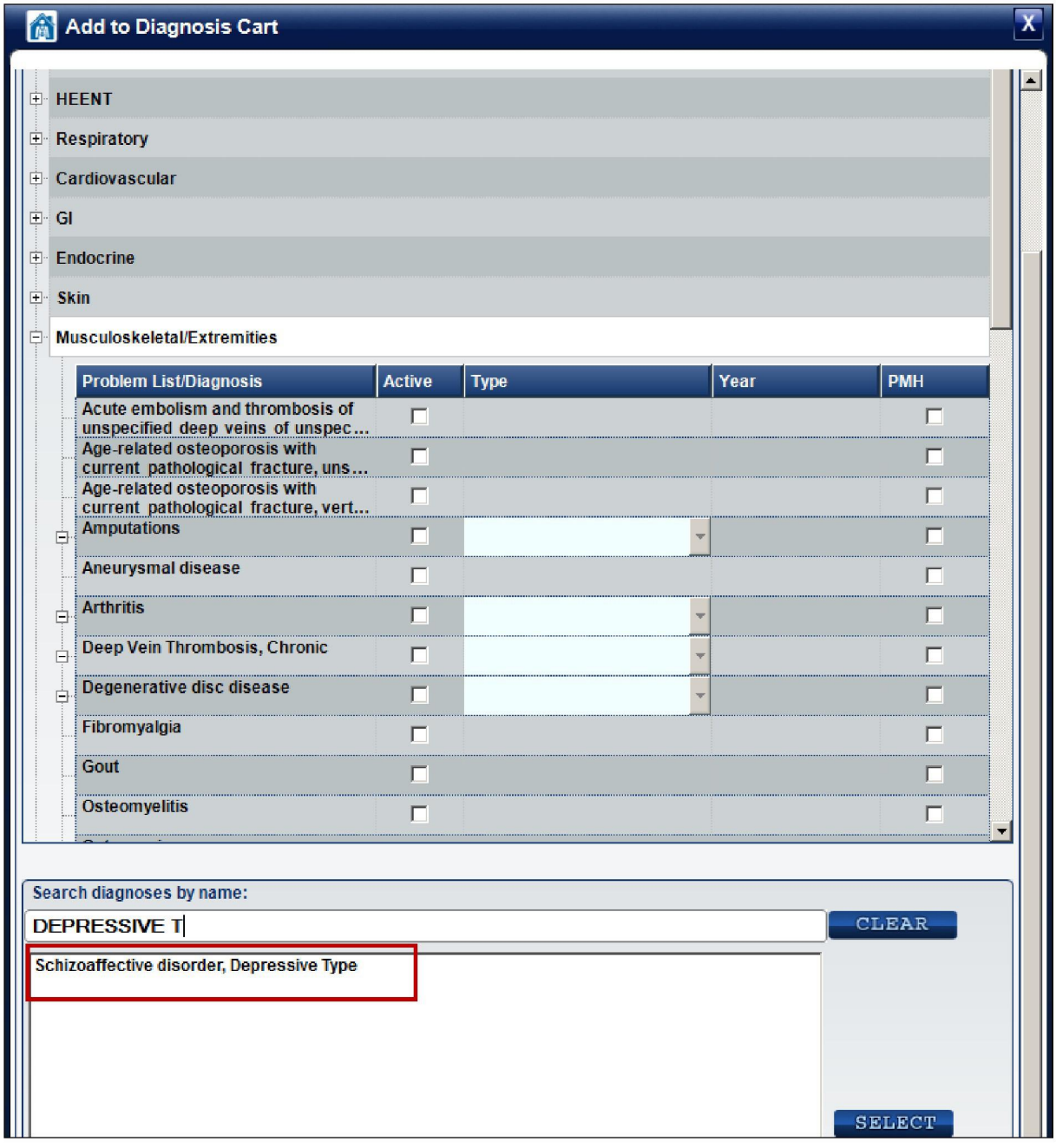


Figure 3: Schizoaffective disorder, Depressive Type

4.2. Removed Diagnosis

The diagnosis highlighted in the Delete sheet of attached excel sheet are removed from version 23 onwards:

New Diagnosis List.xlsx

Note: The same diagnosis is not removed in Version 22.

4.2.1. Added Date Condition to move ICD Codes to Emerald

The following changes are implemented in moving these removed diagnoses to Emerald (if they are selected in application for the assessments):

- If the assessment scheduled date is before October 1st 2016, then the diagnoses which are removed as listed above will be sent to Emerald.
- If the assessment scheduled date is on or after October 1st 2016, then the diagnoses which are removed as listed above will not be sent to Emerald.
- These removed diagnoses will not be considered for reopening of charts if assessment date is on or after October 1st 2016.

4.3. Updated Diagnosis

The description of diagnosis mentioned below is changed as shown in the table:

Old Name	New Name
Enlarged prostate without lower urinary tract symptoms	Benign prostatic hyperplasia without lower urinary tract symptoms

Note: The description of diagnosis is not changed in Version 22.

4.4. ICD 9 Updates

Added ICD 9 codes to the diagnoses in the attached excel spreadsheet.

Final Mapping_4.28.16.xls

5. Multi-Select Drug Indications

In the Indication column of Medication grid the following changes are made in selections:

- The drop down list will not close as it was closing previously. So that user can select multiple indications when Indication dropdown is opened.

The below screen shows the Multi-Select Drug Indications:

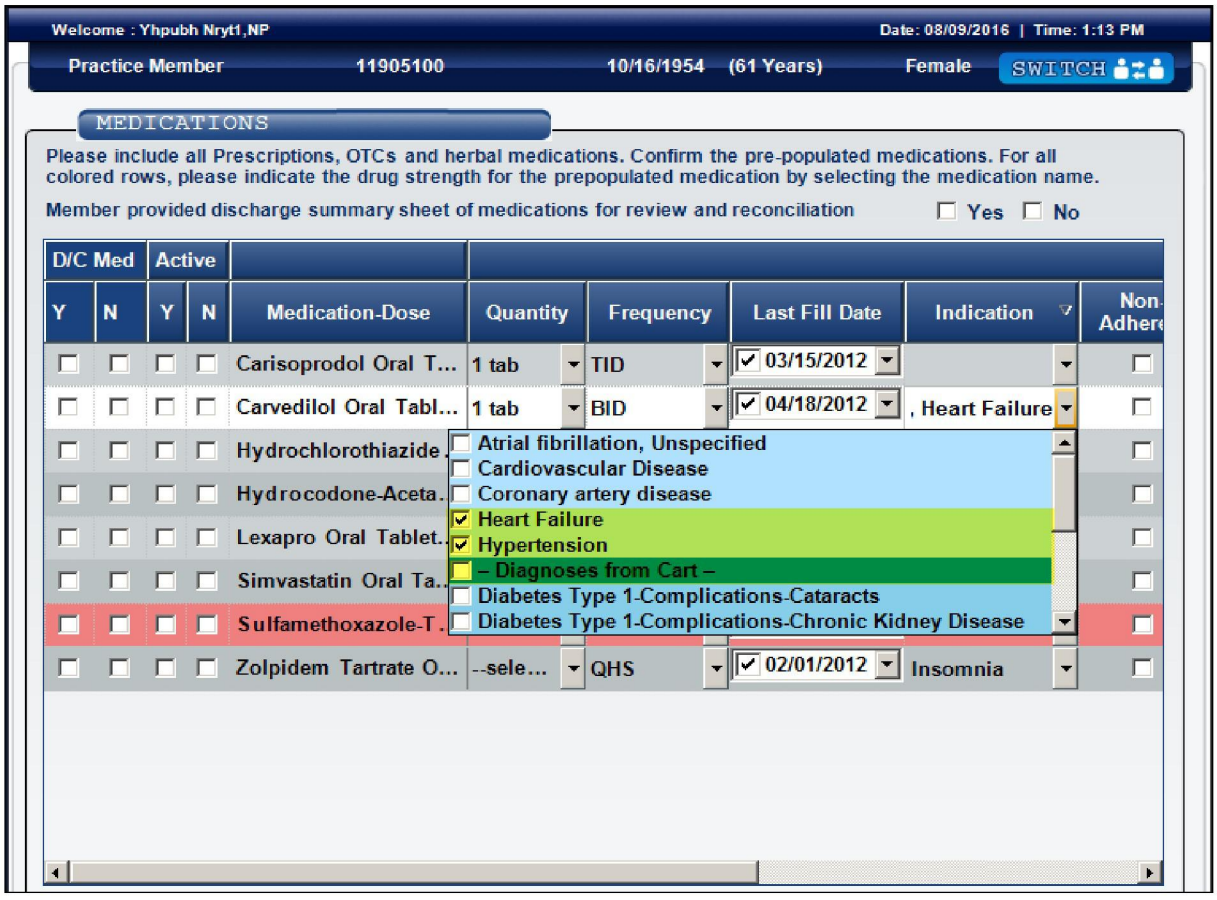


Figure 4: Multi Select Drug Indications

6. PAD Screening - Mandatory Removal

The Mandatory Message for PAD Screening is removed for all the members. With this release, there will be no need to perform this test for the members **who doesn't require this test.**

7. Diagnosis Confirmation - Removed From List Selection Issue Fix

In Diagnosis Confirmation Page, the issue in selecting Removed From List in below scenario is fixed. (Currently it requires selecting Removed from List two times to make the selection in below scenario).

Scenario: Go to Page 15 - Diagnosis Confirmation Page, select some diagnosis to Active Status. Click on Plan of Care and add goals / interventions for few diagnosis and click on Save. Later select any active diagnosis to remove from list with reason.

8. Plan of Care

8.1. Intervention text change for Anti-coag Therapy-chronic, ongoing diagnosis

The Intervention text for **Anti-coag Therapy-chronic, ongoing** diagnosis is modified as mentioned below:

Current Intervention text:

"I will avoid vegetables high in potassium unless I am eating them with each meal."

Modified Intervention text:

"I will avoid vegetables high in Vitamin K unless I am eating them with each meal."

The below screen shows the changes mentioned above:

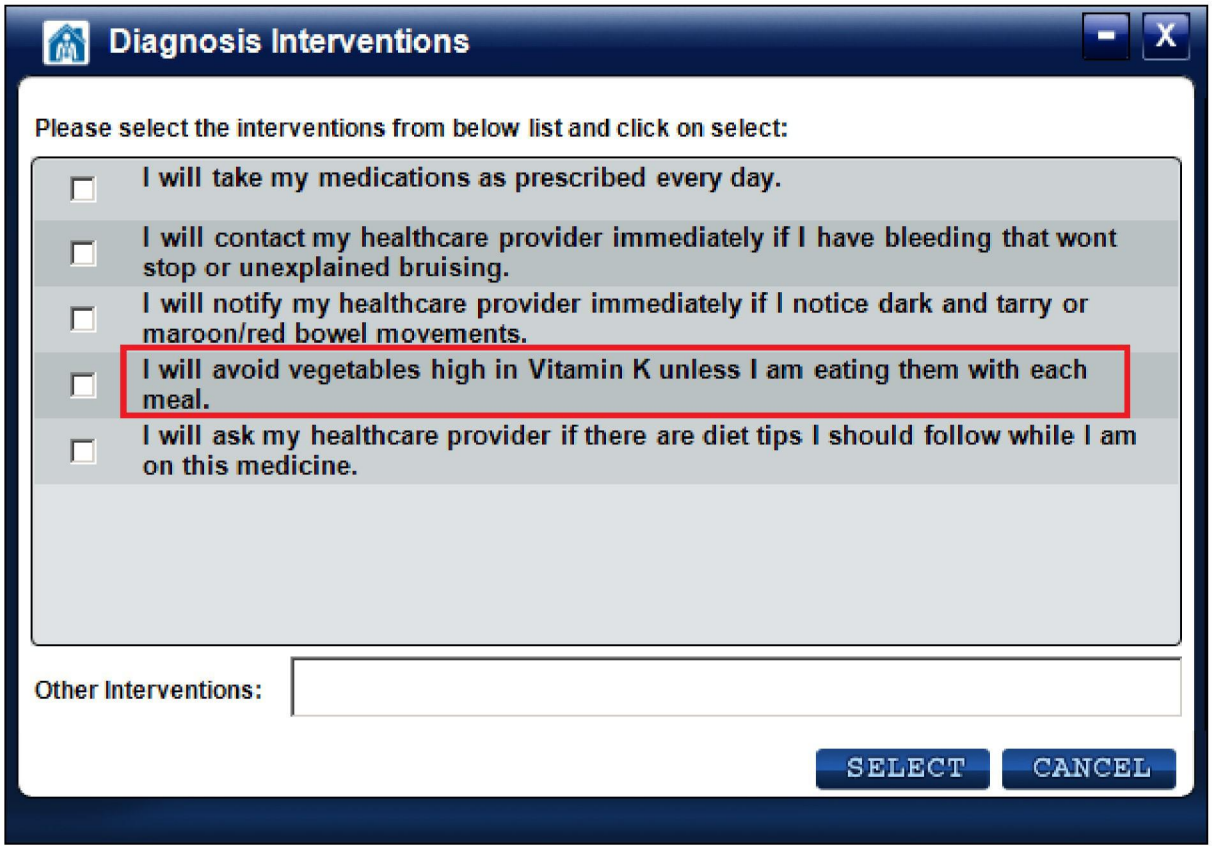


Figure 5: Diagnosis Interventions

9. Smart Logic Rules

9.1. Alcohol dependency – Unspecified

The Alcohol dependency - Unspecified diagnosis will not be added from Smart Logic Rule for the below conditions as these conditions which are used to trigger the diagnosis is disabled from this release:

- In Page 7 - For Female Member, if Alcohol is answered as Yes AND if it is >7 drinks/week or >3 drinks/occasion.
- In Page 7 - For Male Member, if Alcohol is answered as Yes AND if it is >14 drinks/week or >4 drinks/occasion.

10. Application Changes: Special Characters Restriction

The following changes are implemented in all pages of Application:

- The characters and special characters mentioned below are only allowed in application enter into the fields.
    - A-Z
    - a-z
    - 0-9
    - Special Characters: % / \ & ? , . ' ; : ! - # [ ] { } ' " < > $ ( ) + @ : * | =_^
    - Space, Enter, Arrow (Left, Right, Up, Down), Shift
- If any other special characters other than mentioned above are entered, it will be removed when they are typed in the textboxes.

11. PSY Tool - Mandatory Conditions

In PSY tool, following changes are implemented:

- With this release, PSY Tool is mandatory for member who is actively taking Anti-Depressants medications. The Anti-Depressants medications are listed in below attached excel.

Drug_gpi_ndc_Antidepressants.xlsx

Following are the list of PSY Tool Mandatory Conditions including existing conditions:

1. PSY Tool is mandatory for any member who is actively taking Anti-Depressants medications.
2. PSY Tool is mandatory when PHQ2 section questions are answered with positive values for any member.
3. For WellMed members, PSY tool is always mandatory irrespective of above conditions.

12. Lab Tool

12.1. Point of Care

12.1.1. Section Changes

The following changes are implemented to Lab Tool:

- Point Of Care Section is moved above BIOIQ Testing Section.

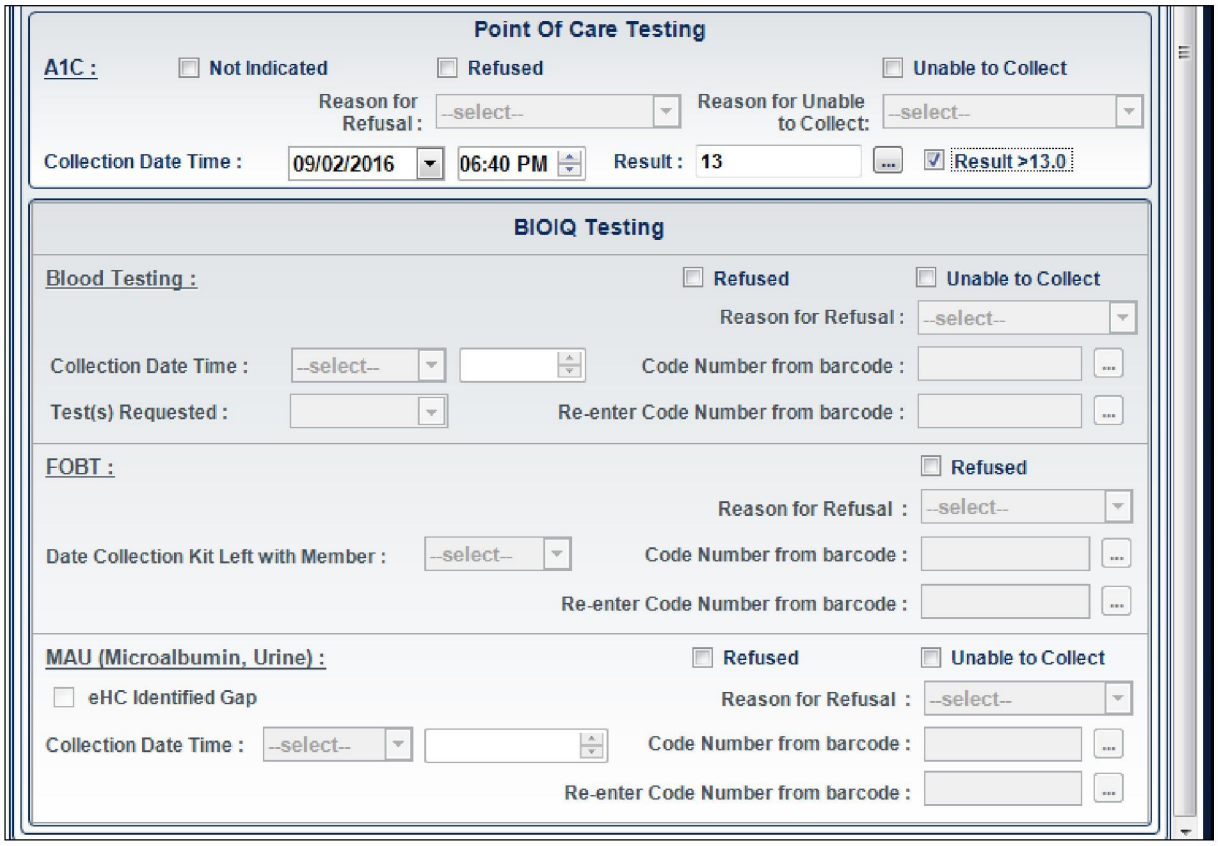


Figure 6: Point of Care Section

- MAU Testing is removed from Point Of Care section.

12.1.2. Enable/Disable A1C Testing

- If the member has system identified Lab Gap for A1C testing, then Point of Care section will be enabled automatically and text **Needs A1C** will be displayed as shown below.

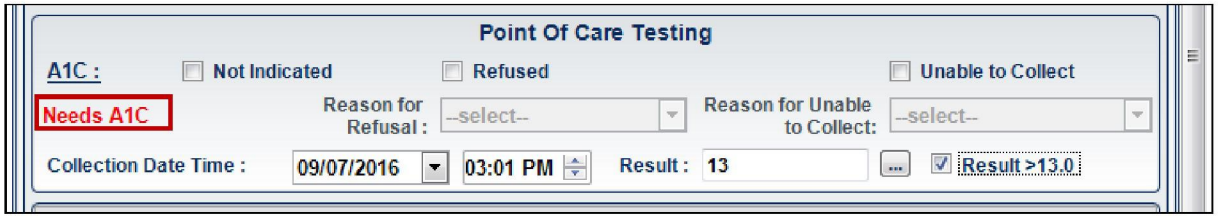


Figure 7: Needs A1C

- If the member doesn't have Lab Gaps for A1C, then Practitioner can select A1C in Practitioner Identified Need (PIN) section to enable A1C Testing in Point of Care Section.

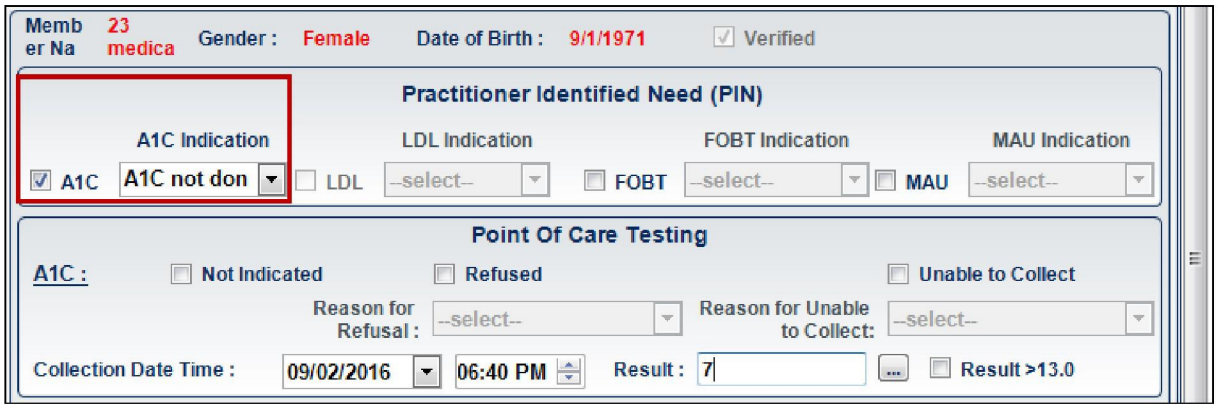


Figure 8: Practitioner Identified Need

12.1.3. A1C Result

- Result field value can be entered in two ways:
  - Entering the value using the text box directly.
  - By clicking the button next to the text box, which will open a numeric keypad as shown in the below screen.

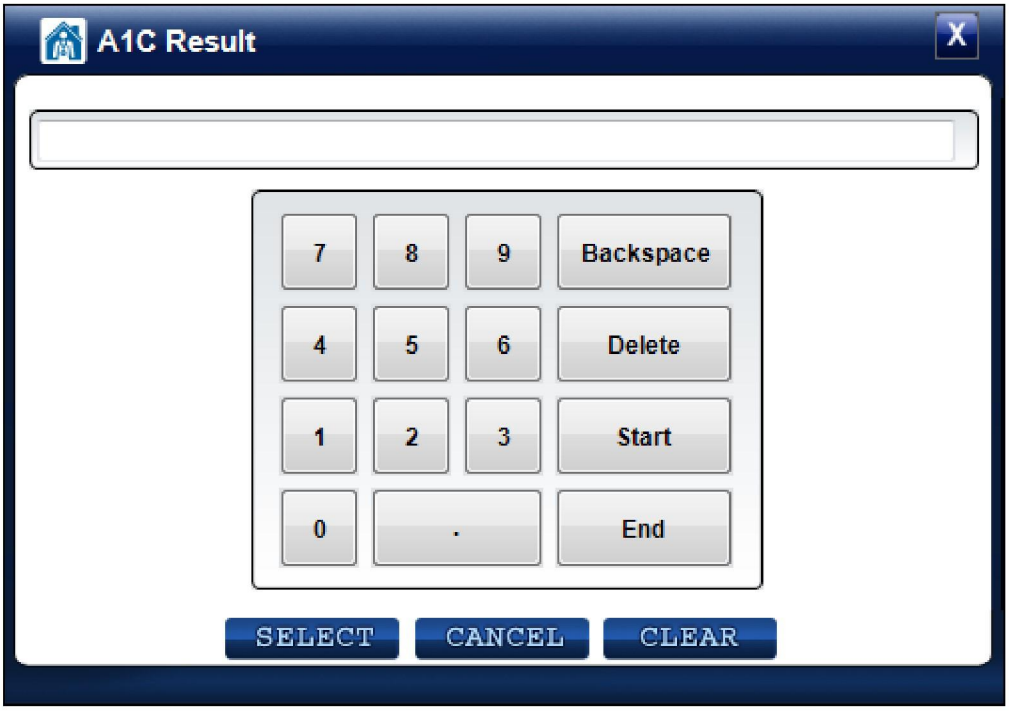


Figure 9: Numeric Keypad

- Previously, the user had to enter with 0 prefix for numbers less than 10. Now, the user can enter the numbers without 0 prefix. **Ex:** 7 can be entered directly.
- Result field value should be entered between 4.0 and 13.0.
- A checkbox "**Result>13.0**" is added next to Result field. If the A1C result value is greater than 13, then, 13 should be entered in Result field and Result>13.0 checkbox should be selected as shown in below screen shot.

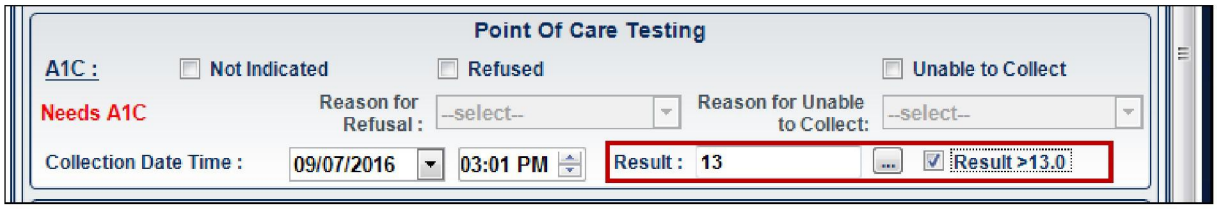


Figure 10: Result>13

- If Result is less than 13, then **Result>13.0** checkbox should not be selected as shown in the below screen shot.

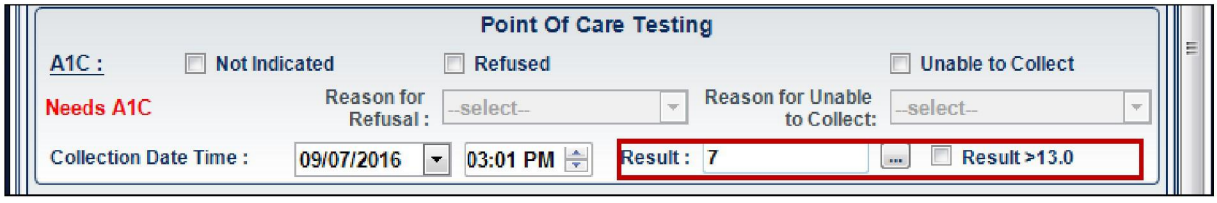


Figure 11: Result<13

- If the Result entered is less than 4.0 or greater than 13.0 and if the result checkbox is not checked, then the below alert message will be displayed.

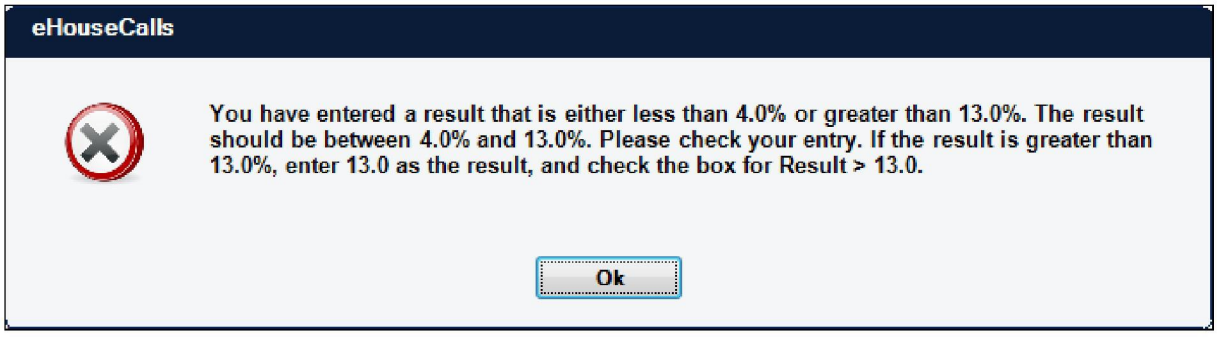


Figure 12: Please check your entry - Alert Message

- If the Result entered is greater than 4.0 or less than 13.0 and if the result checkbox is checked, then the below alert message will be displayed.

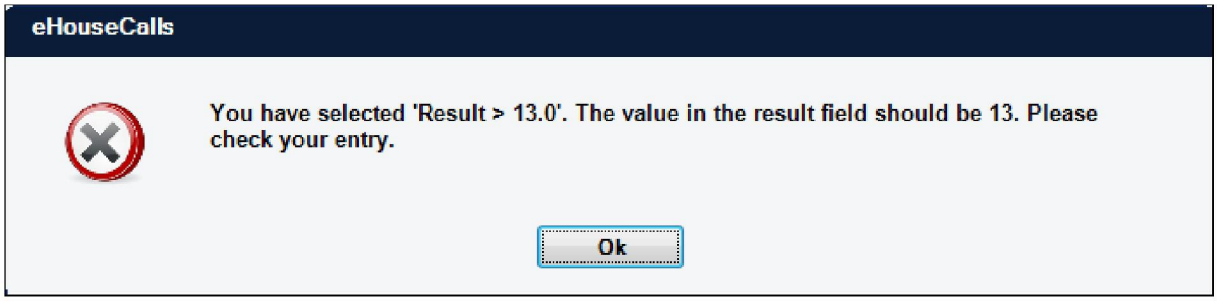


Figure 13: You have Selected Result>13

12.1.4. Unable to Complete A1C

- Following three new options are added to specify the details when Lab testing cannot be completed:
    - Not Indicated
    - Refused
        - Reason for Refusal
    - Unable to Collect
        - Reason for Unable to Collect

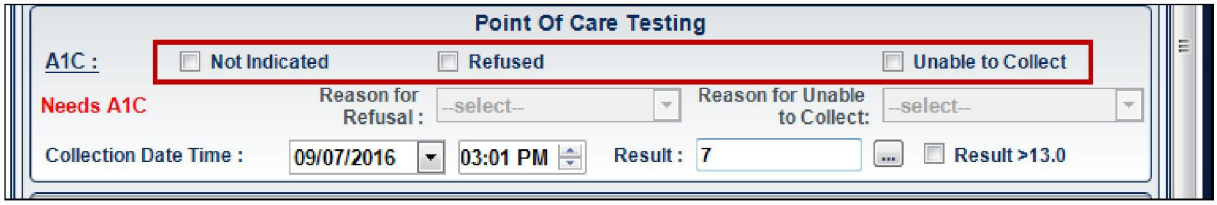


Figure 14: New Options - Lab Testing

- **Unable to Collect**: When Unable to Collect is selected the Reason for Unable to Collect drop down gets enabled. The drop down values are as mentioned below:
    - Not enough blood
    - Test kit unable to report value
    - Test kit unavailable

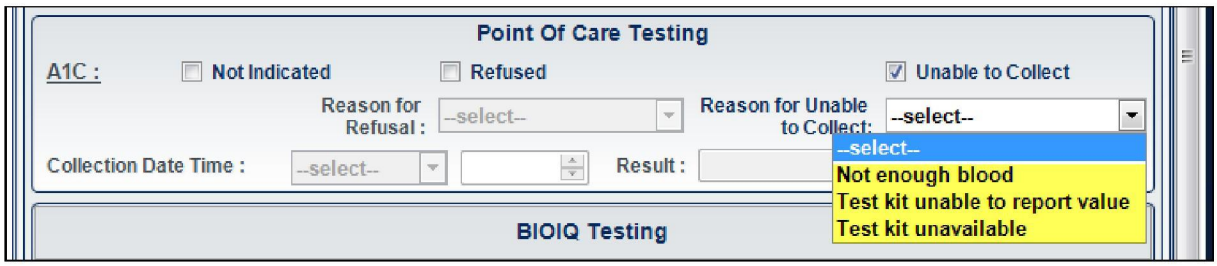


Figure 15: Reason for Unable to Collect - drop down

If Unable to Collect is selected and Reason for Unable to Collect is not selected, then below alert message will be displayed:

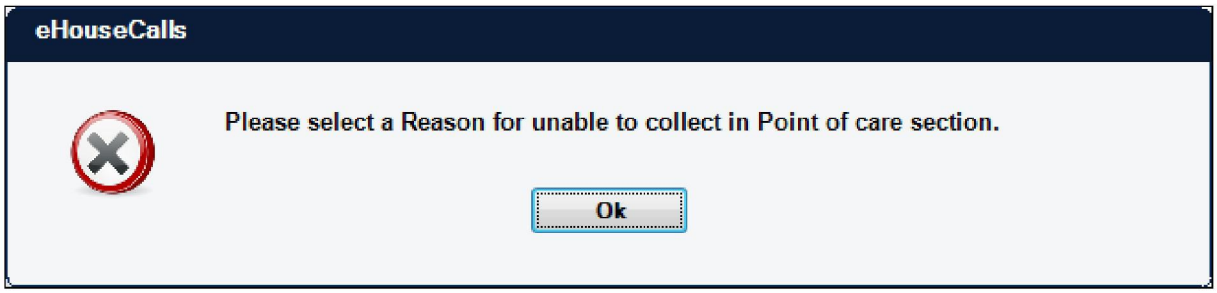


Figure 16: Unable to Collect - Alert Message

- If any one of Not Indicated or Refused or Unable to Collect options are selected, then **Results**, **Collection Date and Time** fields will get disabled.

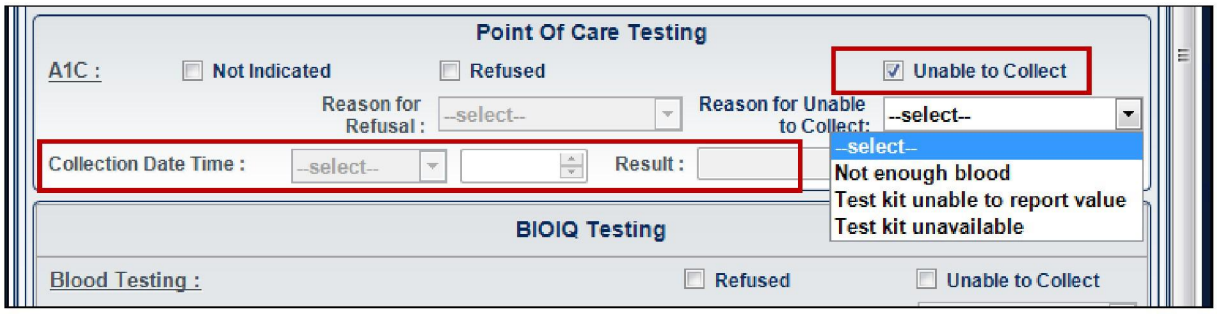


Figure 17: Result and Collection Date Time

- **Refused**: When Refused is selected the Reason for Refusal drop down gets enabled. The drop down values are as mentioned below:
    - Recently Completed
    - Member Declined

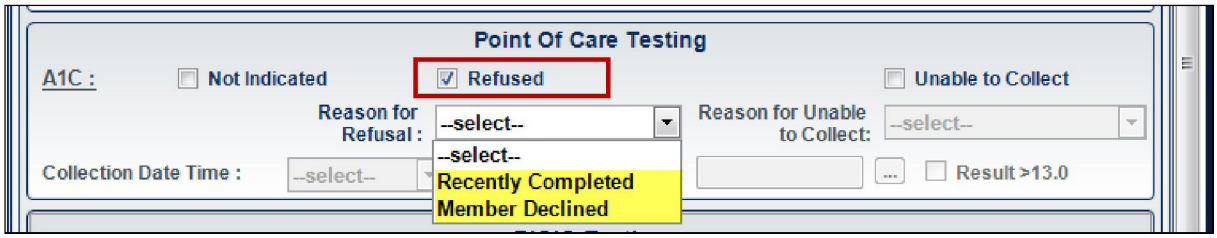


Figure 18: Refused A1C & Reasons

- If Refused is selected and Reason for Refusal is not selected, then below alert message will be displayed:

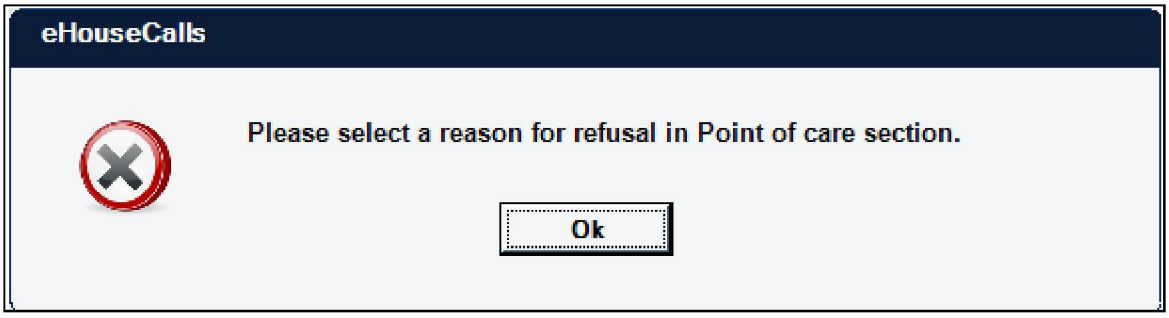


Figure 19: Reason for Refusal - Alert Message

12.2. Disable Lab tool for E&I members

Currently, Lab tool is disabled for E&I members. Lab tool will not be visible for E&I members as shown in the screen below:

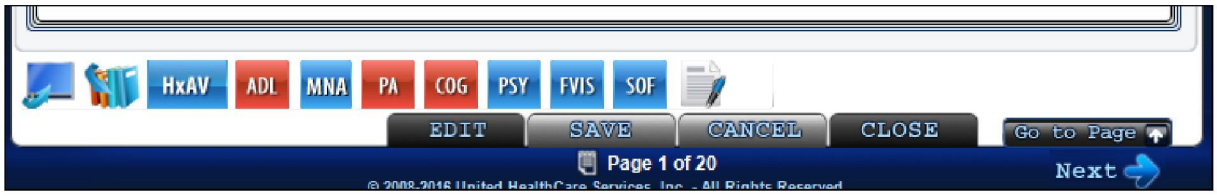


Figure 20: Lab tool not visible for E&I members

13. Performance Tuning - Mandatory Message

In Page 19 – Mandatory Message, the message loading functionality is modified to improve the performance.

14. Appointment Sync to New Tablet during Tablet Swap - Automated

The following changes are implemented to download appointments in case of Tablet Swap:

- When new tablet is provided to the practitioner due to issue in old tablet, the future appointments including current day appointments which are in Scheduled status will be downloaded to new tablet.

Note: Currently this functionality is a manual process and with this release, the functionality is added to the sync process.

15. PDF Changes

15.1. Assessment Version Changes (Final, Prepopulated and Blank PDF)

With this release, new assessment version 23 will be displayed in Final, Prepopulated and Blank PDF as shown in below screen shot.

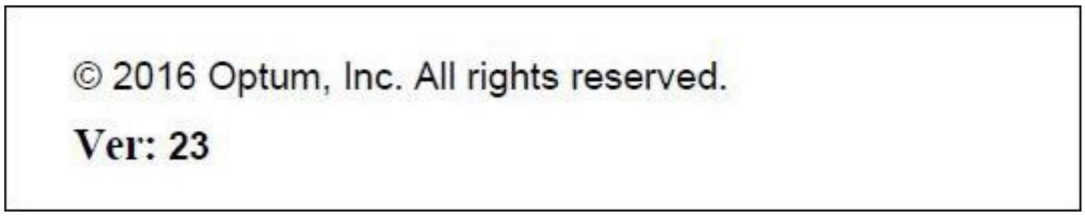


Figure 21: Version Number 23

15.2. Final PDF

15.2.1. Lab Testing

15.2.1.1. Point of Care – Completed

When Point of Care section is completed, the Final PDF will look as shown below.

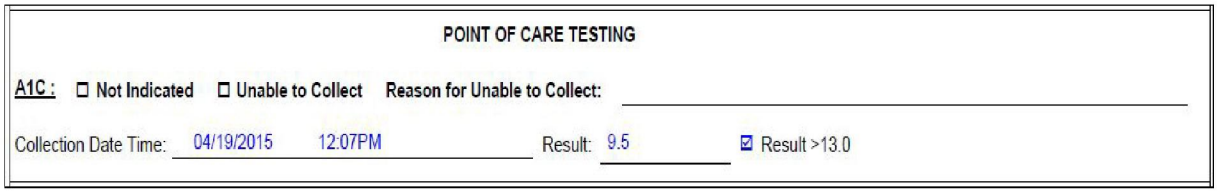


Figure 22: Point of Care - Completed

15.2.1.2. Point of Care – Unable to Collect

The Final PDF for Unable to Collect will look as shown below.

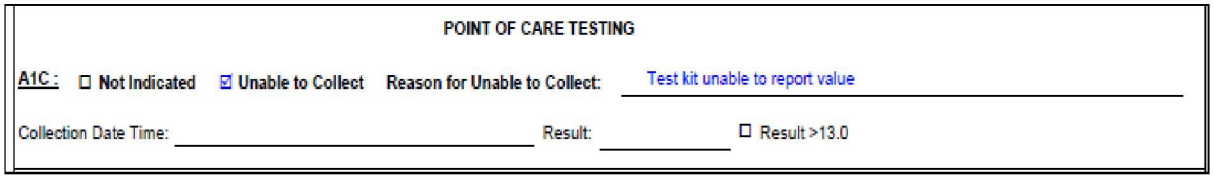


Figure 23: Point of Care - Unable to Collect

15.2.2. Previously Identified Dx

The Previously Identified Diagnosis section is removed from Final PDF.

15.3. Blank PDF

15.3.1. Lab Testing - Point of Care

The Point of Care section in Blank PDF will look as shown below.

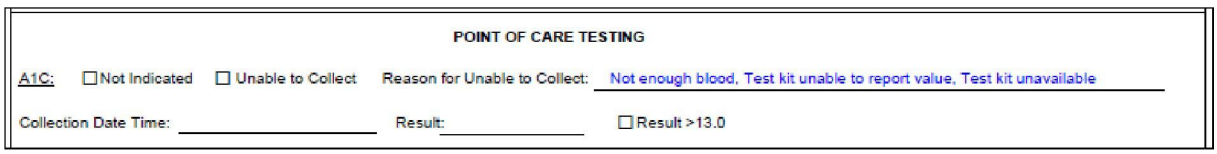


Figure 24: Point of Care - Blank PDF

15.3.2. Non-SNP Members

The following changes are implemented to blank pdf for Non-SNP Members:

- New Blank PDF is created for Non-SNP members in which the three lines after each diagnosis in Diagnosis Confirmation section is removed.
- For Non-SNP members, additional notes label is changed as **"Please add Assessment and Plan as appropriate"**.

The attached screen shows the Diagnosis Confirmation page for Non-SNP members:

DIAGNOSIS CONFIRMATION

(Please refer to the practitioner portal for the full list of diagnoses)

Please confirm the diagnoses for the member:

Diagnosis	Active	PMH	Assessment
Alcohol abuse	☐	☐	
Angina - Stable	☐	☐	
Angina - Unspecified	☐	☐	
Angina - Unstable	☐	☐	
Arthritis - Gouty	☐	☐	

Figure 25: Diagnosis Confirmation - Non-SNP Members

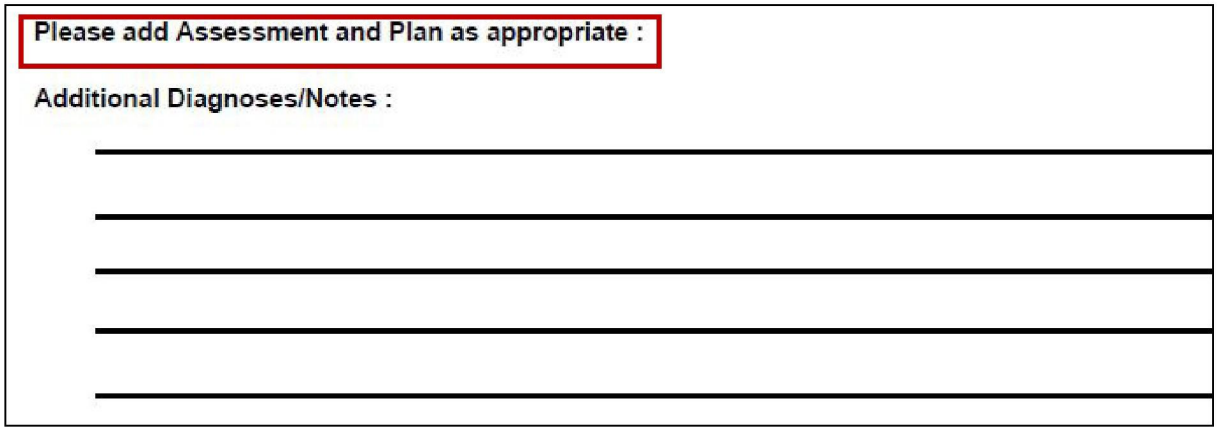


Figure 26: Please add Assessment and Plan as appropriate

16. Letter Changes

16.1. Member PA Letter

16.1.1. Medica and Preferred Care

In Member PA Letter, for Preferred care members, the signature is changed as mentioned below:

Figure 27: Member PA - Preferred Care Partners Signature

In Member PA Letter, for Medica members, the signature is changed as mentioned below:

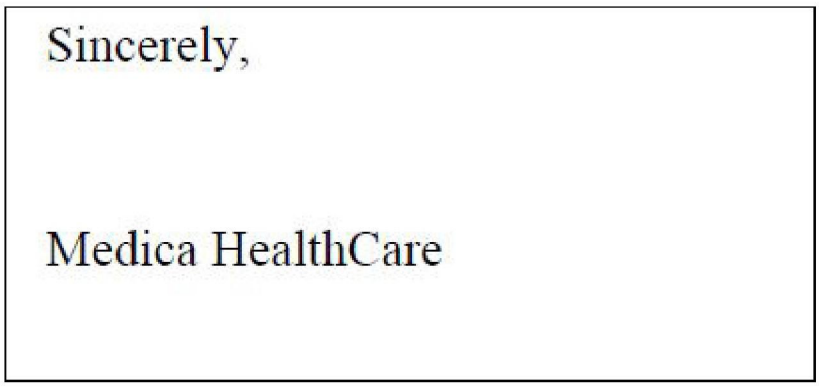


Figure 28: Member PA - Medica HealthCare

16.1.2. MASCO and SHBP clients

The members from MASCO and SHBP clients are added for Member PA Letter generation by including in configuration.

16.2. Physician PA Letter

16.2.1. Quantaflo PDF

The following changes are made to Physician PA Letter to include Quantaflo PDF.

- The Quantaflo - PAD Screening results PDF for the member is attached to end of the Physician PA Letter.
- The Quantaflo PDF will be attached only if PAD Screening test is done and results available with Left Foot or Right Foot value.

16.2.2. Medica and Preferred Care

In Physician PA Letter, for Medica members, the signature is changed as mentioned below:

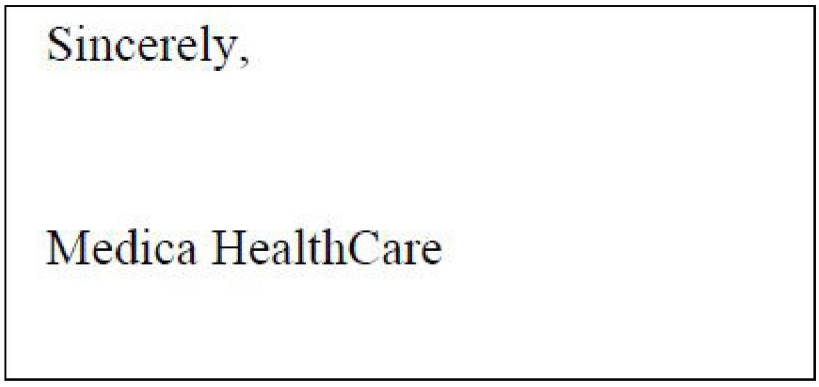


Figure 29: Physician PA - Medica HealthCare Signature

In Physician PA Letter, for Preferred Care members, the signature is changed as mentioned below:

Figure 30: Physician PA - Preferred Care Partners

16.3. Kit Number and Item Number added to Configuration

The Kit Number and Item Number for corresponding member source are added to Configuration Table for Physician and Member PA Letters. This will be used to generate the Kit Number and Item Number in letters.

17. Referrals

17.1. HouseCalls PMC Clinical Referral – Adherence Referral

17.1.1. Medication Non Adherence Reason

In HouseCalls PMC Clinical Referral, if the member is not taking medications as prescribed Medication Name and Reason for Non-Adherence is pulled into the Activity Note (Referral Comment).

The format of New Comment will be as given below:

'Member not taking medications as prescribed : Medication: <Medications that are non-adherent> : Reason <Reason from Barriers to Adherence>'.

Note: Currently only non-adherent medications list is pulling into referral comment

17.1.2. New Condition -Pharmacy Adherence (Measures in Red or Yellow Scores)

New condition as mentioned below is added to generate HouseCalls PMC Clinical – Adherence Referral.

Condition: If there is any Pharmacy Measures which are in red or yellow adherence scores for the member, then referral needs to be generated.

Referral Comment:

• **Format:**

Gap for Pharmacy adherence: <Pharmacy Measure> - <Color for the Score>, Medication: <Medications List>, <Pharmacy Measure> - <Color for the Score>, Medication: <Medications List>

• **Example:**

Gap for Pharmacy adherence: High Risk Medication - Yellow, Medication: Amitriptyline HCl Oral Tablet 10 MG, Hypertension (ACE/ARB) – Red

17.2. Suppressed Referrals

The Program Referral - CAD/Diabetes and Diabetic Health Navigator Referral generation is suppressed for members belong to C & S member sub source.

17.3. Responsible Team Changes

For the following Referrals, Responsible Team is changed as **Health Plan".**

- Advanced Illness Program Referral
- Program Referral - ESRD
- Program Referral - Transplant
- Program Referral – CHF

Attached excel spreadsheet shows the configuration changes.

Referral_Config_V22 .xlsx

18. Data Changes

18.1. Data Changes – Member PA Letter

The Data process is modified to load the Members from following clients to generate Member PA letter.

- SHBP (DCH)
- MASCO
- MyCareOhio

18.2. Referral Prepopulation Changes

Prepopulation of Referral Source data has been changed to XLCare.

OPTUMCare™

12 STARS / HEDIS MEASURES DIRECTLY IMPACTED DURING A HOUSECALLS VISIT

STARS / HEDIS MEASURE	SPECIFICATION	HOW MEASURE IS MET	ASSESSMENT SECTION	TABLET PAGE
Diabetic Kidney Disease	Percent of plan members (18-75 y/o) with diabetes who had a kidney function test during the year or have evidence of nephropathy	*Urine dipstick is completed by member during the visit	Physical Exam	Page 11
		*Documentation member is on ACE / ARB	Medication Section	Page 4
		* Documentation of ESRD, renal transplant, dialysis or nephrologist	Past Medical Hx; Specialist grid	Pages 3, 2
Annual Medication Review	Percentage of adults (66+) who had a medication review during the measurement year	In home medication review completed during the visit	Medication section	Page 4
Pain Screening	Percentage of adults (66+) who had a pain assessment during the measurement year	Pain assessment completed with the member during the visit	Pain Assessment Tool	Pain Tool
Functional Assessment	Percentage of adults (66+) who had a functional assessment during the measurement year	Completed ADL screening tool	Barthel Assessment tool and direct observation	ADL screening tool
Body Mass Index (BMI)	Percentage of members (18-74) who had a BMI documented (based on an obtained scale weight) during the measurement year	BMI calculated and displayed from recording of height and direct scale weight (not stated weight)	Physical Exam section	Page 11
Colorectal Cancer Screening	Percent of members (aged 50-75 who had a colonoscopy < 10 years ago or sigmoidoscopy < 5 years ago or fecal occult blood / guaiac testing during measurement year	Practitioner leaves iFOBT screening kit and instructions to return the sample with member	Lab tool in tablet	Lab tool tab
		Documentation of member reported colorectal screening (colonoscopy or flex sigmoidoscopy) and date	Preventive Screening section	Page 6
		Documentation of total colectomy or colorectal cancer	Surgery Details & Past Medical History sections	Pages 2 & 3
Diabetes Blood Sugar (A1c Control)	Percent of members with diabetes who had an A1c lab	HgA1c is collected during the visit with a result < 9%	Lab tool in tablet	Lab tool tab

Diabetes Care Eye Exam	Percentage of members (aged 18-75) who had retinal eye exam by eye care professional in measurement year OR a negative / normal screening in prior year	Documentation of member reported dilated retinal exam with date	Preventive Screening section	Page 6
ART (Rheumatoid Arthritis) Management	Percentage of members who are diagnosed with Rheumatoid Arthritis and are dispensed at least one RX for DMARD (Disease-modifying anti-rheumatic drug)	Documentation of DMARDs	Medication Section	Page 4
MTM (Medication Therapy Management) / CMR	Number of members at least 18 years of age who were enrolled in an MTM program for at least 60 days during the reporting period	Complete medication review (CMR) completed on all MTM members flagged in tablet	Medication Section	Page 4
Osteoporosis Management	Percentage of women (aged 67 or older) who suffered a fracture and had either a bone mineral density test or prescription for a drug to treat or prevent osteoporosis in the 6 months following	Documentation of member reported Dexa scan with date	Preventive Screening section	Page 6
		Documentation of prescription drug to treat or prevent osteoporosis in 6 months post fracture	Medication Section	Page 4
Breast Cancer Screening	Percent of female members (aged 50-74) who had a mammogram during the past two years	Documentation of member reported mammogram	Preventive Screening section	Page 6
		Documentation of bilateral mastectomy or two unilateral mastectomies	Preventive Screening section Surgery Details section	Page 6 Page 2

OPTUM Care™

Substance Use Disorders (Alcohol)

Purpose:
To assist providers in diagnosing and documenting Alcohol related Substance Use Disorder during a HouseCalls visit.

Terminology:
Physical dependence means a person needs a drug to function normally. Abruptly stopping the drug leads to withdrawal symptoms.

Psychological dependence involves emotional–motivational symptoms upon stopping drug use or engagement in certain behaviors.

Substance use disorder is a patterned use of a drug in which the user consumes the substance in amounts or with methods which are harmful to themselves or others.

Alcohol dependency and abuse, in remission is considered a chronic condition. Remission is defined if the member has no dependence or abuse criteria for one month.

Defined:
Substance use disorder is a **problematic** pattern of substance use, leading to **clinically significant impairment** or **distress**, as manifested by **at least two** of the following criteria, occurring within a 12-month period.

Diagnostic criteria (Substance use disorder requires at least two of the following be met within a 12 month period)	Criteria Met Yes = 1
1. Consuming substance in **larger** amounts for a **longer** period than was intended.	
2. Persistent **desire** or **unsuccessful** efforts to cut down or control use.	
3. Significant **time spent** on activities to obtain, use, or recover from its effects.	
4. **Craving** or **urge** to use substance.	
5. **Recurrent** use resulting in a **failure to fulfill** major role obligations at home, work or school.	
6. Continued use **despite** persistent relationship problems caused by the effects.	
7. Important social, occupational. Or recreational **activities are given up** or **reduced** because of use.	
8. **Recurrent** use in situations in which it is **physically hazardous**.	
9. Continued use despite knowledge of a known physical or psychological problem, likely to have been caused or exacerbated by the substance.	
10. Tolerance, as defined by either of the following: a. A need for markedly increased amounts to achieve intoxication or desired effect. b. A markedly diminished effect with continued use of the same amount.	
11. Withdrawal as manifested by either of the following: a. The characteristic withdrawal syndrome b. Is taken to relieve or avoid withdrawal symptoms.	
Total	
Severity: Mild 2-3 symptoms, Moderate 4-5 symptoms, Severe 6 or more symptoms	

Assessing for Substance (Alcohol) Use Disorder during the HC visit:

Assess for **patterns of use** defined as:

- **Use** - irregular or low frequency use of a substance that is **not** habitual.
- **Abuse** - habitual use of a substance that **negatively impacts** the patient's health or social functioning but has **not** arrived at the point of physical and/or mental **dependency**.
- **Dependence**- needs substance to function normally. Abruptly stopping the substance leads to withdrawal symptoms.

A standard drink:

According to the National Institute on Alcohol Abuse and Alcoholism (NIAAA) a standard drink is any drink that contains about 14 grams of pure alcohol (about 0.6 fluid ounces or 1.2 tablespoons).

STANDARD DRINK EQUIVALENTS	APPROXIMATE NUMBER OF STANDARD DRINKS IN:
BEER or COOLER	
12 oz.  ~5% alcohol	• 12 oz. = 1 • 16 oz. = 1.3 • 22 oz. = 2 • 40 oz. = 3.3
MALT LIQUOR	
8-9 oz.  ~7% alcohol	• 12 oz. = 1.5 • 16 oz. = 2 • 22 oz. = 2.5 • 40 oz. = 4.5
TABLE WINE	
5 oz.  ~12% alcohol	• a 750 mL (25 oz.) bottle = 5
80-proof DISTILLED SPIRITS	
1.5 oz.  40% alcohol	• a mixed drink = 1 or more* • a pint (16 oz.) = 11 • a fifth (25 oz.) = 17 • 1.75 L (59 oz.) = 39 *Note: Depending on factors such as the type of spirits and the recipe, one mixed drink can contain from one to three or more standard drinks.

Low Risk:

NIAAA's definition of drinking at low risk for developing Alcohol Use Disorder (AUD)

- For women, low-risk drinking is defined as no more than 3 drinks on any single day and no more than 7 drinks per week.
- For men, it is defined as no more than 4 drinks on any single day and no more than 14 drinks per week.

High Risk:

The Substance Abuse and Mental Health Services Administration SAMHSA

- Defines heavy alcohol use as binge drinking on 5 or more days in the past month

Binge Drinking:

- NIAAA defines binge drinking as a pattern of drinking that brings blood alcohol concentration (BAC) levels to 0.08 g/dL.
- This typically occurs after 4 drinks for women and 5 drinks for men—in about 2 hours.

- The Substance Abuse and Mental Health Services Administration (SAMHSA), defines binge drinking as 5 or more alcoholic drinks for males or 4 or more alcoholic drinks for females on the same occasion (i.e., at the same time or within a couple of hours of each other) on at least 1 day in the past month.

Assess for alcohol use in the tablet:

- Current use of alcohol
- Drinks per week or Drinks per occasion (mutually exclusive)
- Conduct CAGE screening if member currently consumes alcohol
    - 2 or more positive screening questions will populate the diagnosis cart with an Alcohol Dependency diagnosis.

Alcohol	☑ Current ☐ Former ☐ Never	☐ Interested in quitting ☐ Counseled to quit	Drinks per week:	...
			Drinks per occasion:	...
	CAGE Screening		☐ Refused	
	Have you felt you should cut down on your drinking?		☐ Yes	☐ No
	Have others annoyed you by criticizing your drinking?		☐ Yes	☐ No
	Have you ever felt guilty about your drinking?		☐ Yes	☐ No
	Have you ever had a drink first thing in the morning to steady your nerves or get rid of a hangover?		☐ Yes	☐ No

If the CAGE questionnaire is negative after assessing for alcohol use and the practitioner believes the member is at risk for Alcohol Use Disorder (AUD) the practitioner can use the Substance Use Disorder diagnostic criteria above to substantiate member's risk/diagnosis of AUD.

Documentation for substance use disorders should be based on the patient's presenting symptoms during the member assessment visit.

Diagnoses related to Alcohol Use in the eHouseCalls Application

Search diagnoses by name:

ALCOHOL

Alcohol abuse
Alcohol abuse with alcohol-induced anxiety disorder
Alcohol abuse with alcohol-induced mood disorder
Alcohol abuse with alcohol-induced psychotic disorder with delusions
Alcohol abuse with alcohol-induced psychotic disorder with hallucinations
Alcohol abuse with alcohol-induced psychotic disorder, unspecified
Alcohol abuse with alcohol-induced sexual dysfunction
Alcohol abuse with alcohol-induced sleep disorder
Alcohol abuse with intoxication delirium
Alcohol abuse with intoxication, uncomplicated
Alcohol abuse with intoxication, unspecified
Alcohol abuse with other alcohol-induced disorder
Alcohol abuse with unspecified alcohol-induced disorder
Alcohol dependence with alcohol-induced anxiety disorder
Alcohol dependence with alcohol-induced mood disorder
Alcohol dependence with alcohol-induced persisting amnestic disorder
Alcohol dependence with alcohol-induced persisting dementia
Alcohol dependence with alcohol-induced psychotic disorder with delusions
Alcohol dependence with alcohol-induced psychotic disorder with hallucinations
Alcohol dependence with alcohol-induced psychotic disorder, unspecified
Alcohol dependence with alcohol-induced sexual dysfunction
Alcohol dependence with alcohol-induced sleep disorder
Alcohol dependence with intoxication delirium
Alcohol dependence with intoxication, uncomplicated
Alcohol dependence with intoxication, unspecified
Alcohol dependence with other alcohol-induced disorder
Alcohol dependence with unspecified alcohol-induced disorder
Alcohol dependence with withdrawal delirium
Alcohol dependence with withdrawal with perceptual disturbance
Alcohol dependence with withdrawal, uncomplicated
Alcohol dependence with withdrawal, unspecified
Alcohol dependence, in remission
Alcohol dependency - Continuous
Alcohol dependency - Episodic
Alcohol dependency - Unspecified
Alcohol use, unspecified with alcohol-induced anxiety disorder

Diagnoses related to Alcohol Use in the eHouseCalls Application (cont)

Alcohol dependence with withdrawal delirium
Alcohol dependence with withdrawal with perceptual disturbance
Alcohol dependence with withdrawal, uncomplicated
Alcohol dependence with withdrawal, unspecified
Alcohol dependence, in remission
Alcohol dependency - Continuous
Alcohol dependency - Episodic
Alcohol dependency - Unspecified
Alcohol use, unspecified with alcohol-induced anxiety disorder
Alcohol use, unspecified with alcohol-induced mood disorder
Alcohol use, unspecified with alcohol-induced persisting amnestic disorder
Alcohol use, unspecified with alcohol-induced persisting dementia
Alcohol use, unspecified with alcohol-induced psychotic disorder with delusions
Alcohol use, unspecified with alcohol-induced psychotic disorder with hallucinations
Alcohol use, unspecified with alcohol-induced psychotic disorder, unspecified
Alcohol use, unspecified with alcohol-induced sexual dysfunction
Alcohol use, unspecified with alcohol-induced sleep disorder
Alcohol use, unspecified with intoxication delirium
Alcohol use, unspecified with intoxication, uncomplicated
Alcohol use, unspecified with intoxication, unspecified
Alcohol use, unspecified with other alcohol-induced disorder
Alcohol use, unspecified with unspecified alcohol-induced disorder
Alcoholic cardiomyopathy
Alcoholic cirrhosis of liver
Alcoholic cirrhosis of liver with ascites
Alcoholic cirrhosis of liver without ascites
Alcoholic fatty liver
Alcoholic hepatic failure without coma
Alcoholic hepatitis with ascites
Alcoholic hepatitis without ascites
Alcoholic liver disease, unspecified
Alcoholic myopathy
Alcoholic polyneuropathy
Alcohol-induced chronic pancreatitis
Alcohol-induced pseudo-Cushing's syndrome
Chronic Liver Disease - Nonalcoholic Fatty Liver Disease
Degeneration of nervous system due to alcohol
Non alcoholic fatty liver disease
Nonalcoholic steatohepatitis (NASH)

Reference:
http://www.uptodate.com/contents/substance-use-disorder-principles-for-recognition-and-assessment-in-general-medical-care?source=search_result&search=dependence&selectedTitle=1%7E150
Just the Facts: Psychological vs Physical Addiction (2015) Retrieved from: http://www.rehabs.com/just-the-facts-psychological-vs-physical-addiction/
National Institute on Alcohol Abuse and Alcoholism. Retrieved from: https://pubs.niaaa.nih.gov/publications/practitioner/pocketguide/pocket_guide2.htm
National Center for Biotechnology Information. (n.d.). Appendix C DSM-IV-TR Material. Retrieved from https://www.ncbi.nlm.nih.gov/books/NBK64247/

eHouseCalls

Release Notes

2.10.8.0 Release

Revision History

Version Number	Effective Date	Author's Name	Document Reviewed By	Technical Content Reviewed By	Approved By	Reference to Changes
1.0	01/22/2016	[redacted]	[redacted]	[redacted]	[redacted]	Baseline Document Finalized for HCP Distribution

Table of Contents

Table of Figures

1. Objective

The objective of this document is to describe the enhancements and updates to the eHouseCalls with the Release 2.10.8.0.

2. Assessment Version Changes

The version number of the assessment has been be updated to version 19. Various changes implemented to support the version 19 assessments have been listed below.

1. The assessment pages screens have been updated as per the version 19.
2. The assessment popup-up screens have been updated as per the version 19.

3. Diagnoses Updates

The following changes have been implemented as a part of **Diagnoses Updates.**

3.1. Diabetes Type Selection Update

The changes in the Diabetes Type 1 selections and Diabetes Type 2 selections are:

Diabetes Type 1

The Diabetes Type 1 selections have been modified as described below.

1. The option **Chronic Insulin Therapy** has been removed from the complications list under Diabetes Type 1.
2. Under Diabetes Type 1 type selection, an option **With Hypoglycemia** has been added as shown below.

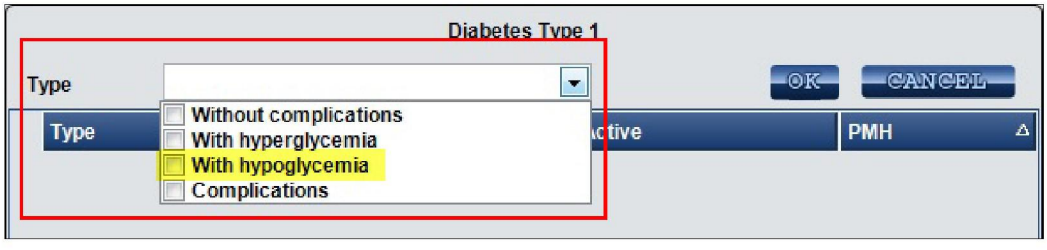


Figure 1: Diabetes Type 1 - With Hypoglycemia

Diabetes Type 2

The Diabetes Type 2 selections have been modified as described below.

1. The option **Chronic Insulin Therapy** has been removed from the complications list under Diabetes Type 2, and added as a Diabetes Type 2 selection type.
2. Under Diabetes Type 2 type selection, an option **With Hypoglycemia** has been added. Hence, the updated selection list for Diabetes Type 2 is shown in the screenshot below:

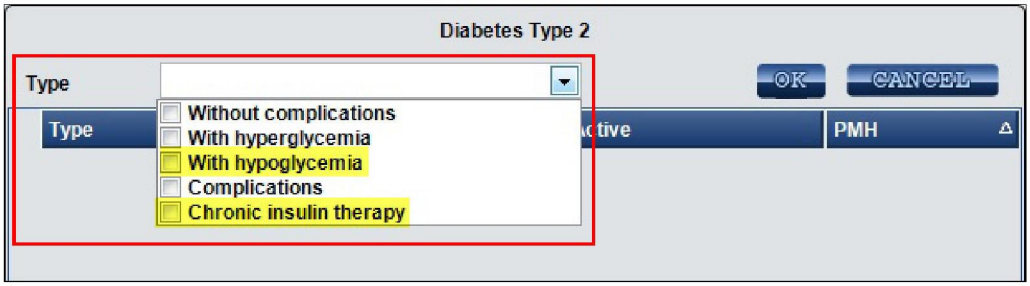


Figure 2: Diabetes Type 2 - With Hypoglycemia and Chronic Insulin Therapy

Note: The options **With Hyperglycemia** and **With Hypoglycemia** are mutually exclusive, and only one can be selected as **Active.** If a practitioner selects both the options as **Active**, a message is displayed in the **Mandatory Messages** section of Page 19.

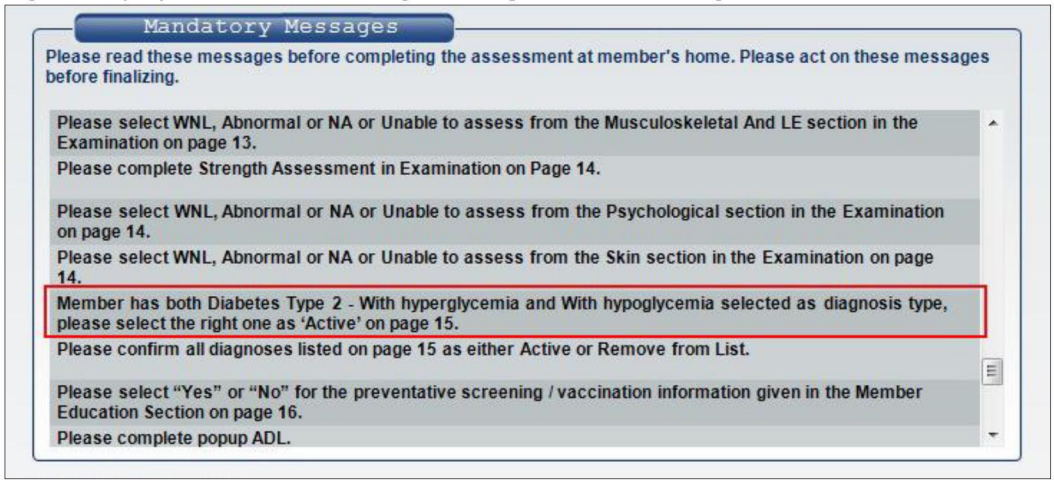


Figure 3: Diabetes Type 2 - Mandatory Messages Section

3.2. Diagnosis Options Removed

With the ICD 10 update, a few diagnosis options have been removed from the tablet. The diagnosis names along with the respective ICD 10 codes have been listed below.

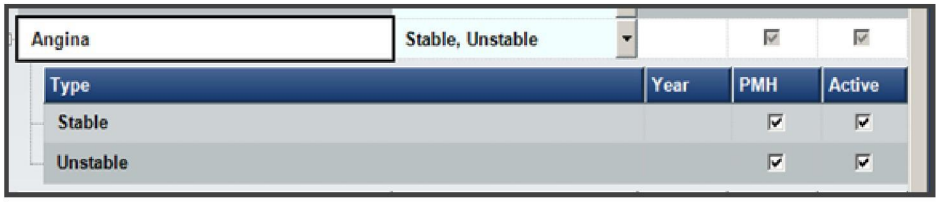
Sl.No	Diagnosis Name	ICD 10 Code
1	Osteoporosis with vertebral compression fracture	M84.68XA
2	Osteoporosis with hip fracture	M84.459A
3	Chronic Bronchitis	J42
4	Obscure cardiomyopathy of Africa	I42.8
5	Acquired absence of right breast and nipple	Z90.11
6	Acquired absence of left breast and nipple	Z90.12

3.3. Mutual Exclusion Changes

Type Level Alert Message

The mutual exclusive type alert message have been removed from all the screens (type level not diagnosis level).

For instance: Consider the diagnosis **Angina**. The user can select **PMH** and **Active** for multiple types.



Note: If a practitioner selects both the options for diagnosis as **Active**, a message is displayed in the **Mandatory Messages** section of Page 19.

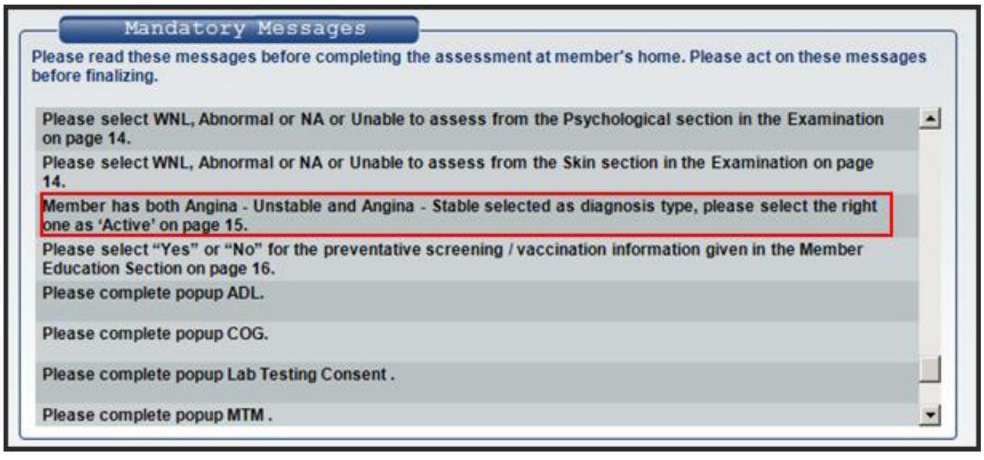
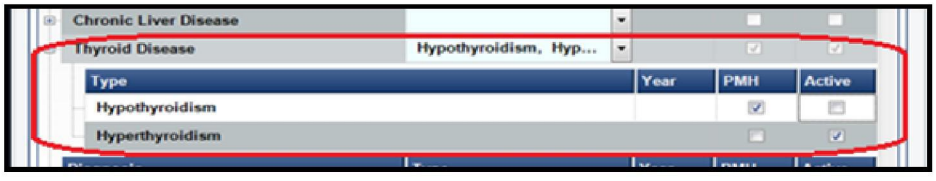


Figure 4: Type Level Alert - Mandatory Messages Section

Thyroid Disease

For diagnosis **'Thyroid'** only **'Hypothyroidism'** and **'Hyperthyroidism'** types are mutually exclusive.



Note: If a practitioner selects both the options for **'Hypothyroidism'** and **'Hyperthyroidism'** under **'Thyroid'** diagnosis as **Active**, a message is displayed in the **Mandatory Messages** section of Page 19.

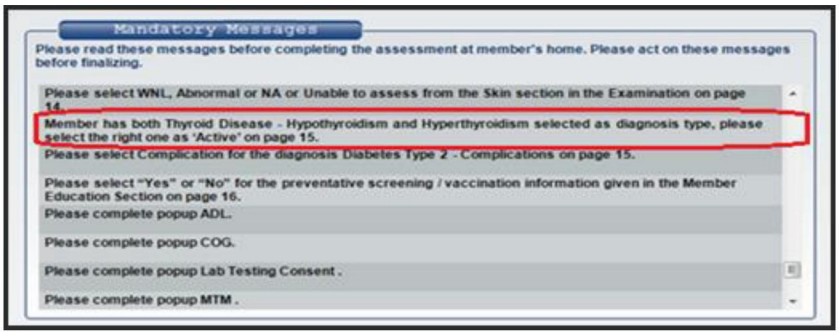


Figure 5: Thyroid Disease - Mandatory Messages Section

3.4. Pressure/Non-Pressure Ulcer

The following changes have been implemented for **'Pressure/Non-Pressure Ulcer'** diagnosis.

- The severity drop down has been brought down (child row) in multilevel popup. Once the location is selected, severity/stage drop down will display at child row level.

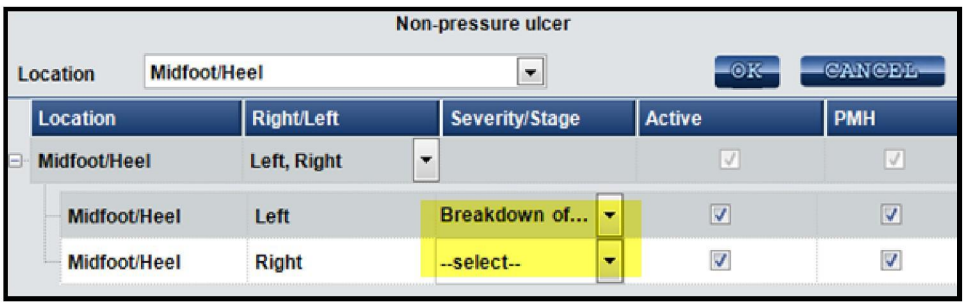


Figure 6: Pressure/Non-Pressure Ulcer

If **'Pressure/Non pressure ulcer'** location is selected and Severity not selected for the corresponding Location then alert will display.

4. Past Medical History Changes

The following changes have been implemented in various screens of the eHouseCalls application with the inclusion of the **PMH** column.

4.1. Past Medical History Changes

In the Past Medical History screen (Page 3), the columns (checkboxes) for **Active** and **PMH** would be enabled/ disabled based on the following conditions.

Diagnosis without Type Selection

The **Active** and **PMH** checkboxes would be enabled at the parent – level for diagnosis without a type selection.

For instance: Consider the diagnosis **Glaucoma**. Since it does not have a type selection, the checkboxes for **PMH** and **Active** are enabled.

Figure 7: Active and PMH - Enabled

Diagnosis with Type Selection

The **Active** and **PMH** checkboxes at the parent – level grid would be disabled for diagnosis with a type selection. This ensures that the practitioner can select the **Active** and **PMH** separately for different types (see section Diagnosis Type Level Popup Screen).

For instance: Consider the diagnosis **Diabetes Type 1**. Since it has a type selection, the checkboxes for **PMH** and **Active** are disabled.

Figure 8: Active and PMH - Disabled

4.2. Diagnosis Type Popup Screen

The **PMH** column has been added to the diagnosis type popup screen in **Diagnosis Cart, PMH screen, Diagnosis Confirmation** and **Add Diagnosis Screens** as shown below.

ICD-10 Multi Select Popup

- In the ICD-10 multi-select popup screens, two columns **Active** and **PMH** have been added as shown in the screenshot below.

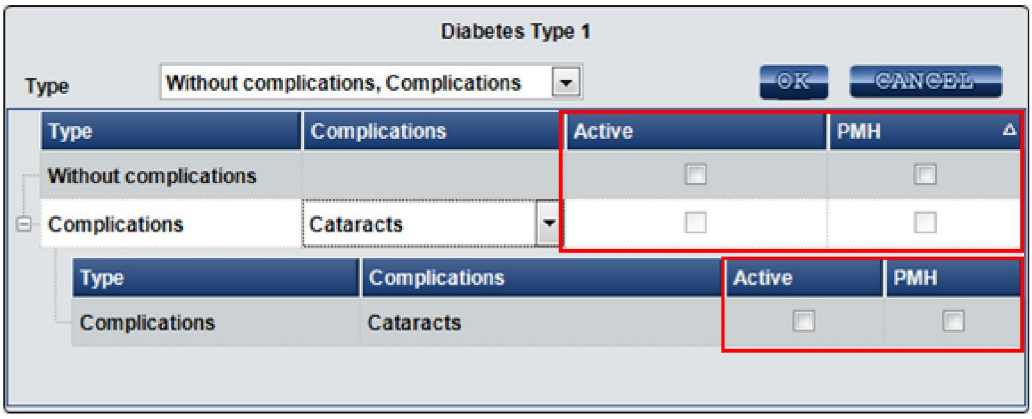


Figure 9: ICD-10 multi-select popup - PMH Column

- On click of '**Ulcer**' diagnosis under **Complications** in multilevel popup, the **'Non pressure ulcer'** popup will open. On click of '**Ok'** in '**Non-Pressure ulcer'** popup, the main multi-level popup reflects the changes done in both **'Diabetes'** and **'Ulcer'** diagnosis.

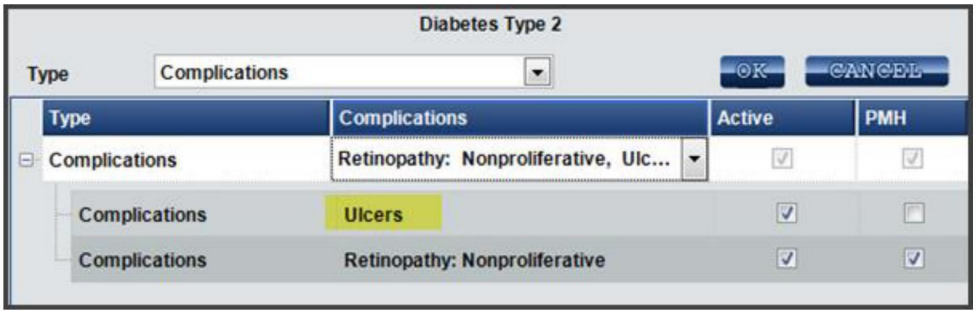


Figure 10: ICD-10 multi-select popup - Ulcer Diagnosis

Single Select Popup

In the single-select popup screen, two columns **Active** and **PMH** have been added as shown in the screenshot below.

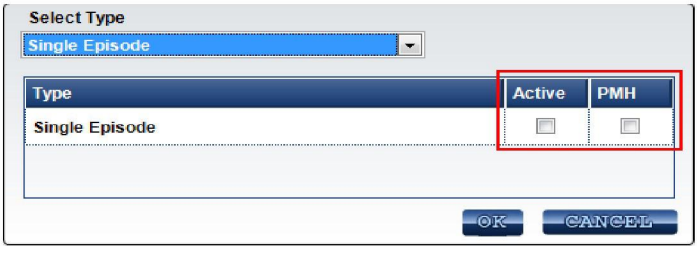


Figure 11: Single Select Popup - PMH Column

Multi Select Popup

In the multi-select popup screen, two columns **Active** and **PMH** have been added as shown in the screenshot below.

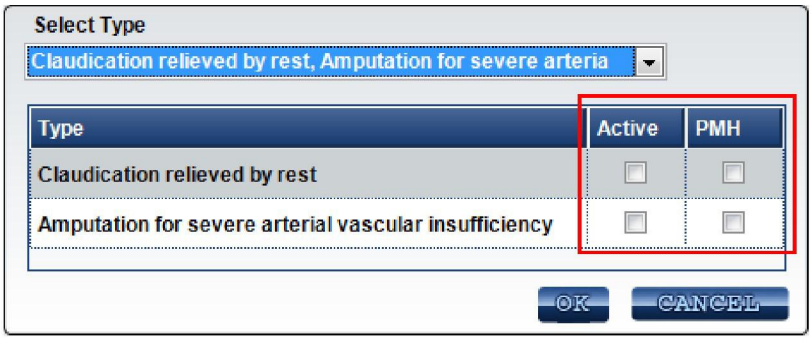


Figure 12: Multi Select Popup - PMH Column

4.3. Quick Pick Section

In the **Quick Pick** section, a column **P** (for PMH) has been added as shown in the screenshot below.

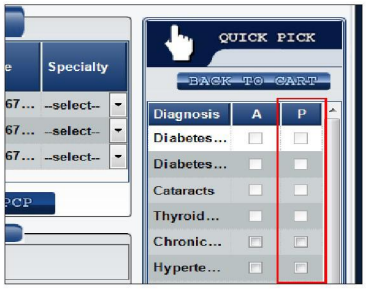


Figure 13:Quick Pick Section - PMH Column

4.4. Diagnosis Cart

In the **Diagnosis Cart** section, a column **P** (for PMH) has been added as shown in the screenshot below.

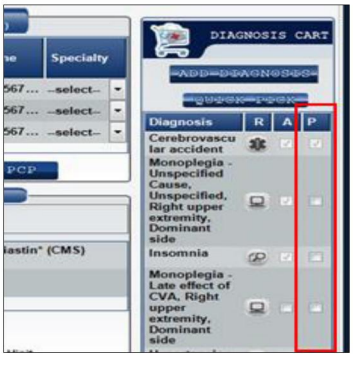


Figure 14:Diagnosis Cart Section - PMH Column

NOTE: The Active column has been renamed to A.

5. SKIN Grid Changes

In the **SKIN** grid, a location option **Other** has been added for the **Pressure Ulcer** abnormality type as shown in the screenshot below.

Figure 15: SKIN grid - Pressure Ulcer - Other

5.1. Skin Grid Rules Added

With the addition of the location option **Other** for the **Pressure Ulcer**, five rules have been created.

6. Diagnosis Confirmation Page Changes

The following changes have been implemented in the **Diagnosis Confirmation** page

6.1. Diagnosis Confirmation Section Split

The **Diagnosis Confirmation** section has been split into the following sections:

1. Active and PMH List
2. PMH Only List
3. Removed From List

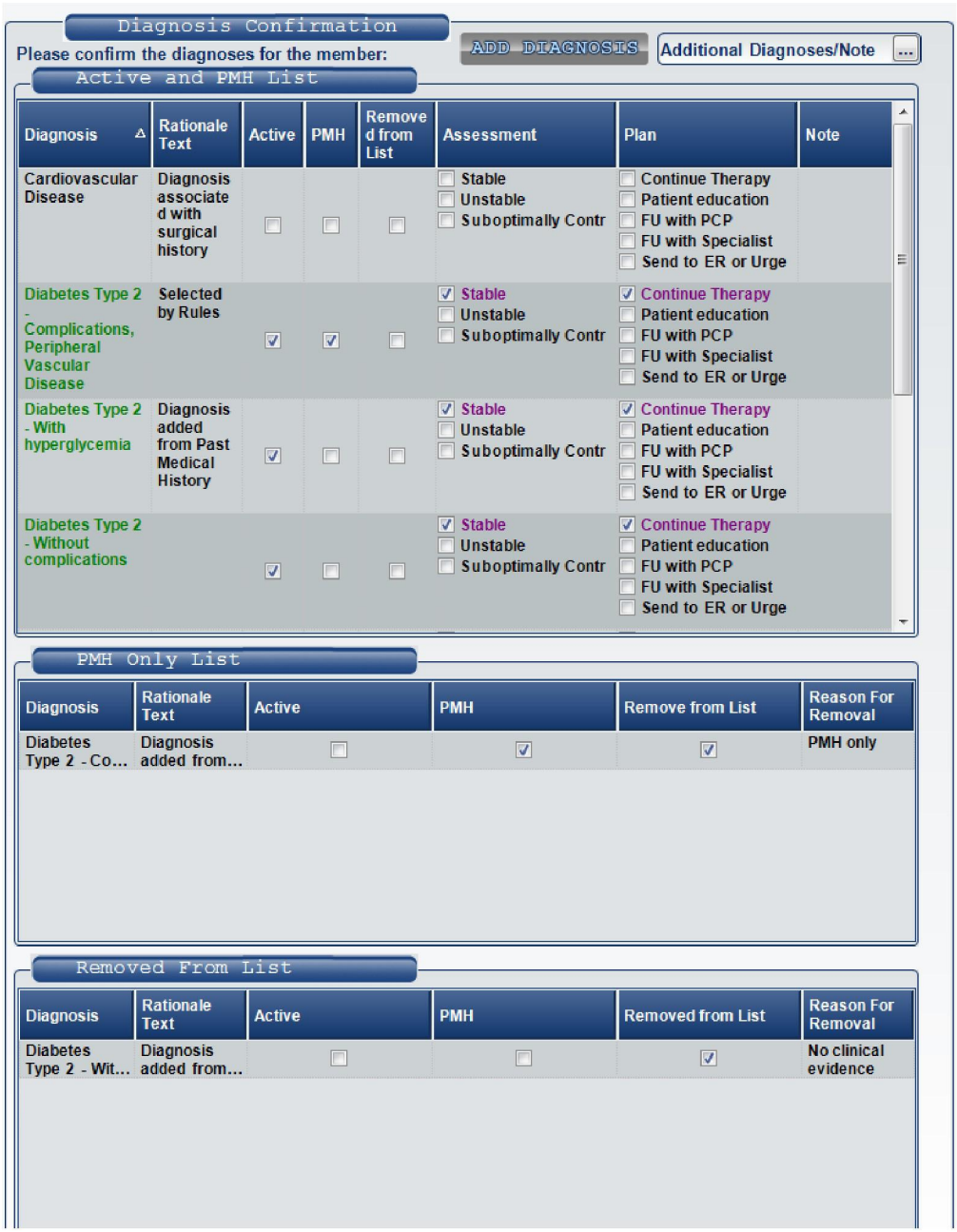


Figure 16: Diagnosis Confirmation Page

Each of the section is described below.

Active and PMH List

The **Active and PMH List** section consists of the existing columns of the **Diagnosis Confirmation** page, along with a new column **PMH** added as highlighted below. This section displays the diagnoses options that have been marked as **Active**, **Active and PMH** and those without any status marked too.

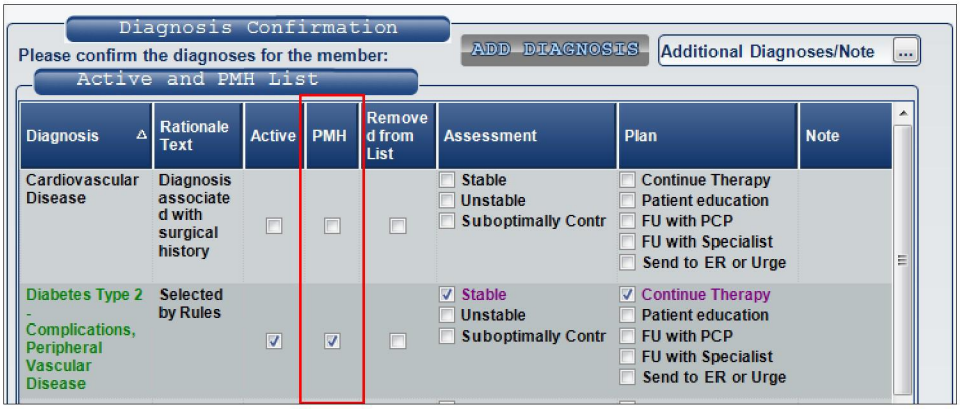


Figure 17: Active and PMH List Section - PMH Column

The column **Remove from Active List** has been renamed to **Removed from List.**

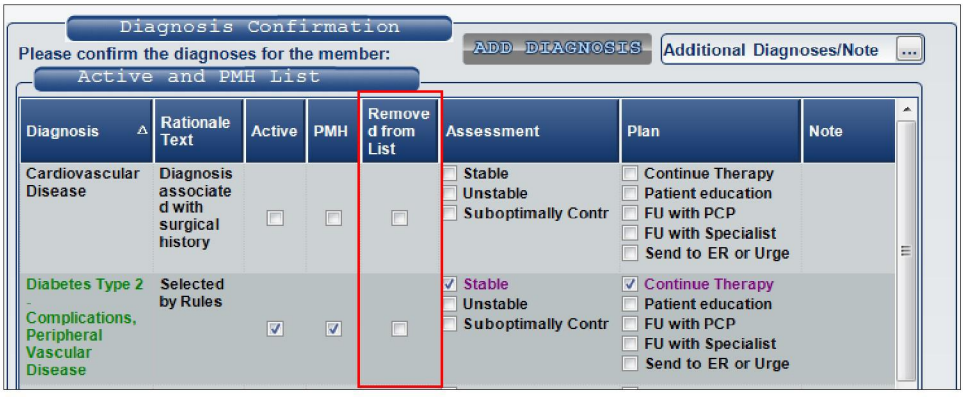


Figure 18: Remove from List Header Rename

Hover over the **Removed from List** header to view the instruction: ***If you want to remove a diagnosis, select the removed from list check box first and then choose the reason for removal before making any other selections.***

PMH Only List

The **PMH Only List** section displays the diagnosis options that are marked as **PMH** and/ or which are removed from the list with **PMH Only** as the reason for removal.

Figure 19: PMH Details Section

The various columns of the section are:

1. **Diagnosis**: Indicates the name of the diagnosis
2. **Rationale Text**: Indicates the diagnosis source
3. **Active**: Indicates if the diagnosis is **Active**

4. **PMH**: Indicates if the diagnosis is a PMH. By default, all diagnosis options populated in the section are automatically marked as **PMH.** Remove the PMH selection to remove the diagnosis from the grid.
5. **Remove from List**: Indicates if the diagnosis has been removed from the list, and would be populated in the **Removed from list** section.
6. **Reason for Removal**: Indicates the reason for removal of the diagnosis.

Removed from List

The **Removed from List** section displays diagnosis options that are marked as **Removed from List**.

Figure 20: Removed from Active List Section

The various columns of the section are:

1. **Diagnosis**: Indicates the name of the diagnosis
2. **Rationale Text**: Indicates the diagnosis source
3. **Active**: Indicates if the diagnosis is **Active**
4. **PMH**: Indicates if the diagnosis is a PMH.
5. **Removed from List**: Indicates if the diagnosis has been removed from the list. By default, all diagnosis options populated in the section are automatically marked as **Removed from List.** Remove the selection to remove the diagnosis from the grid.
6. **Reason for Removal**: Indicates the reason for removal of the diagnosis.

It is mandatory to select at least one of the check-boxes (Active/ PMH/ Remove from List) for all the diagnosis listed in the confirmation page. Else, the system displays the below mandatory message.

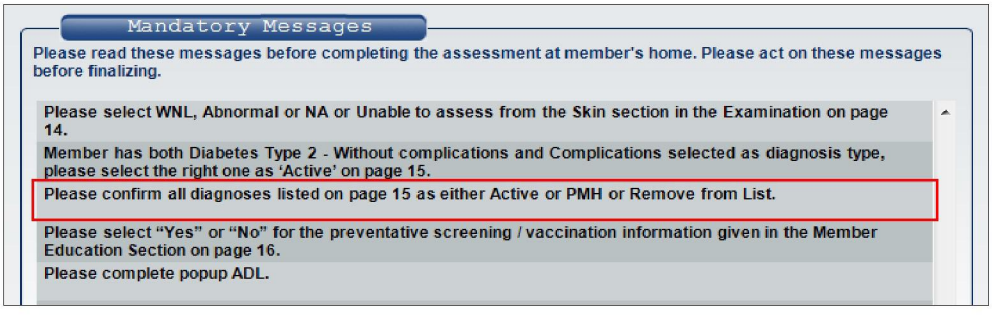


Figure 21: Diagnosis Confirmation - Active/PMH/Removed

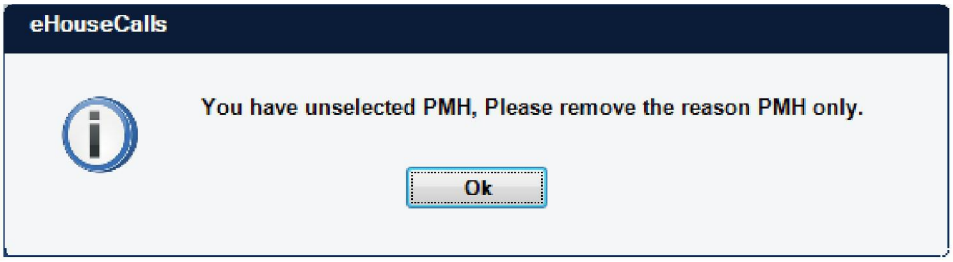
6.2. Diagnoses with Multi-Level Selection

For diagnoses with multi-level selection, click the diagnosis name in the **Diagnosis** column of the **Active and PMH List section** and **PMH Only** section to display the popup screen. It would not be displayed when the diagnosis column is clicked in the **Removed from List** section.

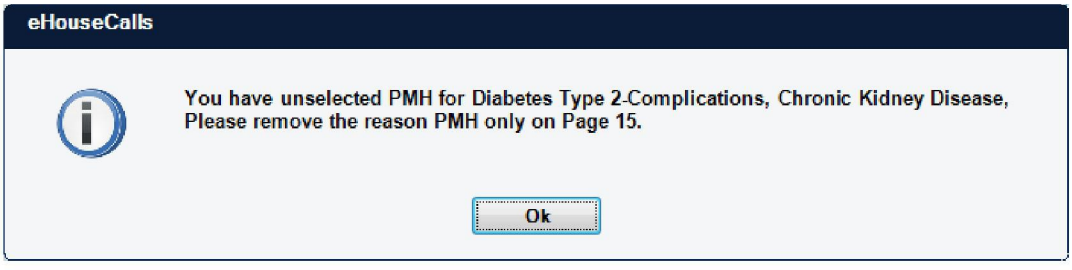
6.3. Removing Diagnosis from List

The following conditions would be applicable while removing the **PMH Only** diagnosis from the list.

1. If a diagnosis in the **Active and PMH List section** is marked as **Removed from List** and the reason is selected as **PMH Only,** the diagnosis would be moved to the **PMH Only** grid. The PMH checkbox would be automatically selected (if not already selected).
2. Consider a diagnosis moved to the **PMH Only** grid by the selection of **PMH Only** as the reason for removal.
   - If the PMH checkbox is manually unselected in the **Diagnosis Confirmation** screen, the system displays the below alert message.



   - If the PMH checkbox is manually unselected in the **Past Medical history** screen, **Add Diagnosis** screen or the multi-level popup screen, the system displays the below alert message.



3. If a diagnosis in the **Active and PMH List section** is marked as **Removed from List** and any reason except **PMH Only** is selected**,** the diagnosis would be moved to the **Removed from List** grid. The Active and PMH checkbox would be automatically cleared.
4. A diagnosis in the **Removed from List** grid can be moved to the **PMH only** grid by selecting the **PMH checkbox** and marking the reason for removal as **PMH Only.**

Note: This will be applicable for prepopulated diagnosis also.

6.4. Notes Section

The **Notes** section has been aligned at the top of the page, as shown in the screenshot below.

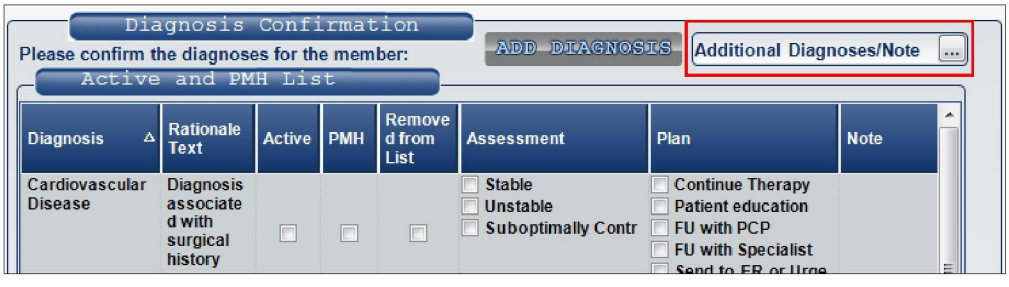


Figure 22: Notes Section

7. Quantaflo Documentation (PAD Screening)

7.1. Examination Section Changes

- The **'PAD Screening'** selection is added in the Examination section under **Musculoskeletal And LE** section. The **Member Refused, Recently Completed and Unable to perform** fields are added. The **'NA'** check box is added after **Left Foot & Right Foot** fields.

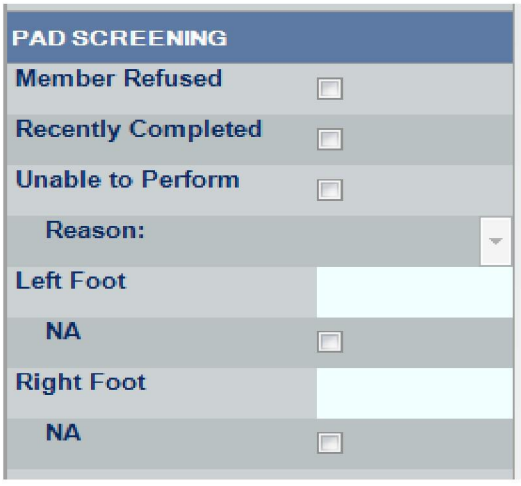


Figure 23: PAD Screening

- If the **Member Refused/Recently Completed/Unable to Perform** is selected, the left foot, left foot NA, right foot and right foot NA text/check boxes get disabled.

Note: Member Refused/Recently Completed/Unable to Perform check boxes are mutually exclusive.

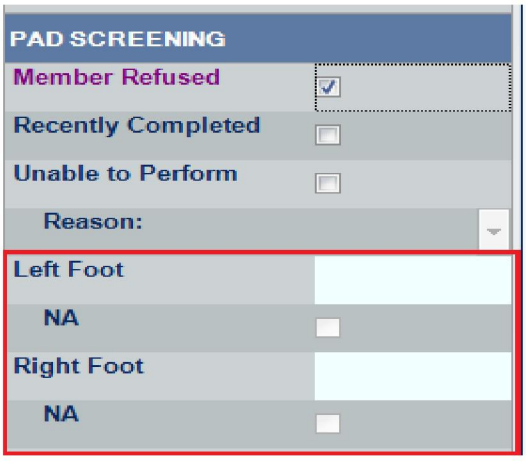


Figure 24: PAD Screening - Check box selection

- Once the **'Unable to Perform'** is selected, a multi-select reason drop down is enabled with specified options:

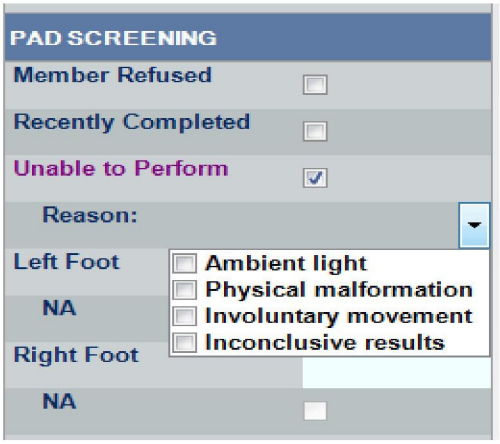


Figure 25: PAD Screening - Unable to Preform

- If **'Unable to Perform'** is selected and without selecting **'Reason'** drop down practitioner tries to save or navigate to other screen, the system displays the below alert message.

- If **Left Foot 'NA'** check box is selected, then **'Left Foot'** text box get clear and disable. If the value entered for **'Left Foot'** is more than 1.40 and practitioner tries to save or navigate to other screen, the system displays the below alert message.

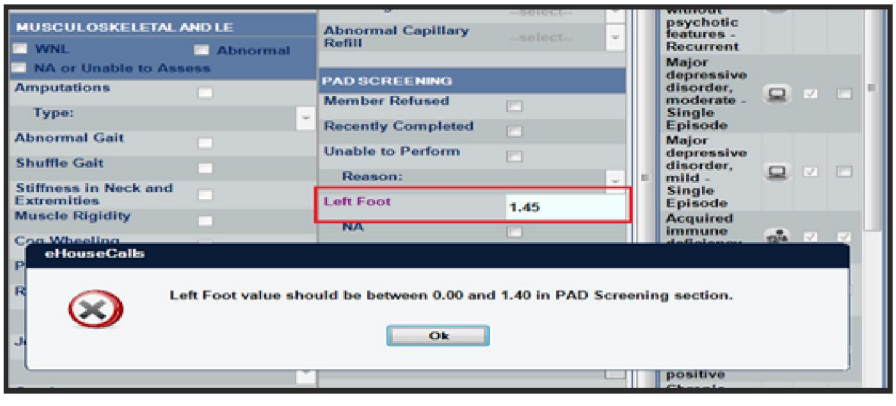


Figure 26: PAD Screening - Left Foot Value

- If **Right Foot 'NA'** check box is selected, then **'Right Foot'** text box gets cleared and disabled. If the value entered for **'Right Foot'** is more than 1.40 and practitioner tries to save or navigate to other screen, the system displays the below alert message.

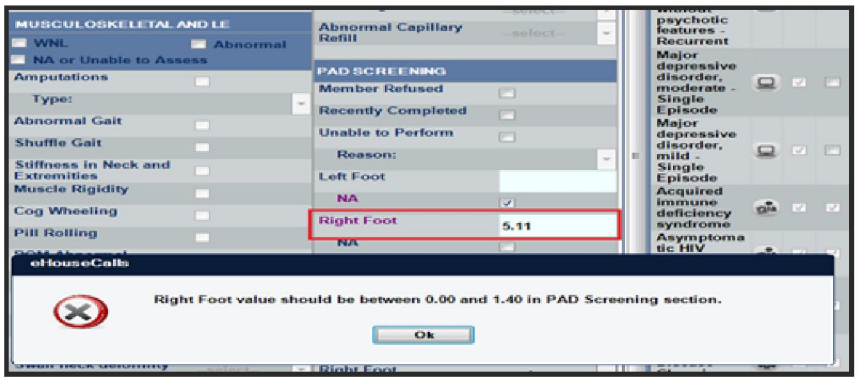


Figure 27: PAD Screening - Right Foot Value

Note: If the **'PAD Screening'** section is not completed by the practitioner, a message is displayed in the **Mandatory Messages** section of Page 19.

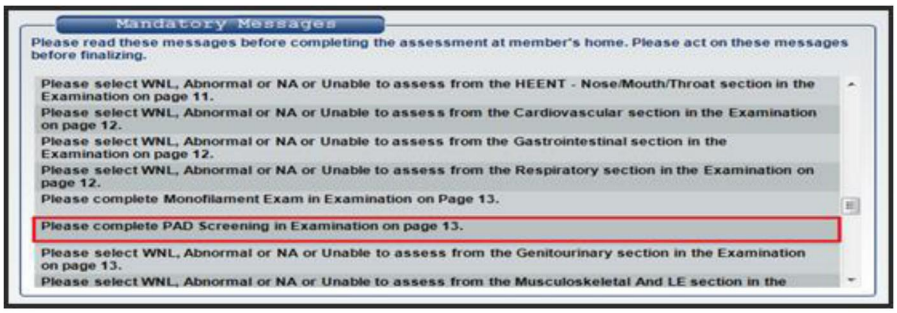


Figure 28: PAD Screening – Mandatory message section

7.2. Smart Logic Rules - Adherence to Quantaflo test

The Smart Logic Rules is updated to adhere the Quantaflo test criteria. The diagnoses are with examination rules are as follows:

Diabetes Type 2 - complications, peripheral vascular disease

- In the above scenario, if **LE-result** for right leg and/or left leg is below 0.90 and member has a diagnosis of type 2 diabetes then **Diabetes type 2 -complications, peripheral vascular disease** is populated.

Atherosclerosis, unspecified extremity

- In the above scenario, if **LE-result** for right leg and/or left leg is below 0.90 and there is no diagnosis of type 2 diabetes then **Atherosclerosis, unspecified extremity** is populated.

7.3. Referral Changes

The following referrals are added.

Quantaflo (Abnormal PAD Screening) Referral Change

A referral is generated for the member if the screening value is less than or equal to 0.90 in Quantaflo (Abnormal PAD Screening). If any one Left Foot / Right Foot results are less than or equal to 0.90 then referral is generated.

8. Depression Screening Update

8.1. Depression Diagnosis Update

Below mentioned level 3 diagnosis have been added to the system.

- Major depressive disorder, recurrent, severe with psychotic symptoms
- Major depressive disorder, single episode, severe with psychotic features
- Other depressive episodes

Below mentioned level 1 and level 2 **(PMH, Quick Pick, Add Diagnosis)** diagnosis have been added to the system.

- Major depressive disorder in partial remission - Recurrent
- Major depressive disorder in partial remission - Single Episode
- Major depressive disorder in full remission - Recurrent
- Major depressive disorder in full remission - Single Episode

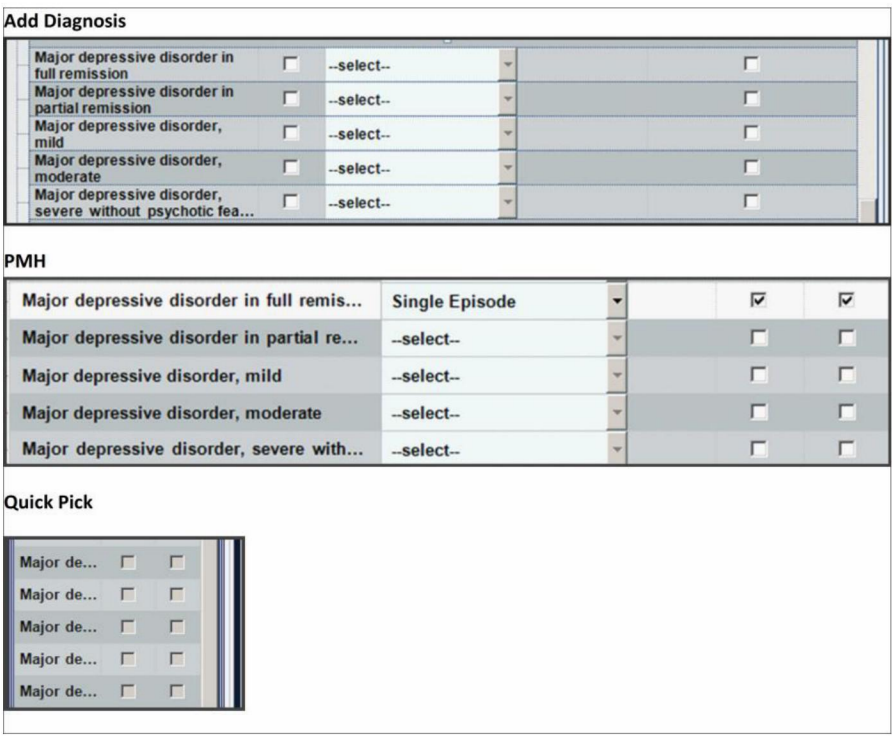


Figure 29: Depression Diagnosis Update

8.2. PHQ2 Section

Depression Tool section have been renamed as **PHQ2** and added as a new section under the **Review of Systems** (Page 10). The questions under **PHQ2** section are red in color and is mandatory.

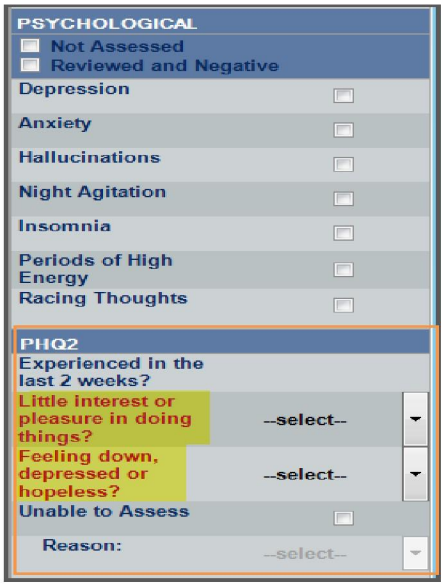
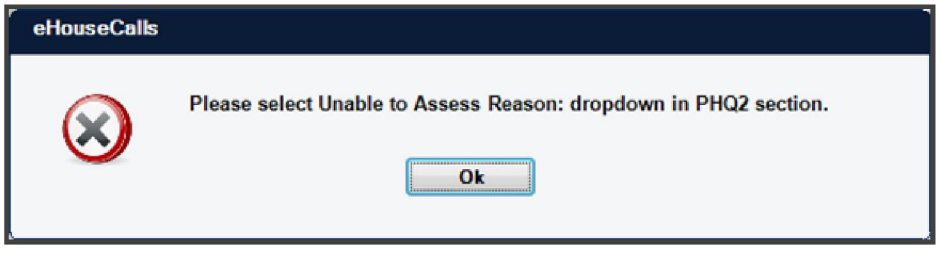


Figure 30: PHQ2 Section

If the practitioner selects **'Unable to Assess'** and fails to select the '**Reason**' dropdown, tries to save or navigate to other page, then system will display below error message.



Note: If the **'PHQ2'** section is not completed by the practitioner, a message is displayed in the **Mandatory Messages** section of Page 19.

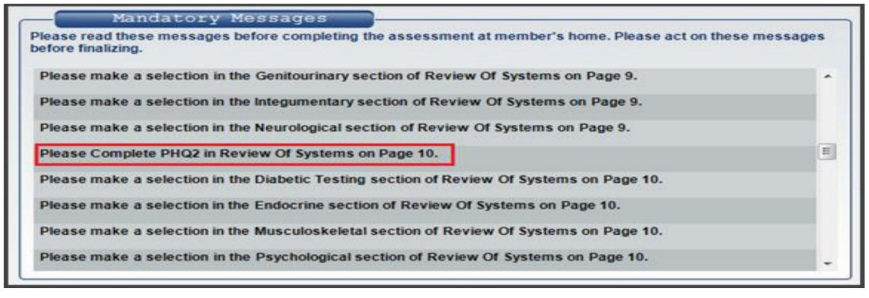


Figure 31: PHQ2 Section – Mandatory Message

8.3. PSY Tool Changes

The following changes have been implemented under **'PSY Tool'**

1. Four new depression remission diagnosis is added for depression to provide the correct diagnosis to the member. The added diagnosis are shown in the screenshot below.

Figure 32: Depression Screening Tool

2. The existing Major Mild Depression, Major Moderate Depression, Major Severe Depression diagnosis have been renamed as shown is the below screen:

Figure 33: Depression Screening Tool (Updation)

Note: All depressive disorder diagnosis are mutually exclusive. The user can select only one diagnosis at a time.

8.4. Smart Logic Rules – PSY Tool

The new smart logic rules have been created to trigger the Depression Remission Diagnosis, if the correspondent question selected from the PSY tool.

9. Smart Logic Rules Updates

The following updates have been implemented with the smart logic rules.

9.1. Adherence to Mutual Exclusion Criteria

The Smart Logic Rules have been updated to adhere to the mutual exclusion criteria. Consider two mutually exclusive diagnoses: **Diabetes Type 1 – Complications, Cataracts** and **Diabetes Type 1 – Without Complications** in the following scenario.

1. The diagnosis **Diabetes Type 1 – Complications, Cataracts** has been added to the cart as an active diagnosis
2. The Smart Logic Rules criteria are satisfied to add the diagnosis **Diabetes Type 1 – Without Complications**.

In the above scenario, **Diabetes Type 1 – Without Complications** would be added in spite of the existence of **Diabetes Type 1 – Complications** in the cart as active.

With the current release, the smart logic rules have been updated to not allow **Diabetes Type 1 – Without Complications** to be added. Similarly, if a diagnosis is already added by smart logic rules, the mutually exclusive diagnosis would not be added.

9.2. Triggering rules for Monoplegia/ Hemeplegia/ Hemeparesis

The smart logic rules for unspecified cause for Monoplegia and Hemeplegia/ Hemeparesis would not be triggered if there is an existing diagnosis for either head injury or CVA late effects.

9.3. Rules Evaluation on Page Level

In the existing system, all the smart logic rules run on all the pages. This reduces the system performance.

With the current release, the existing smart logic rules have been split to run only on specific pages or relevant fields.

9.4. Diabetes Diagnoses Rule Changes

1. The rules that triggers **Diabetes type 2, without complications** has been disabled with below conditions:
    - If the average blood sugar >120 AND Urine Dipstick - Glucose +1, +2, +3, +4.
    - If HgA1c > 6.5 OR HgA1c collected in lab tool from POC section and from Bio IQ section.
2. The rules that triggers **Diabetes type 2, with hyperglycemia** has been added with below conditions:
    - If average blood sugar >120 AND Urine Dipstick - Glucose +1, +2, +3, +4.
    - If average blood sugar 200 or >.
    - If HGA1c 7 or > OR HgA1c collected in lab tool from POC (HgA1c 7 or >) section OR Barcode answered from Bio IQ section.
3. The rules that triggers **Diabetes type 2, with hypoglycemia** has been added with below conditions:
    - If average blood sugar 70 or <.

10. Referral Changes

10.1. Medication list update

The medication list for following referral generation conditions have been updated.

- Referral for Osteoporosis Screening
- HouseCalls Pharmacy Referral for Osteoporosis
- Rheumatoid Arthritis Referral

Refer the attached spreadsheet for the medication.

Referral_Medications.xlsx

10.2. THP Members – Suppress HouseCall Dietitian Referral

With the current release, the HouseCall Dietitian Referral will not be generated for THP members.

11. Optum Assessment Members - Letter Changes

A separate member PA letter and provider PA letters would be generated for the Optum Assessment Members (THP and AvMed). This ensures that the information from the assessment is provided to the member and the provider in appropriate formats as given below.

11.1. Member PA Letter

The font size for Date of Birth field, Patient Name and Headings in all sections have been modified to 12 points. The changes are made for all sub sources.

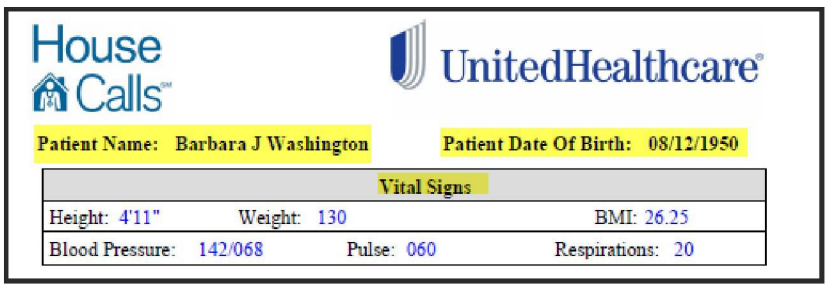


Figure 34: Member PA Letter - Font Change

11.2. AvMed Members

The following changes have been implemented in the PA Letters for AvMed members.

Branding Change

The member PA letter and provider PA letters have been updated with the HouseCalls logo.

Figure 35: AvMed Letter - Logo Change

Statement Update

In the provider PA letter for AvMed members, the statement ***Through HouseCalls, a local health care practitioner visits our Medicare Advantage members in their homes to conduct a physical exam*** has been changed to ***Through HouseCalls, a local health care practitioner visits selected Medicare members in their homes to conduct a physical exam.***

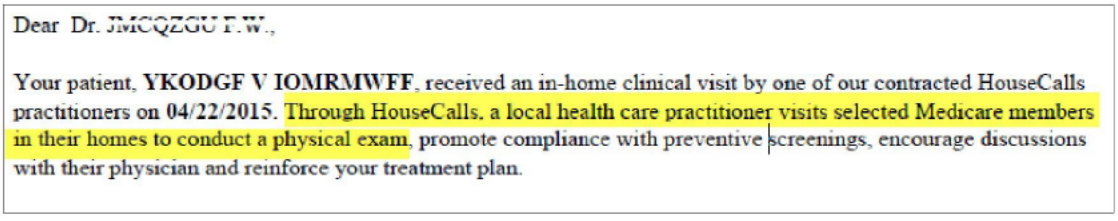


Figure 36: AvMed Provider Letter - Statement Change

Signature Update

The signature has been updated with the standard signature that is used on the other HouseCalls letters, as shown below.

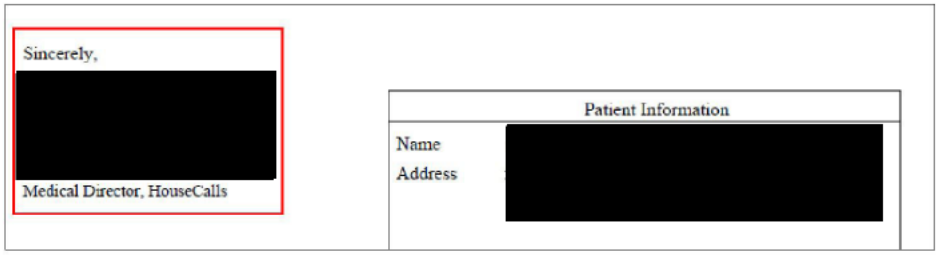


Figure 37: AvMed Letter - Signature Update

11.3. THP Members

The following changes have been implemented in the member PA Letters for THP members.

Address and Branding Change

The member PA letter have been updated with the new return address "**52160 National Road East,St. Clairsville, OH 43950"** and **"Health Plan"** logo as shown below.

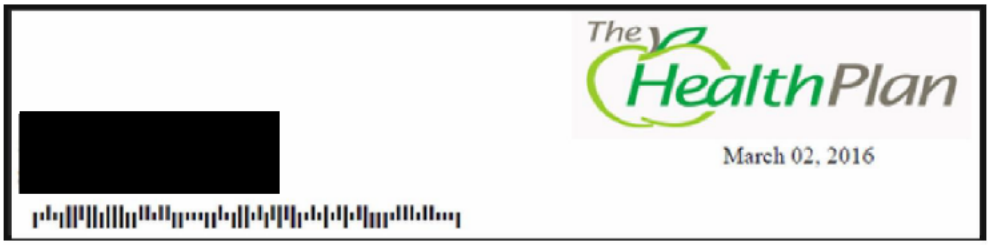


Figure 38: THP Letter – Address & Logo Change

Signature Update

The signature has been updated with the standard signature as shown below.

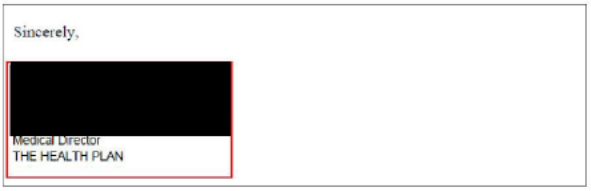


Figure 39: THP Letter - Signature Update

11.4. Quantaflo Documentation - PA Letter Changes

The **PA Letter** is updated with **'PAD Screening'** section under **Physical Exam Results & Additional Findings** section. If **'PAD Screening'** section is not answered in eHouseCalls application, it will not reflect in the letter.

- When Left Foot or Right Foot questions are answered in PAD Screening section, the result value displays in PAD Screening row as in below screen shot.

Physical Exam Results & Additional Findings			
Height: 4'11"	Weight: 130		BMI: 26.25
Blood Pressure: 123/042	Repeat Blood Pressure: 142/068	When Taken: >30 minutes	HR: 060 RR: 20
Test	**Finding/Score**	**Interpretation**	**Assessment**
Monofilament Test	Right Foot - Normal, Left Foot - Normal		
Achilles Reflex Test	Right - Absent, Left - Absent		
Vibratory Testing	Right Foot - Normal, Left Foot - Normal		
Depression Score	6	Major depressive disorder, mild (Single episode / Recurrent)	
LDL *	Date collected: 06/03/2014		
PAD Screening	Left Foot: 0.00	Severe	
	Right Foot: 0.00	Severe	

*Results will be mailed to PCP within four weeks of collection, if no POC results are indicated.

- When Member Refused or Recently Completed or Unable to Perform is answered, then corresponding text will be displayed in PAD Screening row as shown in below screen shot.

Physical Exam Results & Additional Findings			
Height: 4'11"	Weight: 130		BMI: 26.25
Blood Pressure: 123/042	Repeat Blood Pressure: 142/068	When Taken: >30 minutes	HR: 060 RR: 20
PAD Screening: Member Refused			
Test	**Finding/Score**	**Interpretation**	**Assessment**
Monofilament Test	Right Foot - Normal, Left Foot - Normal		
Achilles Reflex Test	Right - Absent, Left - Absent		
Vibratory Testing	Right Foot - Normal, Left Foot - Normal		
Depression Score	6	Major depressive disorder, mild (Single episode / Recurrent)	
LDL *	Date collected: 06/03/2014		

Figure 40: PA Letter - Quantaflo Documentation

12. PDF Changes

The following changes have been implemented in the PDF.

12.1. THP Branding Changes

The final and prepopulated PDF for THP members have been updated with the THP logo.

Figure 41: THP PDF - Logo Change

12.2. Assessment Version Changes

The version of the HouseCalls assessment has been updated to **Ver: 18.** It would be displayed in the footer section of the page as shown in the screenshot below.

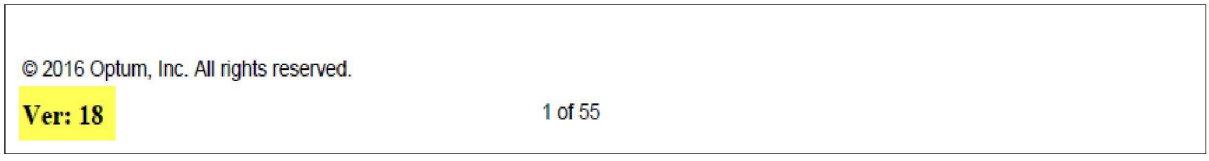


Figure 42: PDF - Assessment Version Change

12.3. HouseHold Information Section

A section **HouseHold Information** has been added that displays the details of the HouseHold members, as shown in the screenshot below.

HouseHold Information

First Name	Last Name	Date Of Birth	Address	Phone
Jane	Deo	01/01/1900	House Number 1, AddressLine2, Carilona, TX, 34445	(983) 223- 4445
Janee	Deo	01/01/1900	House Number 1, AddressLine2, Carilona, TX, 34445	(983) 223- 4445

Figure 43: PDF-HouseHold Information Section

12.4. Diagnoses Updates

With the Diagnoses updates, the following changes have been.

Diabetes Type 1

The following changes have been implemented in the Diabetes Type 1 selections.

1. Under **Diabetes Type 1** type selection, an option **With Hypoglycemia** has been added. The screenshot below shows the updated **Type** list for the Diabetes Type 1 diagnosis.

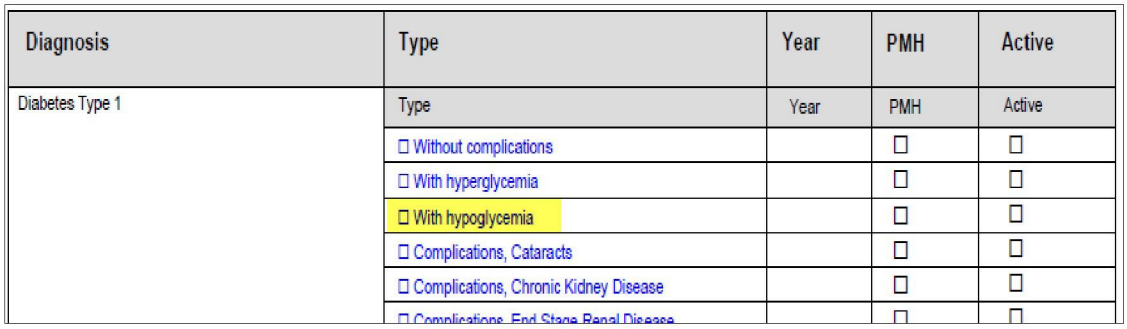


Figure 44: Diabetes Type 1 Update

2. The option **Chronic Insulin Therapy** has been removed from the complications list under Diabetes Type 1.

Diabetes Type 2

The following changes have been implemented in the Diabetes Type 2 selections.

1. Under Diabetes Type 2 type selection, an option **With Hypoglycemia** has been added.

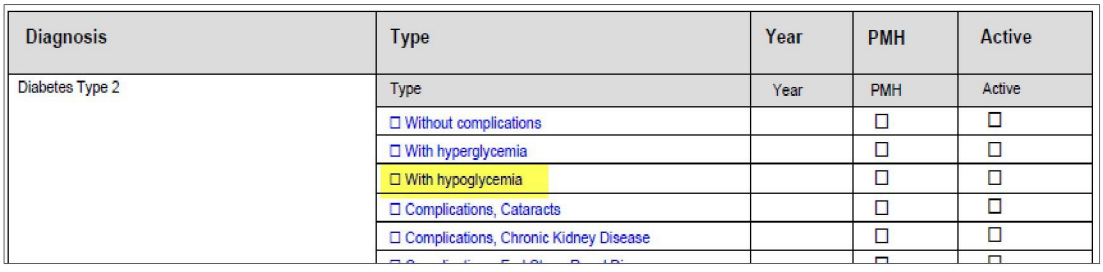


Figure 45: Diabetes Type 2 - With Hypoglycemia

2. The option **Chronic Insulin Therapy** has been removed from the complications list under Diabetes Type 2, and added as a Diabetes Type 2 selection type.

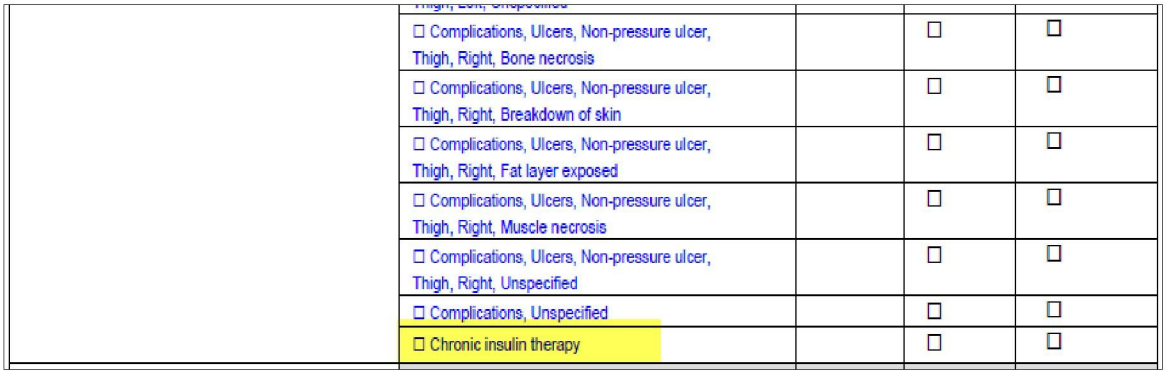
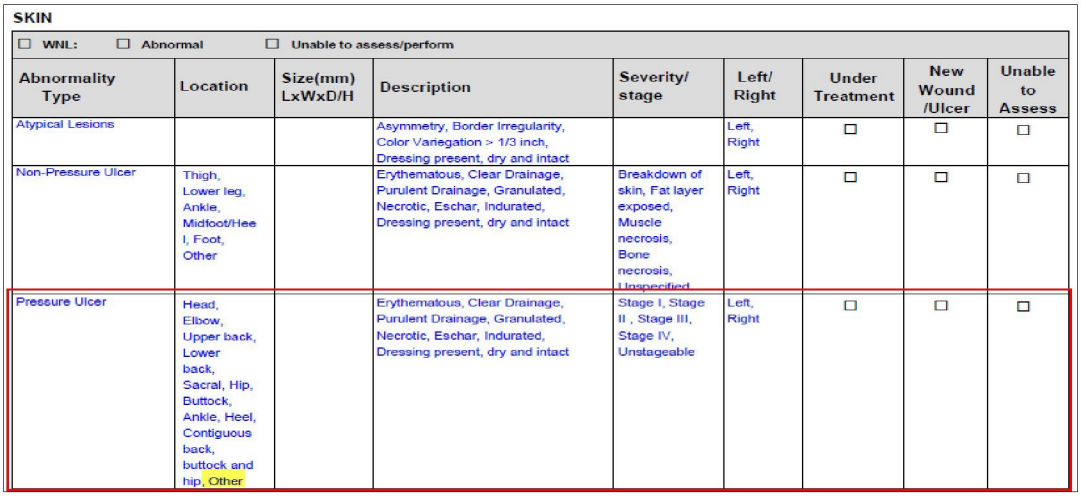


Figure 46: Diabetes Type 2 - Chronic Insulin Therapy

12.5. SKIN Grid Changes

In the **SKIN** grid, a location option **Other** has been added for the **Pressure Ulcer** abnormality type as shown in the screenshot below.



SKIN

☐ WNL: ☐ Abnormal ☐ Unable to assess/perform

Abnormality Type	Location	Size(mm) LxWxD/H	Description	Severity/ stage	Left/ Right	Under Treatment	New Wound /Ulcer	Unable to Assess
Atypical Lesions			Asymmetry, Border Irregularity, Color Variegation > 1/3 inch, Dressing present, dry and intact		Left, Right	☐	☐	☐
Non-Pressure Ulcer	Thigh, Lower leg, Ankle, Midfoot/Heel, Foot, Other		Erythematous, Clear Drainage, Purulent Drainage, Granulated, Necrotic, Eschar, Indurated, Dressing present, dry and intact	Breakdown of skin, Fat layer exposed, Muscle necrosis, Bone necrosis, Unspecified	Left, Right	☐	☐	☐
Pressure Ulcer	Head, Elbow, Upper back, Lower back, Sacral, Hip, Buttock, Ankle, Heel, Contiguous back, buttock and hip, Other		Erythematous, Clear Drainage, Purulent Drainage, Granulated, Necrotic, Eschar, Indurated, Dressing present, dry and intact	Stage I, Stage II , Stage III, Stage IV, Unstageable	Left, Right	☐	☐	☐

Figure 47: PDF SKIN grid - Pressure Ulcer – Other

12.6. Diagnosis Confirmation Page

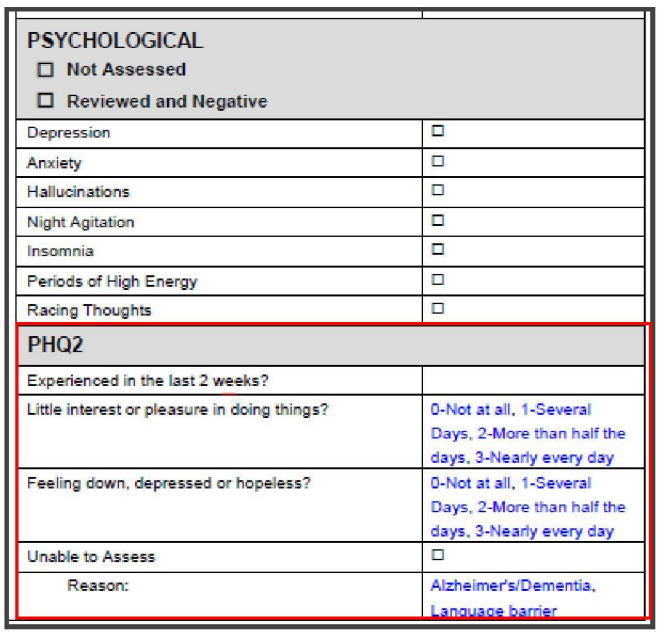
In **Diagnosis Confirmation** page, the **Remove From List** section has been removed from final PDF.

12.7. Review of Systems Changes

The changes implemented in the **Review of Systems** page is described below.

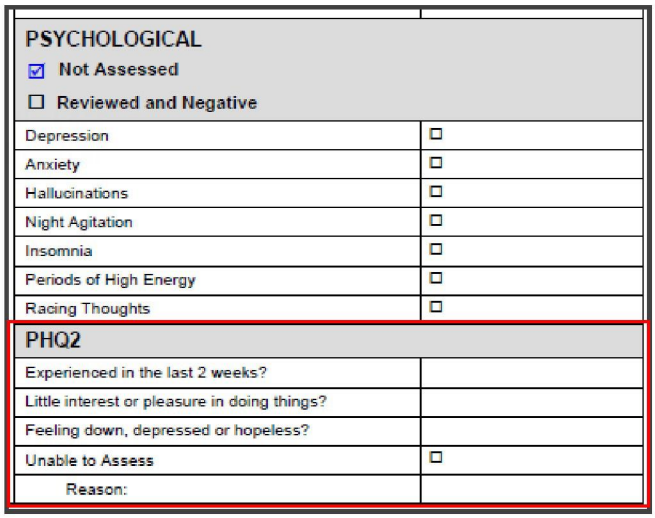
PHQ2 – Section

Depression Tool section have been renamed as **PHQ2** and added as a new section under the **Review of Systems Changes** as shown in the screenshot below.



PSYCHOLOGICAL ☐ Not Assessed ☐ Reviewed and Negative	
Depression	☐
Anxiety	☐
Hallucinations	☐
Night Agitation	☐
Insomnia	☐
Periods of High Energy	☐
Racing Thoughts	☐
PHQ2	
Experienced in the last 2 weeks?	
Little interest or pleasure in doing things?	0-Not at all, 1-Several Days, 2-More than half the days, 3-Nearly every day
Feeling down, depressed or hopeless?	0-Not at all, 1-Several Days, 2-More than half the days, 3-Nearly every day
Unable to Assess	☐
Reason:	Alzheimer's/Dementia, Language barrier

Figure 48: PHQ2 Section - Blank PDF



PSYCHOLOGICAL ☑ Not Assessed ☐ Reviewed and Negative	
Depression	☐
Anxiety	☐
Hallucinations	☐
Night Agitation	☐
Insomnia	☐
Periods of High Energy	☐
Racing Thoughts	☐
PHQ2	
Experienced in the last 2 weeks?	
Little interest or pleasure in doing things?	
Feeling down, depressed or hopeless?	
Unable to Assess	☐
Reason:	

Figure 49: PHQ2 Section - Final PDF

12.8. Examination Page Changes

The following changes have been implemented in the Examination page

Musculoskeletal and LE Section

In the Musculoskeletal and LE section under the Examination section, **'PAD Screening'** selection has been added. The various selection under **'PAD Screening'** are shown in the screenshots below.

PAD SCREENING	
Member Refused	☐
Recently Completed	☐
Unable to Perform	☐
Reason:	☐ Ambient light ☐ Physical malformation ☐ Involuntary movement ☐ Inconclusive results
Left Foot	
NA	☐
Right Foot	
NA	☐

Figure 50: Musculoskeletal and LE Section - Blank PDF

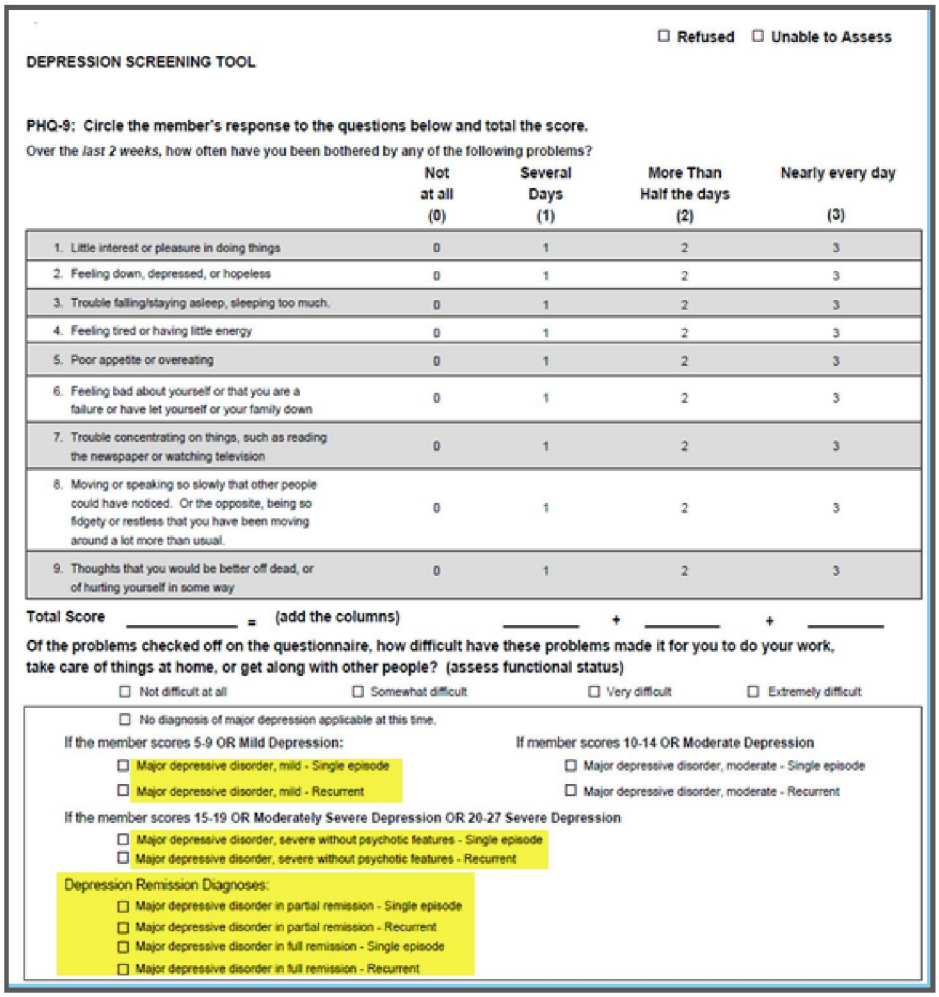
PAD SCREENING	
Member Refused	☐
Recently Completed	☐
Unable to Perform	☑
Reason:	Ambient light
Left Foot	
NA	☐
Right Foot	
NA	☐

Figure 51: Musculoskeletal and LE Section - Final PDF

12.10. PSY Tool Change

Depression Screening Tool

In '**Depression Screening Tool'** four new depression remission diagnosis is added for depression to provide the correct diagnosis to the member. Also the existing diagnosis are revised shown in the screenshots below.



☐ Refused ☐ Unable to Assess

DEPRESSION SCREENING TOOL

PHQ-9: Circle the member's response to the questions below and total the score.

Over the *last 2 weeks*, how often have you been bothered by any of the following problems?

	Not at all (0)	Several Days (1)	More Than Half the days (2)	Nearly every day (3)
1. Little interest or pleasure in doing things	0	1	2	3
2. Feeling down, depressed, or hopeless	0	1	2	3
3. Trouble falling/staying asleep, sleeping too much.	0	1	2	3
4. Feeling tired or having little energy	0	1	2	3
5. Poor appetite or overeating	0	1	2	3
6. Feeling bad about yourself or that you are a failure or have let yourself or your family down	0	1	2	3
7. Trouble concentrating on things, such as reading the newspaper or watching television	0	1	2	3
8. Moving or speaking so slowly that other people could have noticed. Or the opposite, being so fidgety or restless that you have been moving around a lot more than usual.	0	1	2	3
9. Thoughts that you would be better off dead, or of hurting yourself in some way	0	1	2	3

Total Score _____ = (add the columns) _____ + _____ + _____

Of the problems checked off on the questionnaire, how difficult have these problems made it for you to do your work, take care of things at home, or get along with other people? (assess functional status)

☐ Not difficult at all ☐ Somewhat difficult ☐ Very difficult ☐ Extremely difficult

☐ No diagnosis of major depression applicable at this time.

If the member scores 5-9 OR Mild Depression:

☐ Major depressive disorder, mild - Single episode

☐ Major depressive disorder, mild - Recurrent

If member scores 10-14 OR Moderate Depression

☐ Major depressive disorder, moderate - Single episode

☐ Major depressive disorder, moderate - Recurrent

If the member scores 15-19 OR Moderately Severe Depression OR 20-27 Severe Depression

☐ Major depressive disorder, severe without psychotic features - Single episode

☐ Major depressive disorder, severe without psychotic features - Recurrent

Depression Remission Diagnoses:

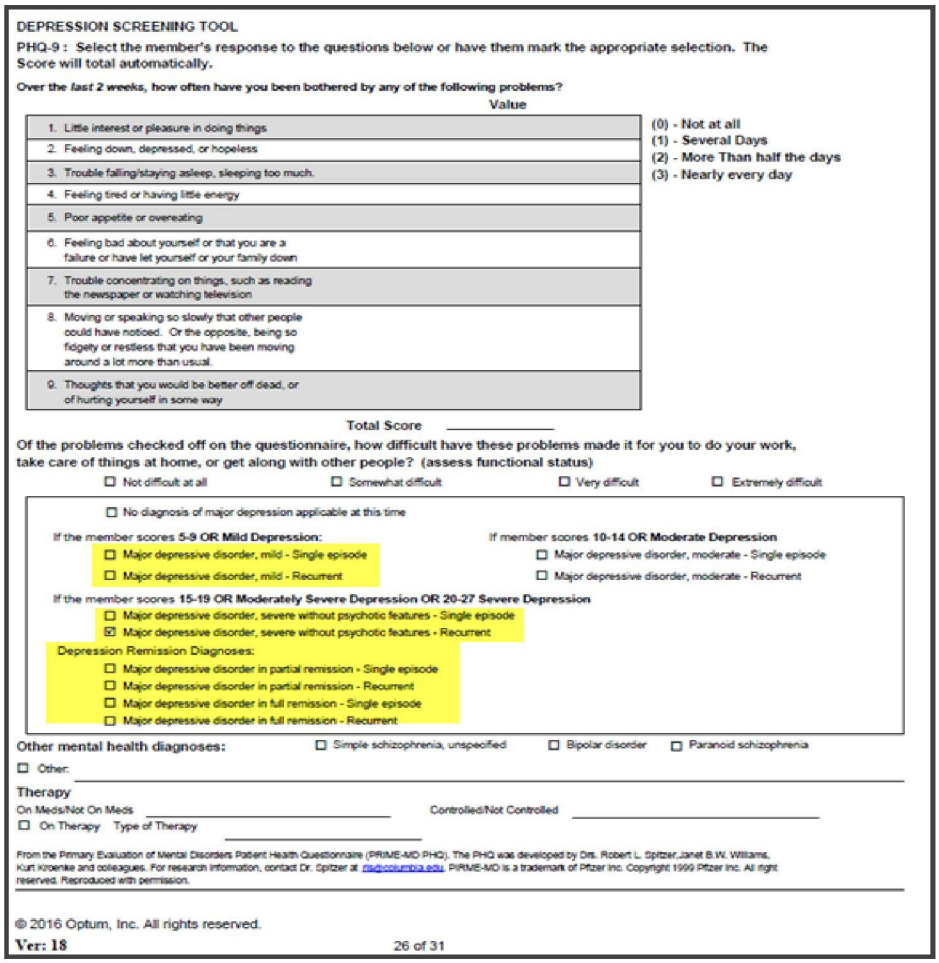
☐ Major depressive disorder in partial remission - Single episode

☐ Major depressive disorder in partial remission - Recurrent

☐ Major depressive disorder in full remission - Single episode

☐ Major depressive disorder in full remission - Recurrent

Figure 52: Depression Screening Tool - Blank PDF



DEPRESSION SCREENING TOOL

PHQ-9 : Select the member's response to the questions below or have them mark the appropriate selection. The Score will total automatically.

Over the *last 2* weeks, how often have you been bothered by any of the following problems?

	Value
1. Little interest or pleasure in doing things	
2. Feeling down, depressed, or hopeless	
3. Trouble falling/staying asleep, sleeping too much.	
4. Feeling tired or having little energy	
5. Poor appetite or overeating	
6. Feeling bad about yourself or that you are a failure or have let yourself or your family down	
7. Trouble concentrating on things, such as reading the newspaper or watching television	
8. Moving or speaking so slowly that other people could have noticed. Or the opposite, being so fidgety or restless that you have been moving around a lot more than usual.	
9. Thoughts that you would be better off dead, or of hurting yourself in some way	

(0) - Not at all
(1) - Several Days
(2) - More Than half the days
(3) - Nearly every day

Total Score _____

Of the problems checked off on the questionnaire, how difficult have these problems made it for you to do your work, take care of things at home, or get along with other people? (assess functional status)

☐ Not difficult at all ☐ Somewhat difficult ☐ Very difficult ☐ Extremely difficult

☐ No diagnosis of major depression applicable at this time

If the member scores **5-9 OR Mild Depression:**
☐ Major depressive disorder, mild - Single episode
☐ Major depressive disorder, mild - Recurrent

If member scores **10-14 OR Moderate Depression**
☐ Major depressive disorder, moderate - Single episode
☐ Major depressive disorder, moderate - Recurrent

If the member scores **15-19 OR Moderately Severe Depression OR 20-27 Severe Depression**
☐ Major depressive disorder, severe without psychotic features - Single episode
☑ Major depressive disorder, severe without psychotic features - Recurrent

Depression Remission Diagnoses:
☐ Major depressive disorder in partial remission - Single episode
☐ Major depressive disorder in partial remission - Recurrent
☐ Major depressive disorder in full remission - Single episode
☐ Major depressive disorder in full remission - Recurrent

Other mental health diagnoses: ☐ Simple schizophrenia, unspecified ☐ Bipolar disorder ☐ Paranoid schizophrenia

☐ Other: _____

Therapy

On Meds/Not On Meds _____ Controlled/Not Controlled _____

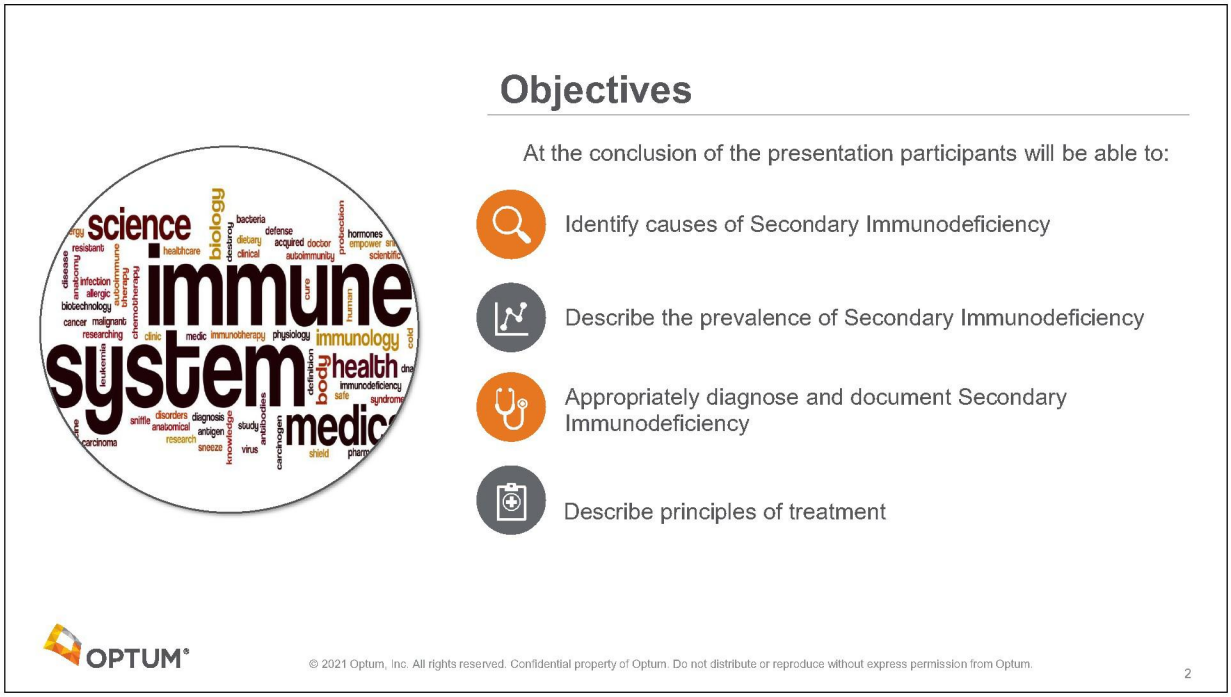
☐ On Therapy Type of Therapy _____

From the Primary Evaluation of Mental Disorders Patient Health Questionnaire (PRIME-MD PHQ). The PHQ was developed by Drs. Robert L. Spitzer,Janet B.W. Williams, Kurt Kroenke and colleagues. For research information, contact Dr. Spitzer at rls@columbia.edu. PRIME-MD is a trademark of Pfizer Inc. Copyright 1999 Pfizer Inc. All right reserved. Reproduced with permission.

Ver: 18 26 of 31

Figure 53: Depression Screening Tool - Final PDF


OPTUM®
Secondary
Immunodeficiency



Explain the learning objectives for the course.

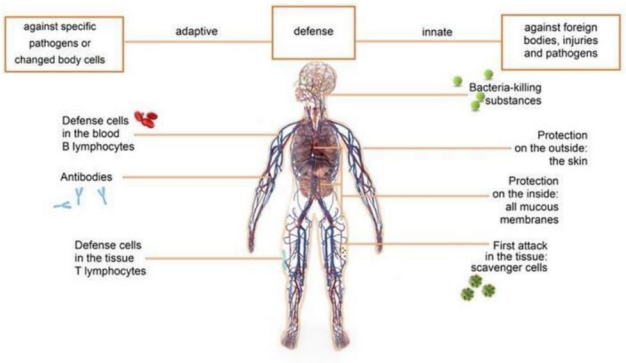
Up next: The immune system and secondary immunodeficiency (SID)
Refresh on components of immune system
Recap of pathophysiology resulting in SID
Prevalence of SID

Immune system recap

The immune system protects the body from outside invaders such as viruses and bacteria and protects from cancer. This system is made up of different organs, cells, and proteins working together.

There are 2 main parts of the immune system:

Innate **Adaptive**

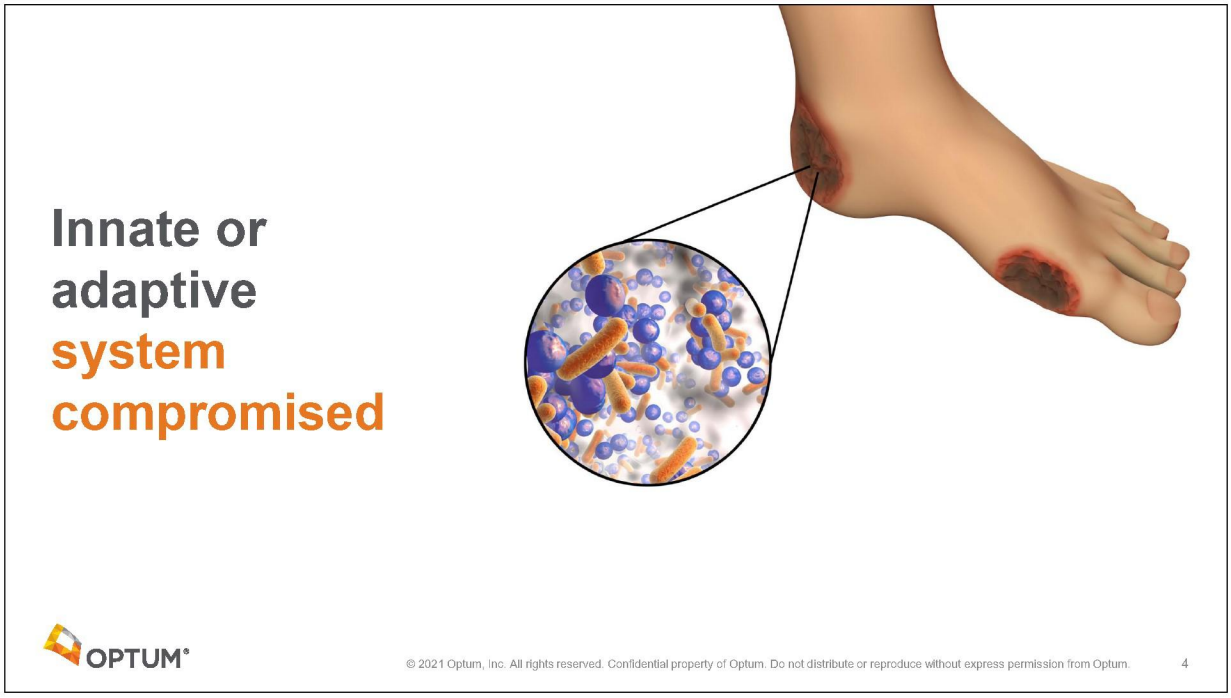


OPTUM®

3

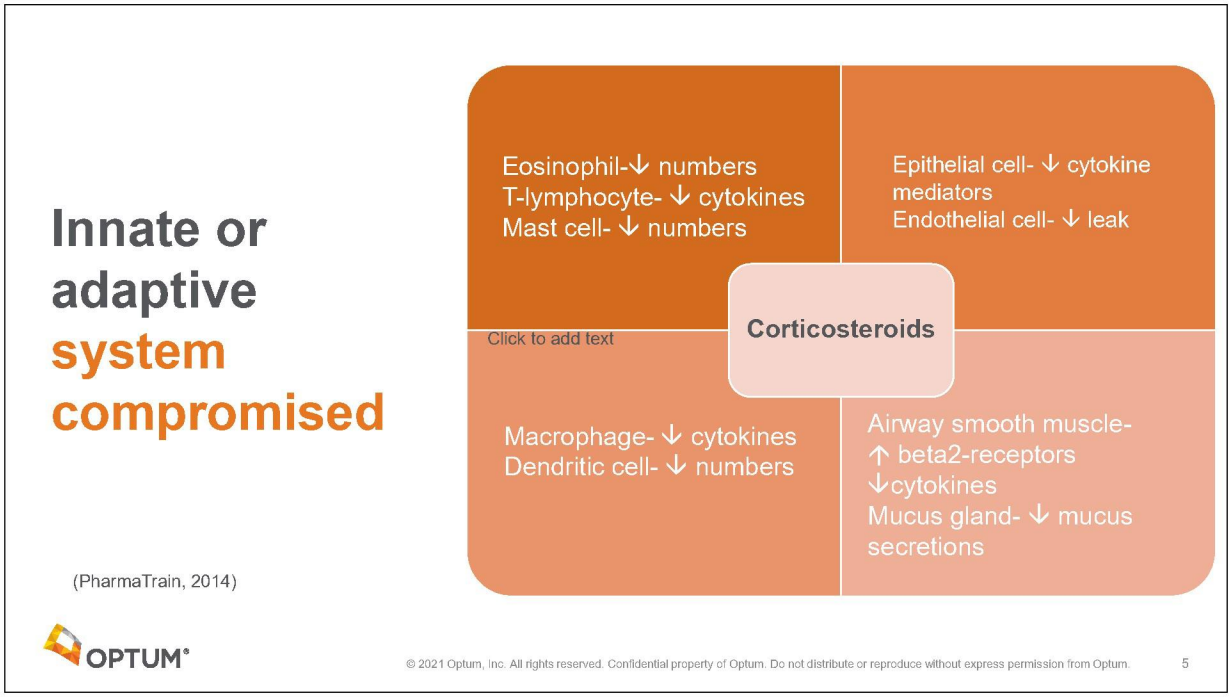
The innate immune system, which you are born with.
The adaptive immune system, which you develop when your body is exposed to microbes or chemicals released by microbes.
Give examples of innate and adaptive:
Innate – Skin and mucous membranes, gastric acid
Innate – Complement, Natural Killer cells, macrophages
Adaptive – T-cells and B-cells and resultant antibodies

In addition to combating infection, the immune system is also key for cancer detection and eradication. Our cells mutate all the time, and when oncogenes are mistakenly activated, our immune cells recognize and destroy them before they multiply and cause cancer.
When our immune system is suppressed, our risk of cancer increases.



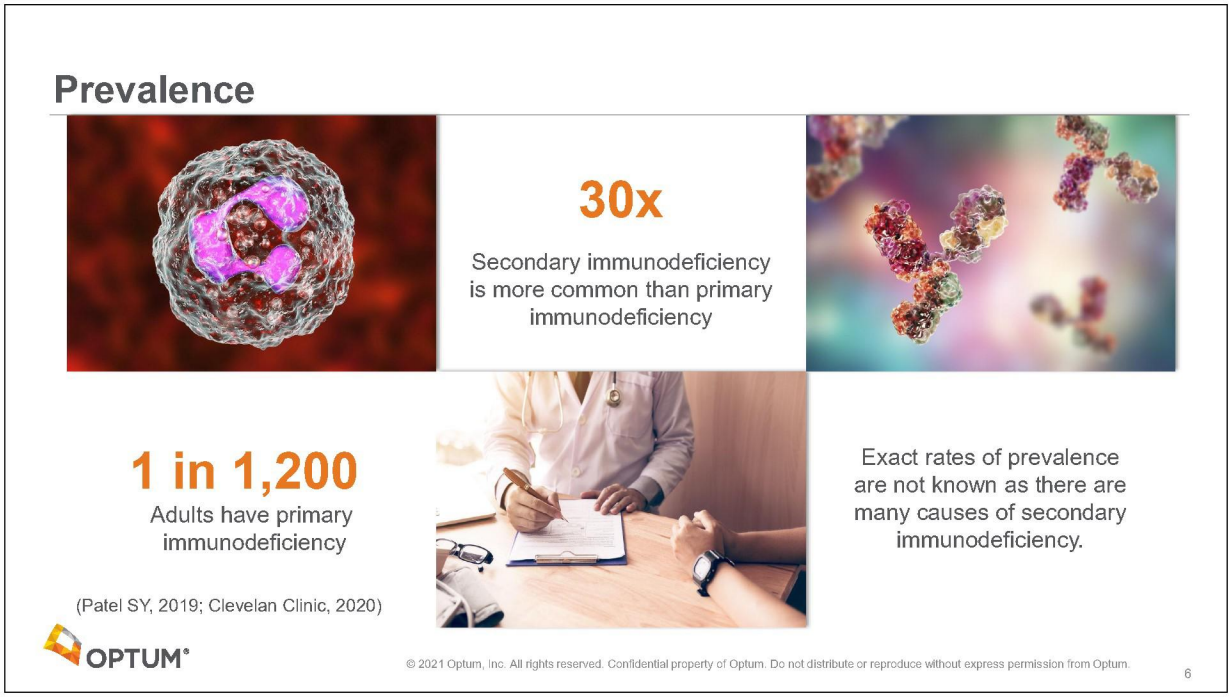
Recalling the normal structure and function of the immune system, anything that disrupts the innate, adaptive, or both parts of the immune system can result in secondary immunodeficiency.

The ways in which this can happen are numerous. One example illustrates of disruption of the innate immunity of the skin as a protective barrier…



This example shows disruption of both innate (structural changes) and adaptive (some cellular aspects of immunity)

PharmaTrain: Mastering Medicines Development. ASTHMA AND COPD: MECHANISM OF ACTION OF GLUCOCORTICOIDS, β2-AGONISTS AND THEIR COMBINATION. Inhaled Glucocorticosteroids. Glucocorticosteroids cellular effects. Published April 2014. https://www.pharmatrain.eu/resources/e-learning/pharmatrain/pharmatrain_asthma/chapter2/chapter2_section3_2.html. Accessed October 13, 2021.

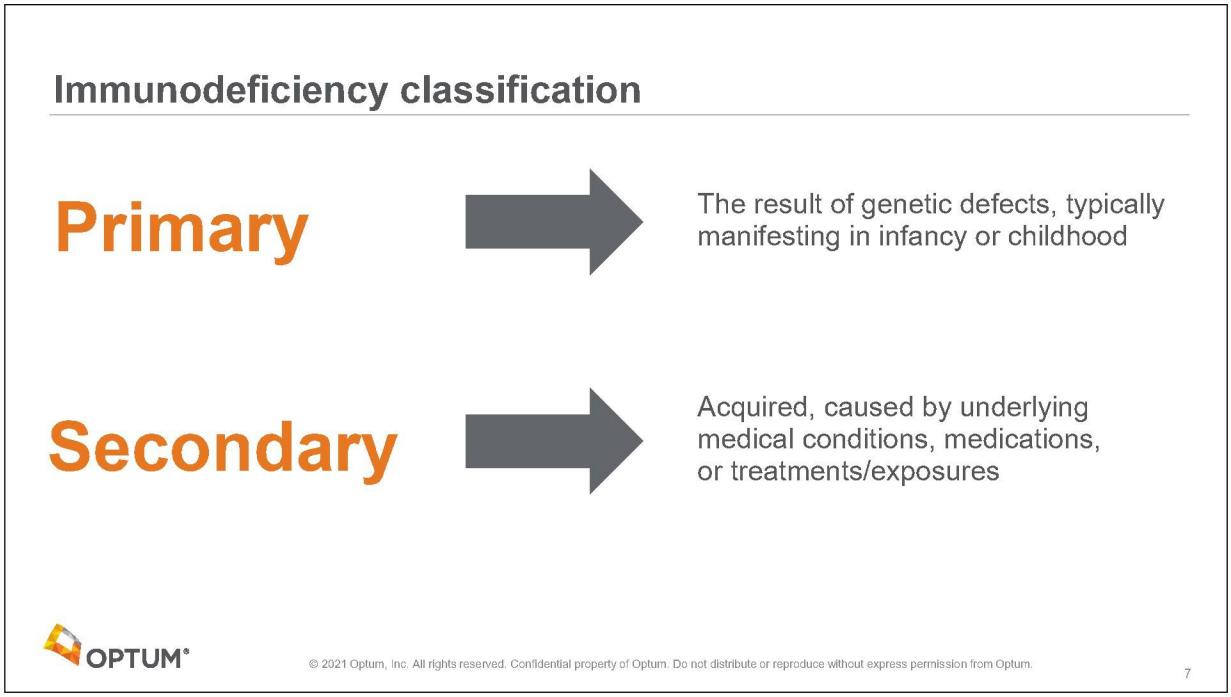


Since parts of the immune system are located throughout the body and are involved in so many functions, disruption in any of them may cause secondary immunodeficiency, making pinpointing exact prevalence rates of SID very difficult.

References

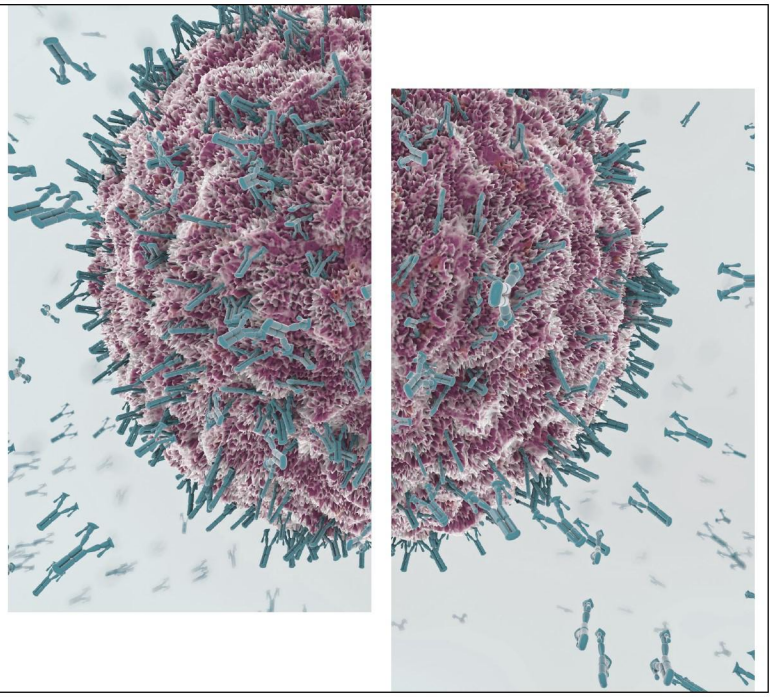
Patel SY, Carbone J, Jolles S. The Expanding Field of Secondary Antibody Deficiency: Causes, Diagnosis, and Management. Front Immunol. 2019;10:33. Published 2019 Feb 8. doi:10.3389/fimmu.2019.00033

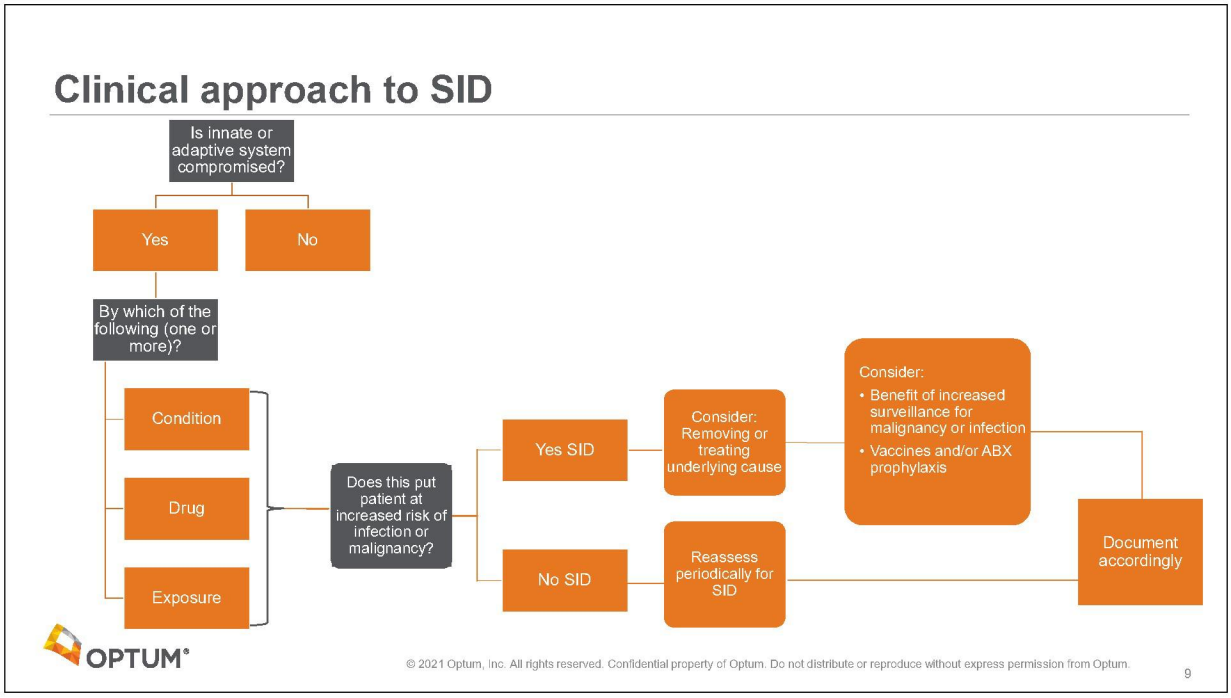
Cleveland Clinic. Immune System. https://my.clevelandclinic.org/health/articles/21196-immune-system. Updated February 23, 2020. Accessed May 21, 2021.



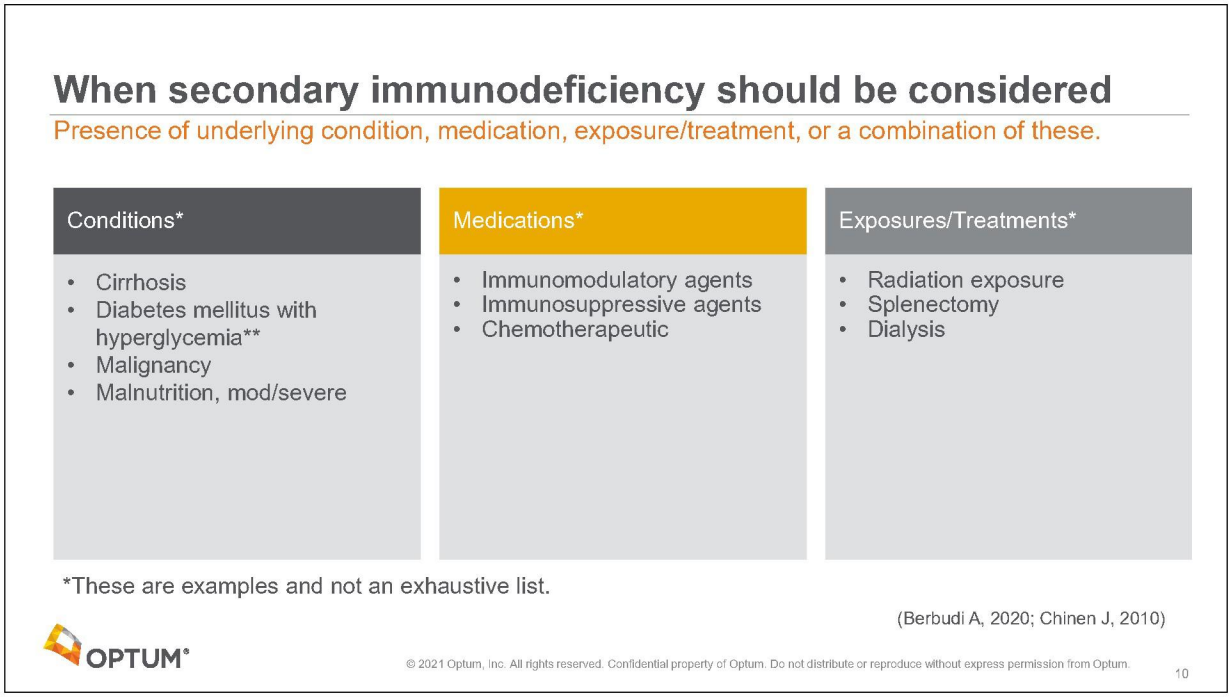
Immunodeficiency is when the immune system fails to properly protect the body from infection or malignancy. In this presentation we will focus on secondary immunodeficiency, the most common immunodeficiency.

Clinical approach to secondary immunodeficiency





Requires high index of suspicion and clinical judgment. Primarily based on history.
Consider in unexplained recurrent or prolonged infections, atypical or opportunistic organisms (e.g.; thrush) or sites of infection.
Infection not required to make diagnosis of SID.
Does not require lab tests to make diagnosis.



Conditions

Cirrhosis: Liver no longer able to produce adequate proteins needed for the immune system

**DM w hyperglycemia: HgbA1c> 8% is generally considered a marker of prolonged hyperglycemia that should raise suspicion of secondary immunodeficiency. Clinical Judgement is required. Chronic elevated blood glucose leads to suppression of cytokine production, defects in phagocytosis, dysfunction of immune cells. Insufficient blood supply, and denervation are other factors that contribute to the increased susceptibility to infection in patients with diabetes.
Treatment goal is an HbA1c of 7-8% for most older adults. HgbA1c >8% likely causes SID, and yet for the purposes of the HEDIS Quality measure, HgbA1c <9% is considered 'controlled'.

Malignancy: Term applies to many conditions, not all of which cause SID. Example: history of breast cancer, completely treated will NOT result in SID, whereas active leukemia will.

Malnutrition, moderate/severe: Inadequate building blocks for components of immune system

This list is not all inclusive. This is a CLINICAL diagnosis not dependent on lab or imaging. If SID enters into the medical decision-making process, it should be documented regardless of clinical manifestation. In other words you do not need to 'see' an infection or malignancy before you can diagnose SID. If someone has a condition that may cause SID, and you pause to consider if the patient need counseling, vaccination, additional cancer screening, then SID should be documented.

Medications that may cause secondary immunodeficiency (this list is not all inclusive):

Chemotherapy (e.g. alkylating agents, antimetabolites) - designed to kill fast growing and multiplying cells (usually malignant cells, but also cells of the immune system are fast growing/multiplying...)

Biologics that are immunosuppressive (e.g. adlalimumab (Humira), etanercept (Enbrel), Infliximab (Remicaid), rituximab (Rituxan), or denosumab (Prolia)) - many of these stop tumor necrosis factor (TNF) binding, thereby reducing inflammation, chemotaxis, and release of other cytokines important in the function of the immune system.

Immunosuppressive medications (e.g. steroids, high-dose methotrexate, azathioprine, or 6-mercaptopurine). Steroids block inflammation, which is an important component of the immune response.

Exposures/Treatments:
Radiation such as used to treat certain cancers kill rapidly dividing cells, including immune cells.

Splenectomy can be congenital or acquired, and as the spleen is an organ of the immune system, its absence causes immunodeficiency. Particular emphasis on vaccines for this patient group.

Dialysis is a procedure that purposefully breaches the skin and introduces foreign substances into the body, increasing likelihood of infection.

References

Berbudi A, Rahmadika N, Tjahjadi AI, Ruslami R. Type 2 Diabetes and its Impact on the Immune System. Curr Diabetes Rev. 2020;16(5):442-449. doi:10.2174/1573399815666191024085838

Chinen J, Shearer WT. Secondary immunodeficiencies, including HIV infection. J Allergy Clin Immunol. 2010;125(2 Suppl 2):S195-S203. doi:10.1016/j.jaci.2009.08.040

Clinical Scenarios

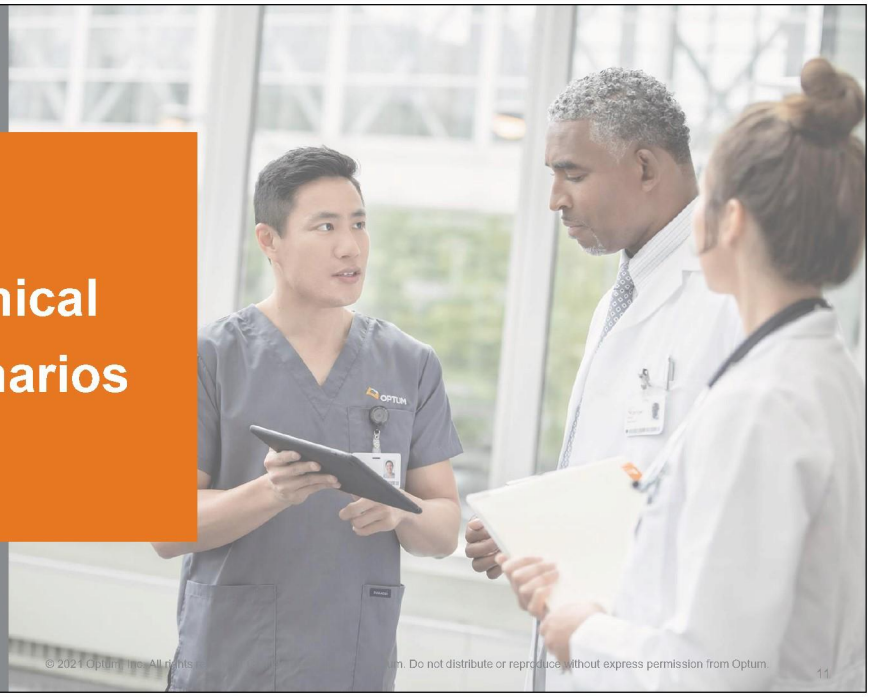


Chart example 1: Immunodeficiency Documentation Support for immunodeficiency due to condition and drugs

- 73 yo female
- **Reported Diagnosis:** Rheumatoid Arthritis
- **PMH:** Rheumatoid arthritis
- **ROS:** She complains of pain in bilateral hands
- **PE:** swelling noted to the PIP and MCP joints bilaterally
- **MEDS:** Prednisone, Xeljanz, Hydroxychloroquine Sulfate

Diagnosis	Active	PMH	Assessment	Plan	Note
Immunodeficiency - Due to Condition,Rheumatoid - Arthritis	☑	☑	☑ Stable ☐ Unstable ☐ Suboptimally Controlled	☑ Continue Therapy ☑ Patient education ☑ FU with PCP ☑ FU with Specialist ☐ Send to ER or Urgent Care	
Immunodeficiency due to drugs - Hydroxychloroquine Sulfate Oral Tablet 200 MG, Xeljanz XR Oral Tablet Extended Release 24 Hour 11 MG	☑	☑	☑ Stable ☐ Unstable ☐ Suboptimally Controlled	☑ Continue Therapy ☑ Patient education ☑ FU with PCP ☑ FU with Specialist ☐ Send to ER or Urgent Care	also, prednisone

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PAST MEDICAL HISTORY

Diagnosis	Type	Year	PMH	Active
Immunodeficiency	Type Due to Condition,Rheumatoid - Arthritis	Year	PMH ☑	Active ☑

Medication - Dose	Quantity	Frequency	Last Fill Date	Indication	Non-Adherent	Drug Type
Hydroxychloroquine Sulfate Oral Tablet 200 MG	1 tab	Every day	04/23/2021	•Rheumatoid arthritis without rheumatoid factor, unspecified site	☐	ANTIMALARIALS
predniSONE Oral Tablet 5 MG	As Directed	As needed	05/04/2021	•Rheumatoid arthritis without rheumatoid factor, unspecified site	☐	Glucocorticosteroids
Xeljanz XR Oral Tablet Extended Release 24 Hour 11 MG	1 tab	Every day	05/22/2021	•Rheumatoid arthritis without rheumatoid factor, unspecified site	☐	Antirheumatic - Janus Kinase (JAK) Inhibitors

Supportive evidence of immunodeficiency

Chart example 2: Immunodeficiency Documentation Support for immunodeficiency due to drugs

- 67 yo female
- **Reported Diagnosis:** Polymyalgia rheumatica
- **PMH:** Polymyalgia rheumatica
- **ROS:** back pain, back stiffness, R shoulder pain
- **PE:** ROM abnormal back/shoulders
- **MEDS:** Methotrexate

PAST MEDICAL HISTORY

Polymyalgia rheumatica

Diagnosis	Active	PMH	Assessment	Plan	Note
Immunodeficiency due to drugs - Methotrexate Sodium Oral Tablet 2.5 MG	☑	☑	☑ Stable ☐ Unstable ☐ Suboptimally Controlled	☑ Continue Therapy ☐ Patient education ☑ FU with PCP ☐ FU with Specialist ☐ Send to ER or Urgent	
Polymyalgia rheumatica	☑	☑	☑ Stable ☐ Unstable ☐ Suboptimally Controlled	☑ Continue Therapy ☑ Patient education ☐ FU with PCP ☑ FU with Specialist ☐ Send to ER or Urgent Care	

Medication - Dose	Quantity	Frequency	Last Fill Date	Indication	Non-Adherent	Drug Type
Methotrexate Sodium Oral Tablet 2.5 MG	As Directed	Every week	05/23/2021	•Polymyalgia rheumatica	☐	Antimetabolites

OPTUM®

Supportive evidence of immunodeficiency

Chart example 3: Immunodeficiency Documentation Support for immunodeficiency due to drugs and condition

- 68 yo male
- **Reported Diagnosis:** Multiple myeloma
- **PMH:** Immunodeficiency d/t cirrhosis, multiple myeloma
- **ROS:** Reviewed and negative
- **PE:** WNL
- **MEDS:** Revlimid

PAST MEDICAL HISTORY

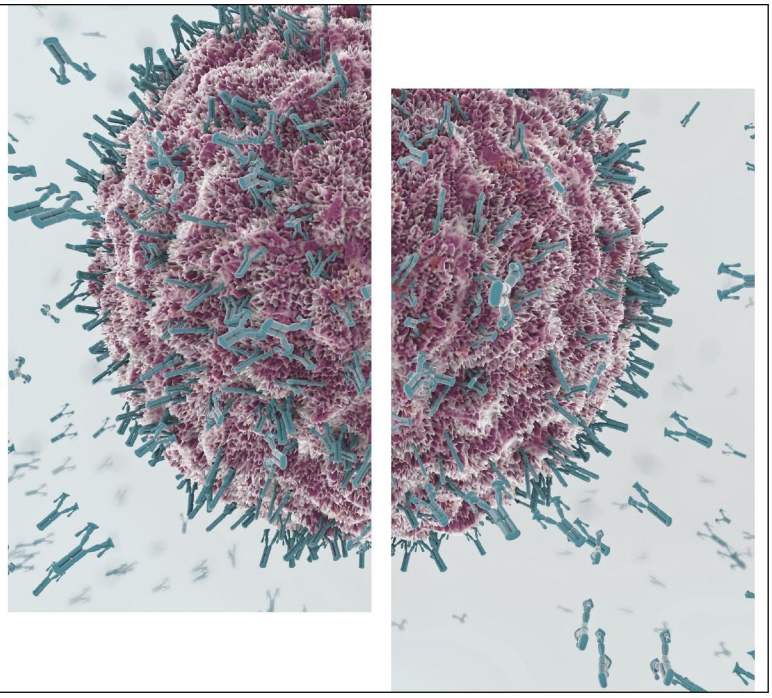
Immunodeficiency	Type	Year	PMH	Active
	Due to Condition,Cirrhosis		☑	☐
Cancer	**Type**	**Year**	**PMH**	**Active**
	Multiple Myeloma,Immunodeficiency due to condition		☑	☑

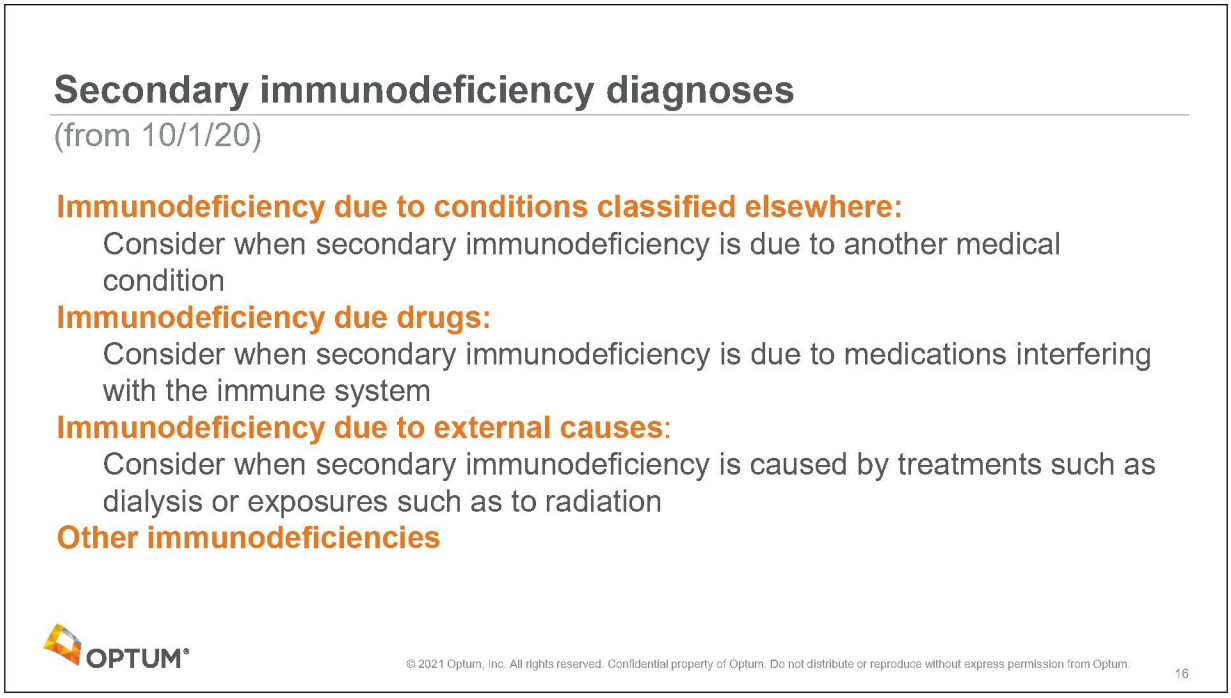
Diagnosis	Active	PMH	Assessment	Plan	Note
Immunodeficiency due to drugs - Revlimid Oral Capsule 25 MG	☑	☐	☑ Stable ☐ Unstable ☐ Suboptimally Controlled	☑ Continue Therapy ☐ Patient education ☐ FU with PCP ☐ FU with Specialist ☐ Send to ER or Urgent Care	
Cancer - Multiple Myeloma,Immunodeficiency due to condition	☑	☑	☑ Stable ☐ Unstable ☐ Suboptimally Controlled	☑ Continue Therapy ☐ Patient education ☐ FU with PCP ☐ FU with Specialist ☐ Send to ER or Urgent Care	

Medication - Dose	Quantity	Frequency	Last Fill Date	Indication	Non-Adherent	Drug Type
Revlimid Oral Capsule 25 MG	As Directed	As directed	05/19/2021	•Cancer- Multiple Myeloma,Immunodeficiency due to condition	☐	Immunomodulators for Myelodysplastic Syndromes

Supportive evidence of immunodeficiency

Documenting secondary immunodeficiency



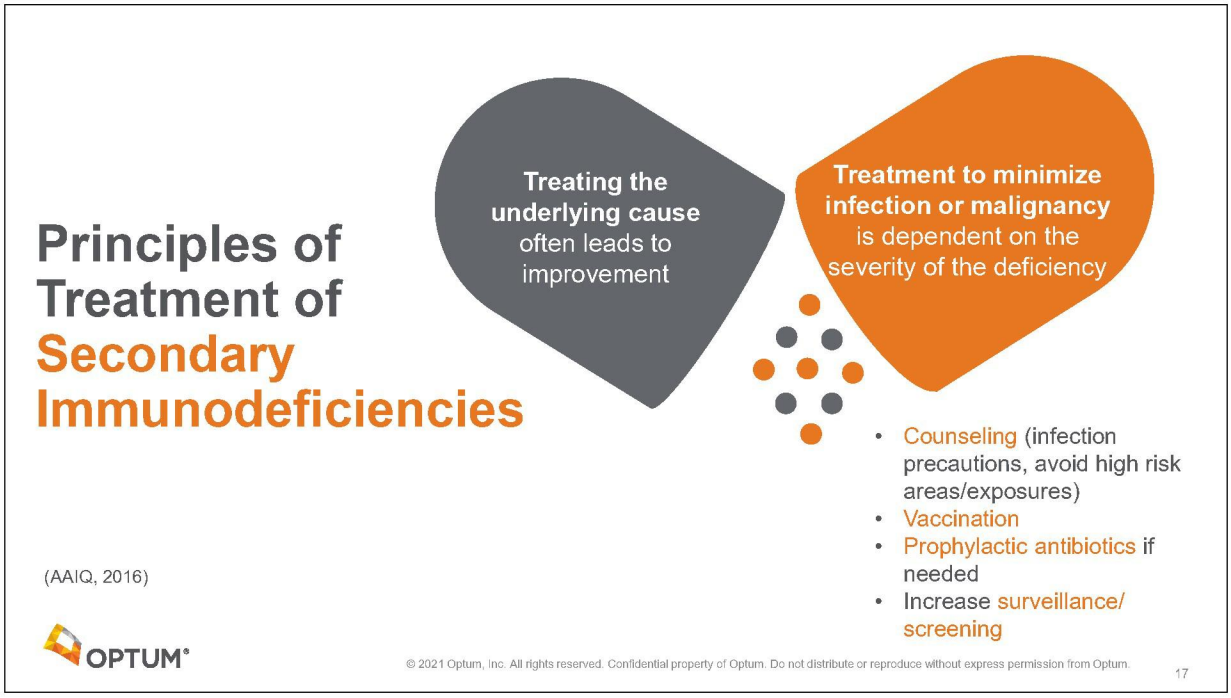


Other immunodeficiencies is used only when there is a specific cause identified, and it is not another medical condition, a medication, a treatment or an exposure. This will rarely be used.

Immunodeficiency, unspecified (existing code) remains, but should not be used unless the cause of immunodeficiency has not yet been determined.

Per CMS, Immunodeficiency due to conditions classified elsewhere diagnosis has exclusions as follows:
•Excludes:* Certain disorders involving the immune mechanism, and Human immunodeficiency virus [HIV] disease
•Note: The exclusion means immunodeficiency due to conditions classified elsewhere is not coded separately for primary immunodeficiencies, unspecified immunodeficiency, or HIV
Clinically, HIV can be a secondary cause of immunodeficiency, however, for documentation purposes, this disease is excluded from Immunodeficiency due to conditions classified elsewhere, and instead, secondary immunodeficiency is inferred from the HIV diagnosis and documentation of HIV.

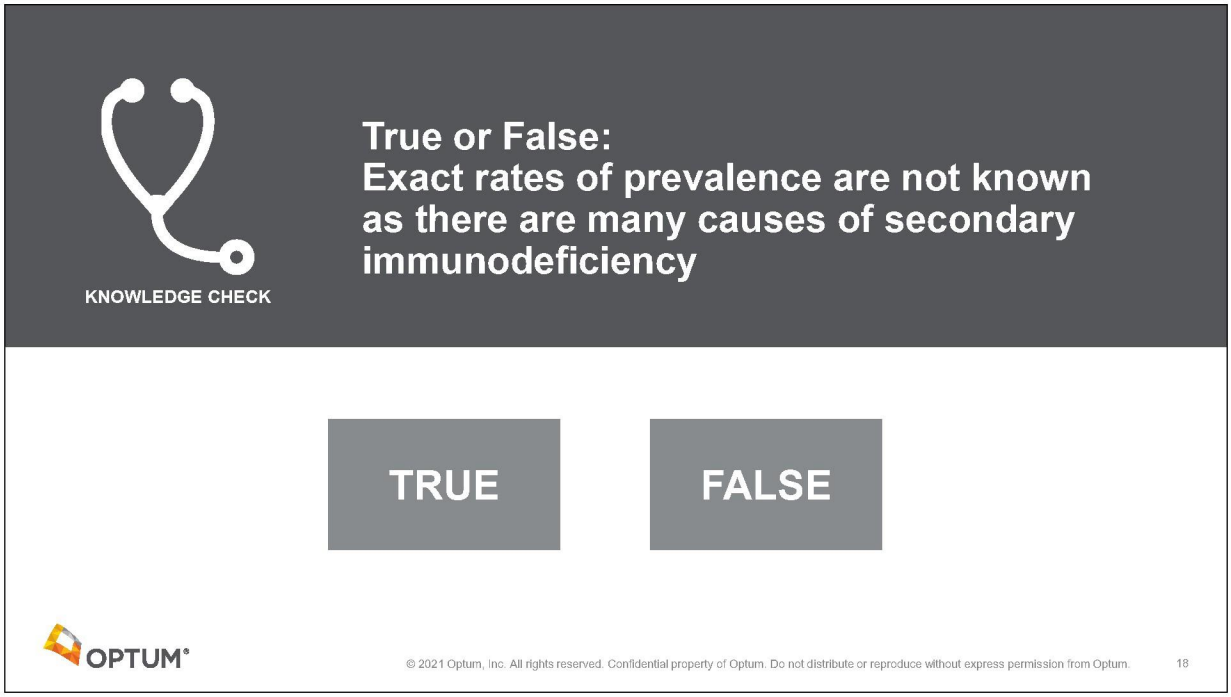
For examples, remind audience of slide titled "Examples of when Secondary Immunodeficiency should be considered"



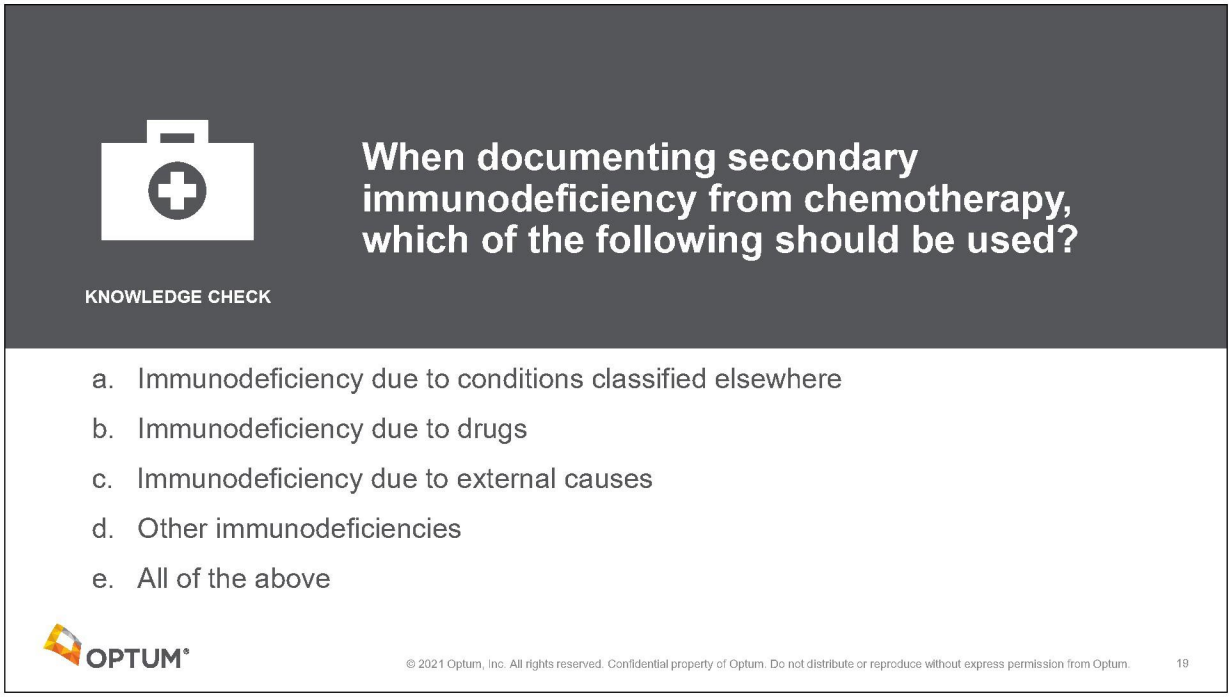
Click to display additional content (1)

Association of Allergists and Immunologists of Québec. Secondary immunodeficiency (AAIQ). https://allerg.qc.ca/Information_allergique/6_2_secondaire_en.html. Published 2016. Accessed May 26, 2021.

Treatment principle of increased surveillance: Case example of patient with T2DM with hyperglycemia with resulting SID, ensure they are being seen by podiatry to minimize risk of diabetic foot ulcer/infection.
Treatment principle of increased screening: Case example of patient with Chronic Lymphocytic Leukemia, ensure increased frequency of screening for secondary malignancies (e.g.; Kaposi's sarcoma, melanoma, etc.)

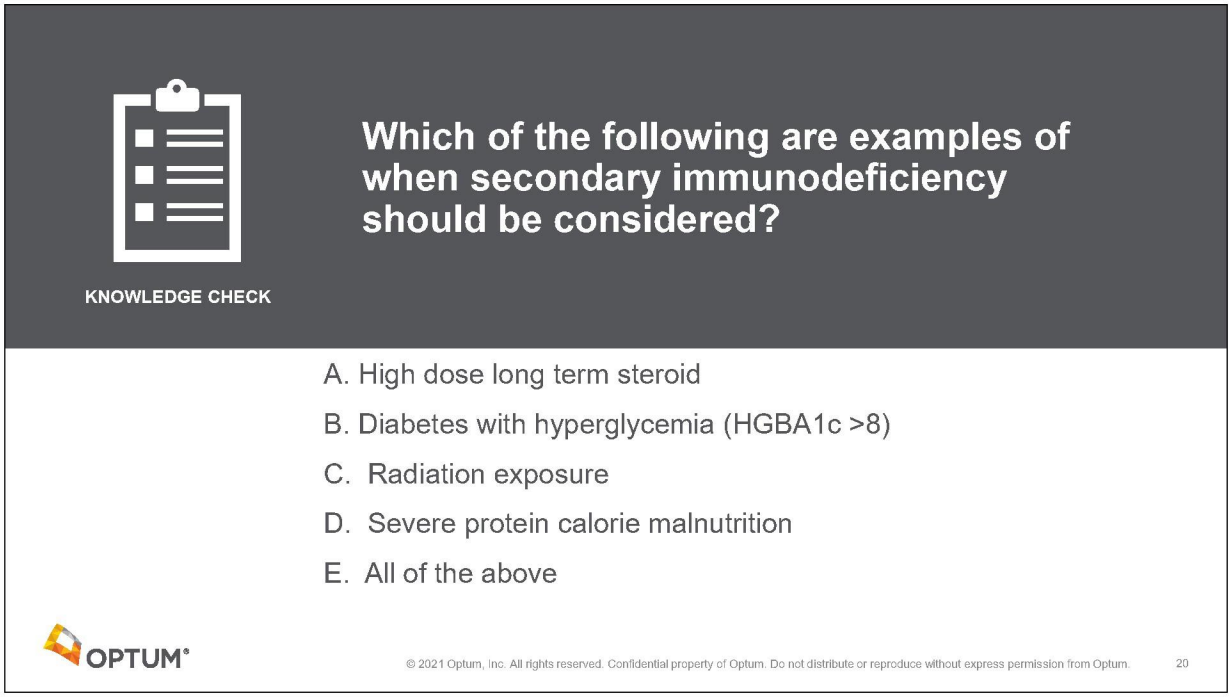


Click slide to reveal answer
Answer true

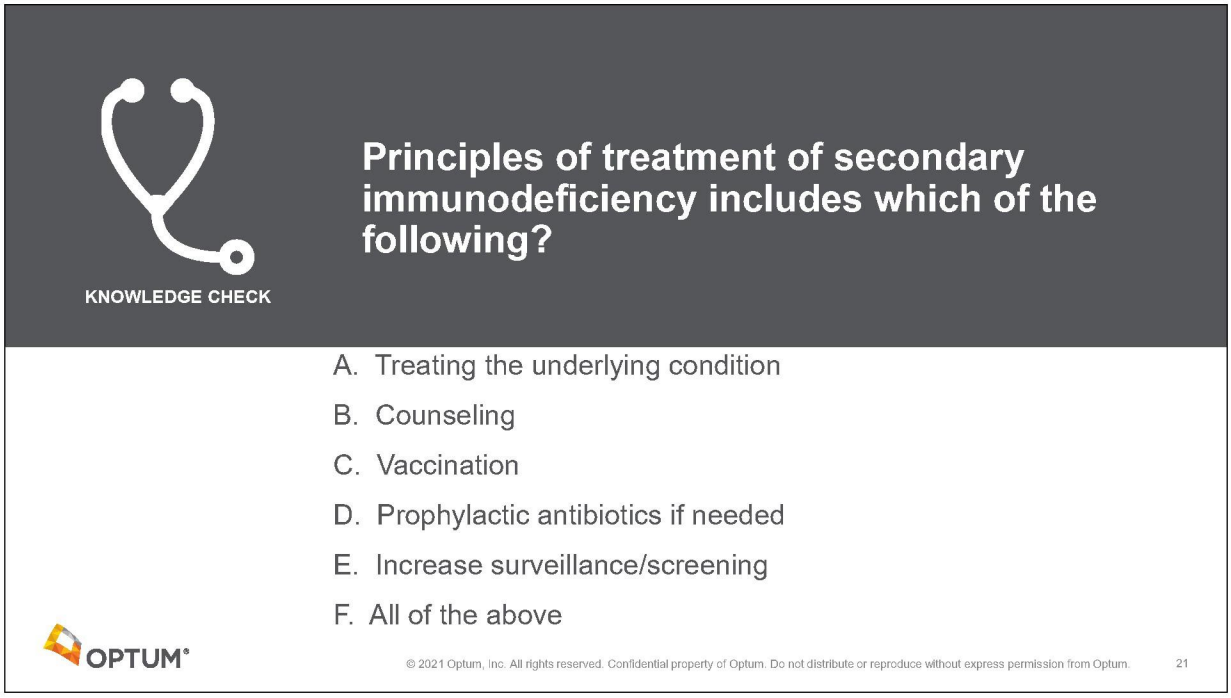


Click to reveal answer>
Answer: B

Reminder that there may be multiple causes of secondary immunodeficiency in a given patient, and that all should be appropriately documented and linked to the causative source of SID (i.e.; condition, drugs, external cause).

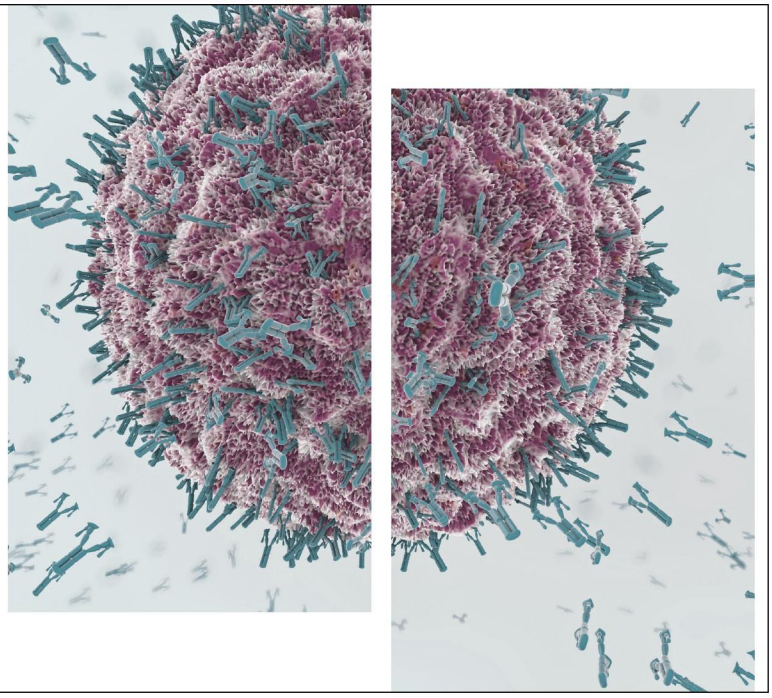


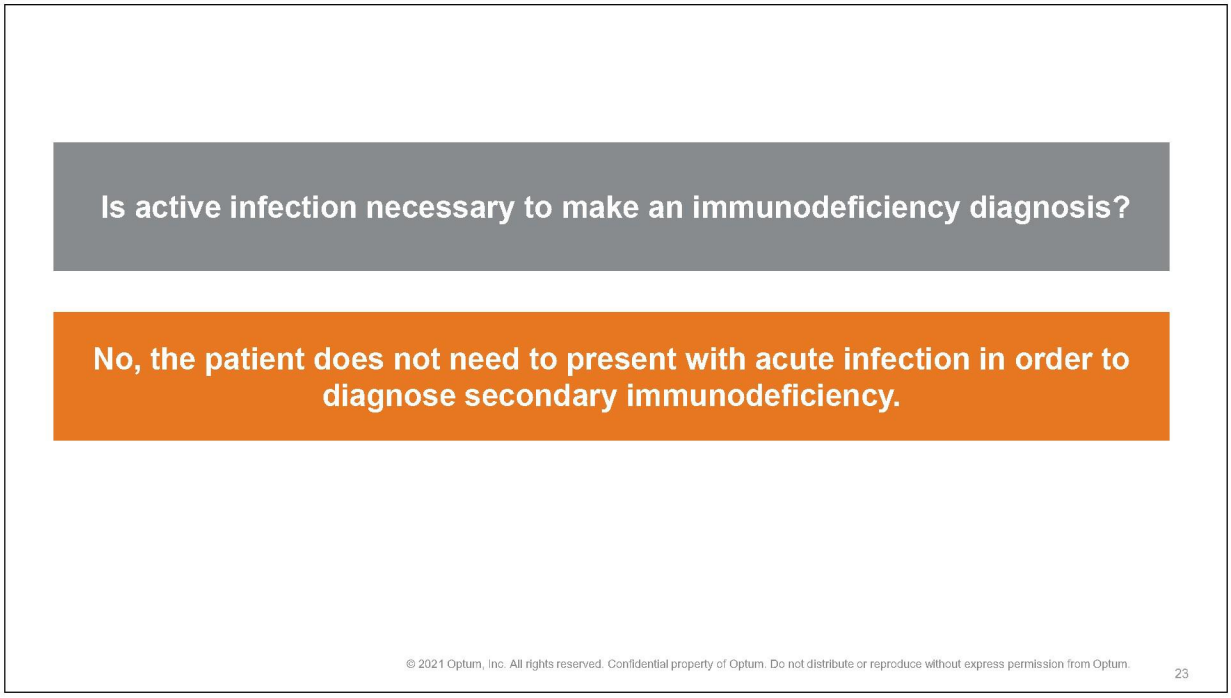
Click to reveal answer>
Answer: E



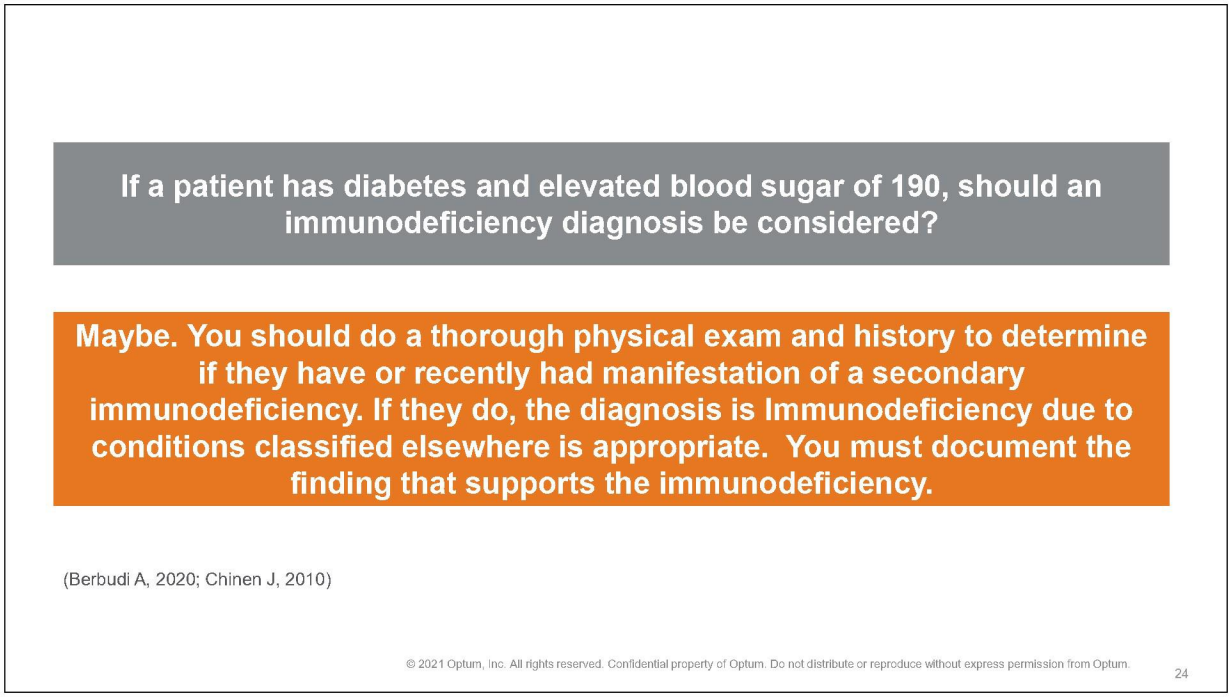
Click to reveal answer>
Answer F.

FAQs





Any time you consider immunodeficiency/immunosuppression in your care plan and it makes you think about or change how you would treat that patient differently compared to someone without that condition, then you should document immunodeficiency.



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References

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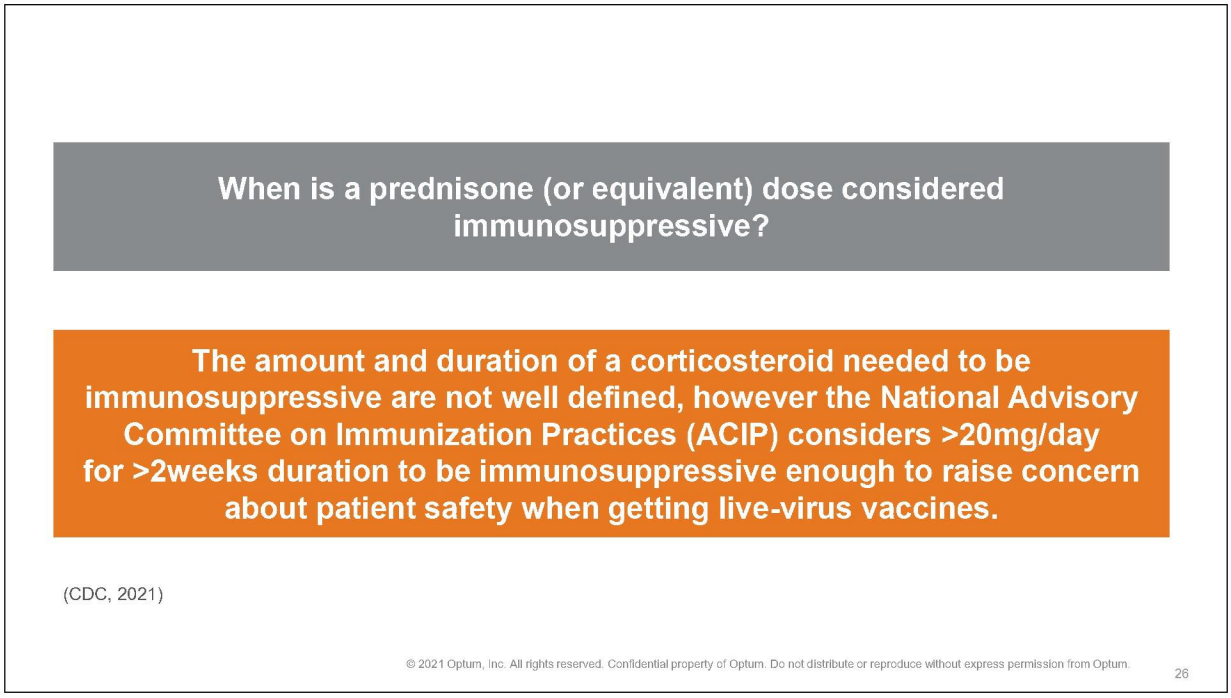
Chinen J, Shearer WT. Secondary immunodeficiencies, including HIV infection. J Allergy Clin Immunol. 2010;125(2 Suppl 2):S195-S203. doi:10.1016/j.jaci.2009.08.040

If a currently asymptomatic patient has Lupus, and has been treated with prednisone 20mg/day for the last year, what immunodeficiency diagnoses should be considered?

Immunodeficiency due to conditions classified elsewhere and Immunodeficiency due to drugs.



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How do I convert other corticosteroid dosages to prednisone equivalents?

Many conversion calculators are available to the clinician.

Examples of Conversions		
100 mg Cortisone	Approximately equals	20 mg Prednisolone / Prednisone
5 mg Dexamethasone	Approximately equals	33.3 mg Prednisolone / Prednisone
100 mg Hydrocortisone	Approximately equals	25 mg Prednisolone / Prednisone
20 mg Methylprednisolone	Approximately equals	25 mg Prednisolone / Prednisone

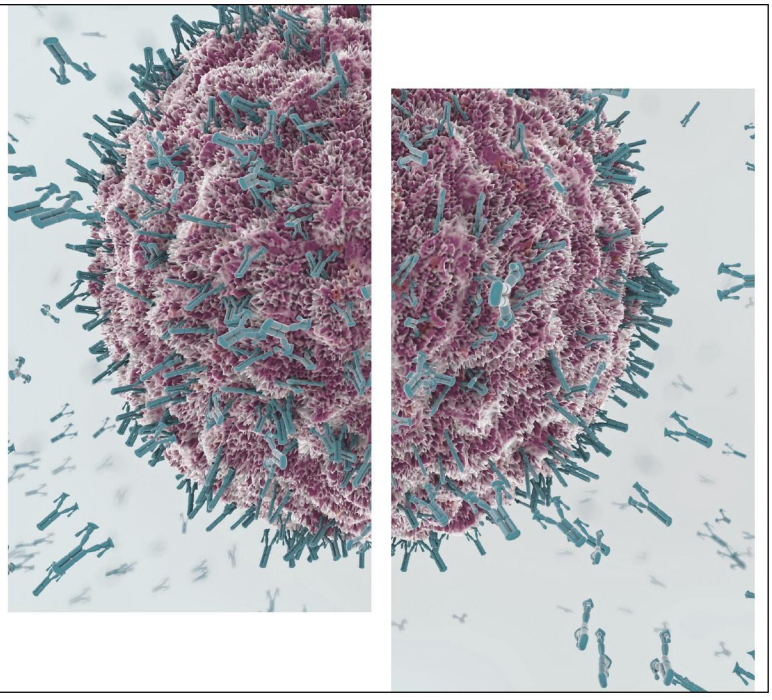
(MD+CALC, 2021)

MD+CALC. Steroid Conversion Calculator. https://www.mdcalc.com/steroid-conversion-calculator. Accessed August 4, 2021.

If a member is taking tamoxifen for breast cancer, should immunodeficiency due to drugs be diagnosed?

No, while immunity is sometimes impacted by tamoxifen, it is a rare side effect.

Summary



Summarize presentation to include the following highlights:
Immune system important to prevent infection and cancer
Disrupted by other medical conditions, drugs, and exposures/treatments
Secondary immunodeficiency (SID) is common and important to recognize.
Whenever the immune system is disrupted, and SID is considered it should be addressed and documented appropriately.

References

~~American Hospital Association. Central Office on ICD-10-CM/PCS. Coding clinic for ICD-10-CM and ICD-10-PCS. 2020; 7(4):Fourth Quarter 2020.~~

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PharmaTrain: Mastering Medicines Development. ASTHMA AND COPD: MECHANISM OF ACTION OF GLUCOCORTICOIDS, β2-AGONISTS AND THEIR COMBINATION.
Inhaled Glucocorticosteroids. Glucocorticosteroids cellular effects. Published April 2014. https://www.pharmatrain.eu/resources/e-learning/pharmatrain/pharmatrain_asthma/chapter2/chapter2_section3_2.html. Accessed October 13, 2021.

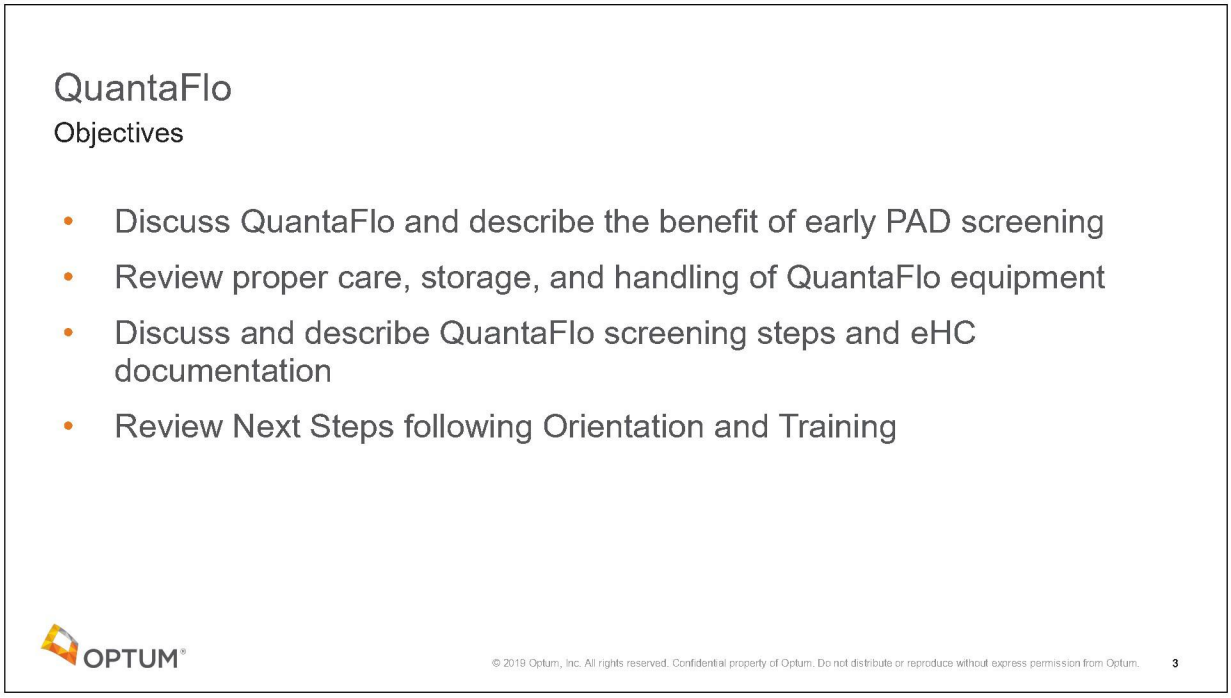
OPTUM®

This presentation will give you a high-level overview of QuantaFlo.
We are going to watch a short video on the importance of QuantaFlo and PAD screenings presented by Dr Long:
QuantaFlo Video Link: https://www.youtube.com/watch?v=3U8InTaMsj0

Disclaimer

- Optum coding and documentation materials are to be used for reference only.
- Not intended to replace ICD-10-CM, CPT and HCPCS authoritative references for the assigning and reporting diagnoses, and procedures codes
- Clinical and coding decisions are to be made based on the independent judgment of the treating physician or qualified health care practitioner and the best interests of the patient
- It is the responsibility of the physician and/or coding staff to determine and submit accurate codes, changes and modifiers for services rendered

Let's take a brief moment to review our disclaimer



In this presentation, we will keep the following objectives in mind: (Go over the objectives in the slide briefly)

QuantaFlo Fast Facts

- The purpose is to facilitate **early screening**, diagnosing and monitoring of Peripheral Arterial Disease (PAD)
- It is a noninvasive physiologic study of the upper and lower extremities and assesses bilateral extremities. For use in Adults only
- The sensor detects the volume of blood from the lower extremities (posterior and anterior tibial/dorsalis pedis) to create a waveform
- Blood volume changes detected are used to calculate the predictive value of PAD and detect lower extremity flow obstruction
- QuantaFlo is considered as accurate as a Doppler ultrasound, and it is non-invasive (Semler, 2015)
- HouseCalls data in 2018 demonstrated 96% of abnormal results were related to PAD

OPTUM®

Let's discuss some of the facts about Quantaflo and Peripheral Arterial Disease:
-The purpose of Quantaflo is to assist with screening and the early identification of Peripheral Arterial Disease (PAD).
-It is a noninvasive physiologic study for use in adults only.
-Based on Semlar's study in 2015, Quantaflo is considered as accurate as a Doppler ultrasound.
-And HouseCalls data in 2018 demonstrated that 96% of abnormal Quantaflo results were related to the diagnosis of PAD.

Equipment

- **PC**: A portable, wireless PC specifically configured with the QuantaFlo application

- **QuantaFlo** Wired Reusable Sensor

- **Warming Device** Disposable Infant heel warmers

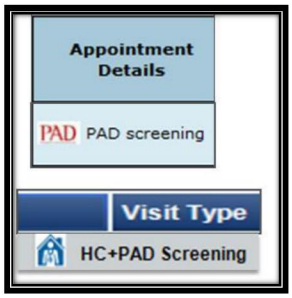
- **Light Blocking Bag**

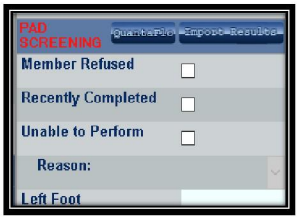
OPTUM®

The equipment used to perform the test includes your tablet that will be configured with the QuantaFlo application.
You will have a wired QuantaFlo Sensor that is to plussed into the USB port of your tablet. The sensors can be cleansed with alcohol , PAWS, or Sani wipes.
It is also recommended to coil the sensor cord so that it can be stored safely with your supplies.
You will be sent disposable infant heel warmers as part of your supplies. These will be used to apply to your member's lower digits to allow for warming prior to completing the screening test.
The Light blocking Bags will also be sent. These should be applied when digits need to be covered in cases where there is excess light that may affect sensor function and screening results.

Criteria for PAD Screening

- Trained APCs will have members flagged in the Practitioner Portal for PAD screening under **appointment details** and under **Visit type** on the appointment section of eHouseCalls assessment
- Members are identified for PAD screening based on prior claims
- PMH does not exclude a member from PAD screening
- The **PAD Screening** section on Pg 13 will be highlighted in **Red** font if member is flagged to have the test



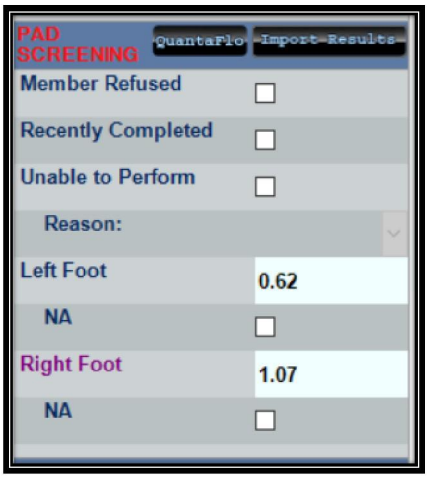


OPTUM

Trained and approved APCs will be able to identify if a member is eligible for a PAD screening in several areas:
-In the Practitioner Portal, Quantaflo will be listed as "PAD screening" and will be found under the "appointment details" then "visit type" section.
-In the EHouseCalls Tablet, this will be listed as "PAD screening" under "appointments" and "visit type".
-Page 13 in the EHouseCalls assessment will also be enabled and the "PAD Screening" text will be highlighted with Red Font when a member is flagged for this test to be completed.

QuantaFlo Process

- Plug in the sensor to USB
- Position member for test
- Warm Toes 5 minutes
- Select the **QuantaFlo Button** from Pg 13
- Apply sensor to digits (QuantaFlo version will direct testing sequence)
- Select "Measure" for each digit
- Select "Save Test" for results
- Close QuantaFlo and return to eHC on Pg 13
- Select **Import Results** - results will populate in eHC
- Results are submitted with next sync



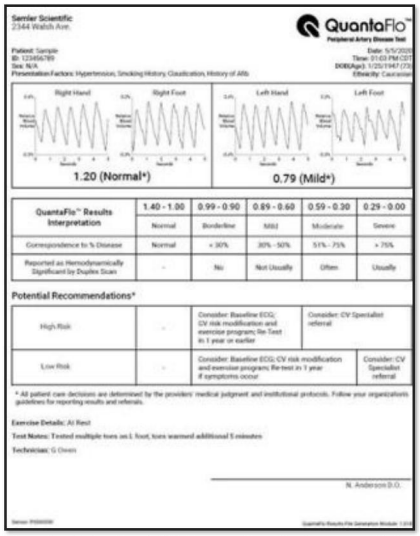
Once results are imported, they CANNOT be edited

OPTUM®

Here are some Key points to remember when performing the Quantaflo test:
-Prepare the member for the test, elevate the legs comfortably and remind the member to be still and quiet during the test.
-Be sure to plug the sensor into the tablet and launch the Quantaflo from Page 13 by clicking the "Quantaflo" button.
-Apply the sensor to each digit as prompted on the Launched QuantoFlo screen, working in sequential, Clock wise order.
Once results are imported into the assessment, the APC is NOT able to make changes. If the APC wants to make changes, the test will have to be performed again.

QuantaFlo Process

Version 4.4 Upgrade



This is an example of the dashboard for QuantaFlo on the left, and you will see this as you begin your PAD screening in the home in eHouseCalls. On the left is an example of the PDF report the PCP receives following the HouseCalls visit.

Position of Member

- Supine position is preferred to perform the test
- If Supine is not possible, member should be sitting with legs slightly lower than 90 degrees to avoid occlusion of the artery which can impede the waveform
- Apply Toe warmers prior to the test for 5 minutes
- Member should be told to be still and quiet during procedure

OPTUM®

9

Adequate toe warming prior to the test for at least 5 minutes is necessary to prevent inaccurate results.
Although the supine position is the preferred position for this test; this may not be possible depending on the member or the environment.
In those cases, position your member with their legs elevated slightly, and lower than 90 degrees to avoid occlusion of blood flow.
Again, remind the member to be still and quiet throughout the screening procedure.

Proper Application of Sensor

- Be sure sensor is plugged into USB port
- Orient with Q icon on top of digit
- Largest flesh pad of digit should completely cover Sensor window (adapt test for amputations, hammer toes and open wounds)
- Ensure Sensor is secure on digit

OPTUM

10

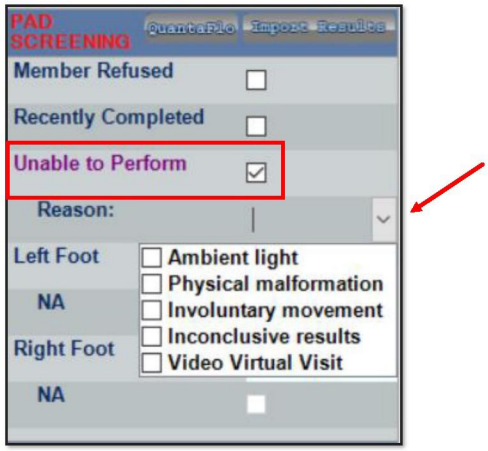
Proper sensor placement is also an important step in performing this test.
-Ensure the sensor is plugged into the USB port of the tablet.
-Orient the Q Icon on the top of the sensor and the cord facing top on the digit
-And secure the sensor on the digit by placing it on the largest flesh pad of the digit, allowing it to completely cover the sensor window

Documentation for QuantaFlo

If unable to perform, select from the following drop-down options:

- Ambient light
- Physical Malformation
- Involuntary movement
- Inconclusive results
- Video Virtual Visit

Drop-Down Options



OPTUM

11

The APC will attempt to perform the test and if unable to, documentation should be provided on page 13 under the PAD screening section. There are drop down options with the specified reasons listed.
These include: ambient light, physical malformation, involuntary movements, and inconclusive results, and video virtual visit.
If a member refuses the screening test this option is also available to select.

QuantaFlo Results

How to interpret QuantaFlo Results

If QuantaFlo Results < 0.90 (abnormal), educate member, recommend statin, provide educational materials and generate Care Manager referral with call to PCP, if indicated

QuantaFlo Results	Interpretation	PVD Diagnosis	Contact PCP	Care Manager referral
1.40 to 1.00 0.99 to 0.90	Normal Borderline	No diagnosis based on QuantaFlo results, unless clinical symptoms present	Not required	Not required
0.89 to 0.60	Mild	Diagnose PVD	No call, unless **NEW**	**Yes, if new**
0.59 to 0.30	Moderate	Diagnose PVD	No call, unless **NEW**	**Yes, if new**
≤ 0.29	Severe	Diagnose PVD	**Call PCP**	**Yes**

Smart Logic will populate PVD on Diagnosis Page

OPTUM®

These are the QuantaFlo results and how you can interpret them. Remember that any NEW Mild, Moderate, and Severe findings will generate a diagnosis of PVD/PAD on page 15 of the diagnosis confirmation page. The APC should review and determine using clinical judgment as to whether the diagnosis should be active.
Abnormal QuantaFlo results alone ARE considered supportive evidence for PVD/PAD.

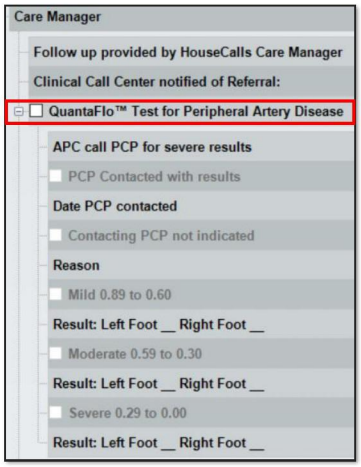
Documentation of QuantaFlo Results

CRD Documentation of Abnormal Results

QuantaFlo results of <0.90 will auto populate within the Care Manager section of the CRD tool classified as **Mild, Moderate, and Severe** depending on the results

- Document Clinical Call Center By Tablet
- Document Member's acceptance of referral

****Call PCP with any NEW PVD diagnosis and *Always* with Severe PAD results**



If the PCP requests a copy of the results, call the Clinical HelpDesk at 1-855-247-8474, Option 2

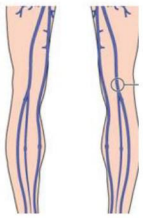
OPTUM®

The APC will need to review and document results <.90 that have auto populated into the CRD tool. You will find these in the Care Manager section.
You will contact the PCP with any NEW PVD diagnosis and with ANY severe diagnosis.

You will also notice that the: "PCP contacted with results" and "Contacting PCP not indicated" check box selections located at the top of the Digital ABI section become enabled when Severe Results are auto populated into the CRD.
This allows entry of the date the PCP was contacted regarding Severe results, and additional options for : "PCP contacted previously" and "Scheduled to see PCP". If there is no PCP, the APC would document this information in the communication details of the CRD, noting that the PCP check box would still be required to be selected at the bottom to successfully close the tool.

Management of PAD Results

- If a member has abnormal **PAD** results with normal clinical findings, such as good pedal pulses, QuantaFlo is more specific for the early diagnosis of PVD. This should be followed by PCP with good documentation in eHouseCalls
- If the member has abnormal **PAD** results and abnormal clinical findings, such as diminished pedal pulses or claudication, notify the **PCP** promptly for further recommendations to a cardiologist

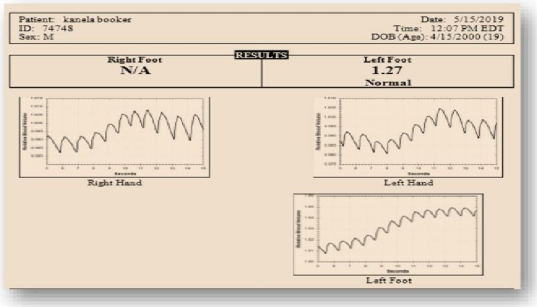


OPTUM®

QuantaFlo is specific for detecting early disease when there may be no clinical symptoms. An abnormal PAD screening should be reviewed with the member, with continued follow up and monitoring from PCP.
Abnormal PAD screening results combined with abnormal clinical findings should prompt further evaluation. PCP notification may be necessary, as well as consideration for cardiology or vascular specialist referral.

Special Considerations: Amputations

- If the member has had one upper extremity amputation or one lower extremity amputation, **the QuantaFlo test can still be performed**. Digital ABI results will be displayed for the side with both upper and lower extremities remaining.
- Special clinical situations should be documented in the PE note section



OPTUM

Semler, 2019

There may be instances where you experience special circumstances during the PAD screening. If an amputation prevents sensor placement on a digit, skip to the next extremity and make a note at in the PE section of eHC. Tremor, Raynauds, or paraplegia/Quadraplegia can also be documented in the PE notes section. Adequate warming of the digits; proper positioning; and gentle pressure over the affected limb with tremors can assist with accurate PAD screening results.

Trainer Notes ONLY: With QuantaFlo 4.4.8 Upgrade- there will be a test notes section and you will call out that test notes should be made directly into the "QuantaFlo Section" during the screening. This is per GC, Semlar. 2021.

Member Education

AYPCP Documentation

- Results from PAD screening will auto populate into AYPCP on Page 17 of eHouseCalls
- Document PAD screening results on paper copy of AYPCP

OPTUM

16

Results from the PAD screening will auto populate into the electronic copy of the AYPC in eHouseCalls. This is on Page 17 of the assessment. You will need to ensure that you document these results on the PAPER copy of the member's AYPCP. This is a good time to encourage the member to follow up with their PCP regarding the results.
**Note that PAPER AYPC currently has the old range titles and there is an updated one scheduled to be released in the coming months.

Member Education

- Educate member on PAD results that are <0.90 and the need for follow-up
- Recommend statin and smoking cessation on the Ask your PCP form when PAD results are < 0.90
- Leave educational materials on PAD results are < 0.90

OPTUM®

17

Offer appropriate recommendations for your members related to their PAD screening results: This may include discussing a Statin with their PCP or considering smoking cessation if appropriate.
Remember to leave the educational handout for PAD with the member.

QuantaFlo Support

- Contact UHG Clinical Support Center at: **1-855-247-8474, Option #4** for additional assistance with application functionality or sensor issues
- Contact Clinical HelpDesk **1-855-247-8474** for providers who request results of QuantaFlo, **Option # 2 or email the helpdesk: HouseCallsClinicalHelpDesk_DL@ds.uhg.com**
- For step-by-step **QuantaFlo** directions and how to manage abnormal results and troubleshooting IT issues, refer to the QuantaFlo Job Aid on the **CEC**

If there are any technical issues with the Quantaflo software or sensor, you will contact the HelpDesk at Option 4.
Providers will receive a copy of PAD screening results in 2-4 weeks with the HouseCalls Summary. However, there may be some providers who request a copy of the report when you call in to report a new PVD diagnosis or Severe Result. If this is the case, Contact the HelpDesk number and select Option 2, or email the request at the email listed above: HouseCallsClinicalHelpDesk_DL@ds.uhg.com

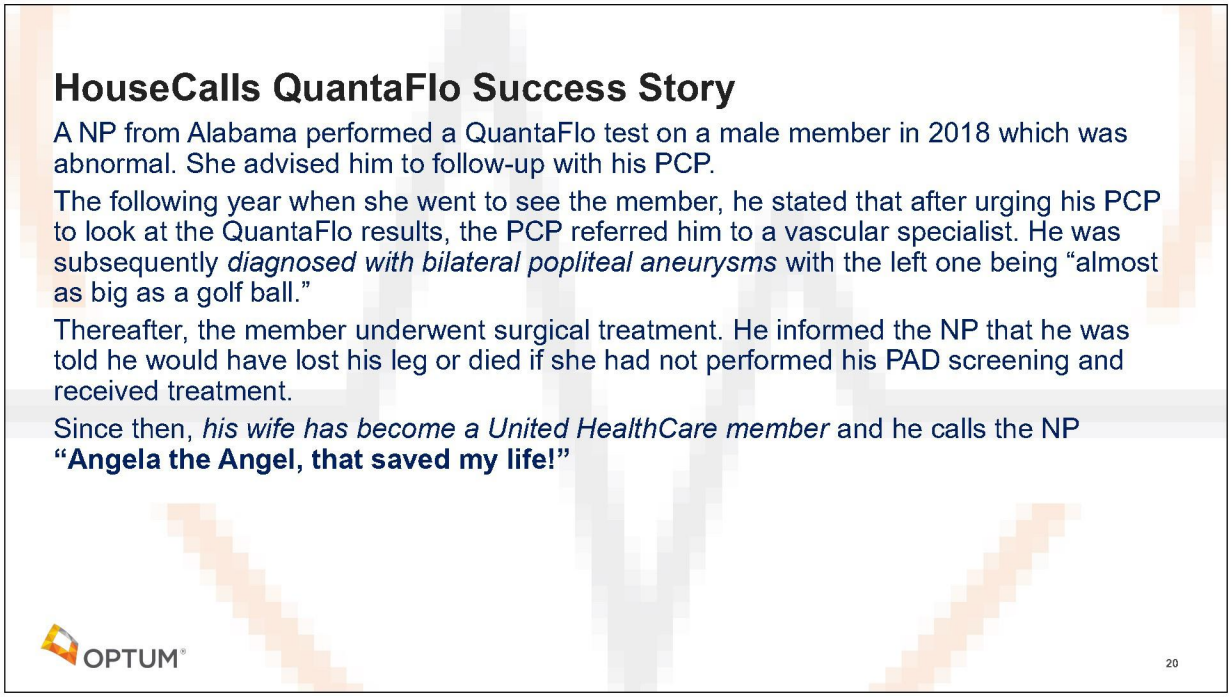
Job Aids are also available on QuantaFlo on the CEC.

Healthy Lives

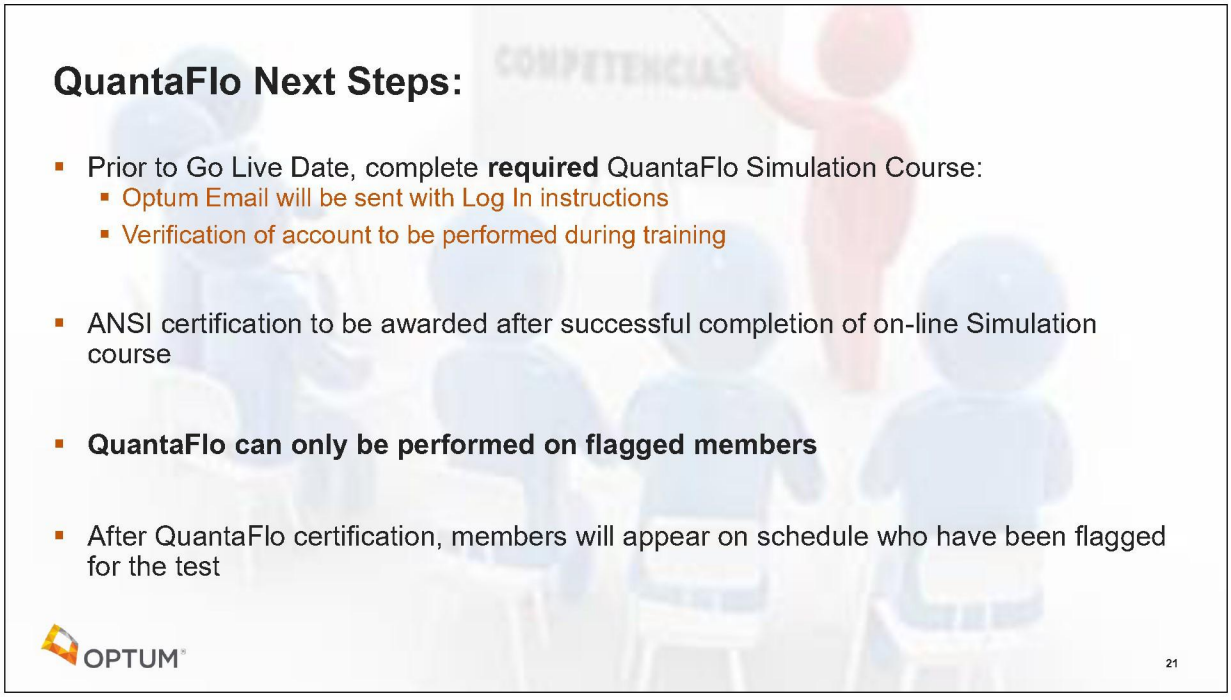
By performing the QuantaFlo screening for our members, we are meeting one of our goals of HouseCalls, and promoting UHG's mission of helping people live healthier lives and making the health care system work better for everyone.

OPTUM®

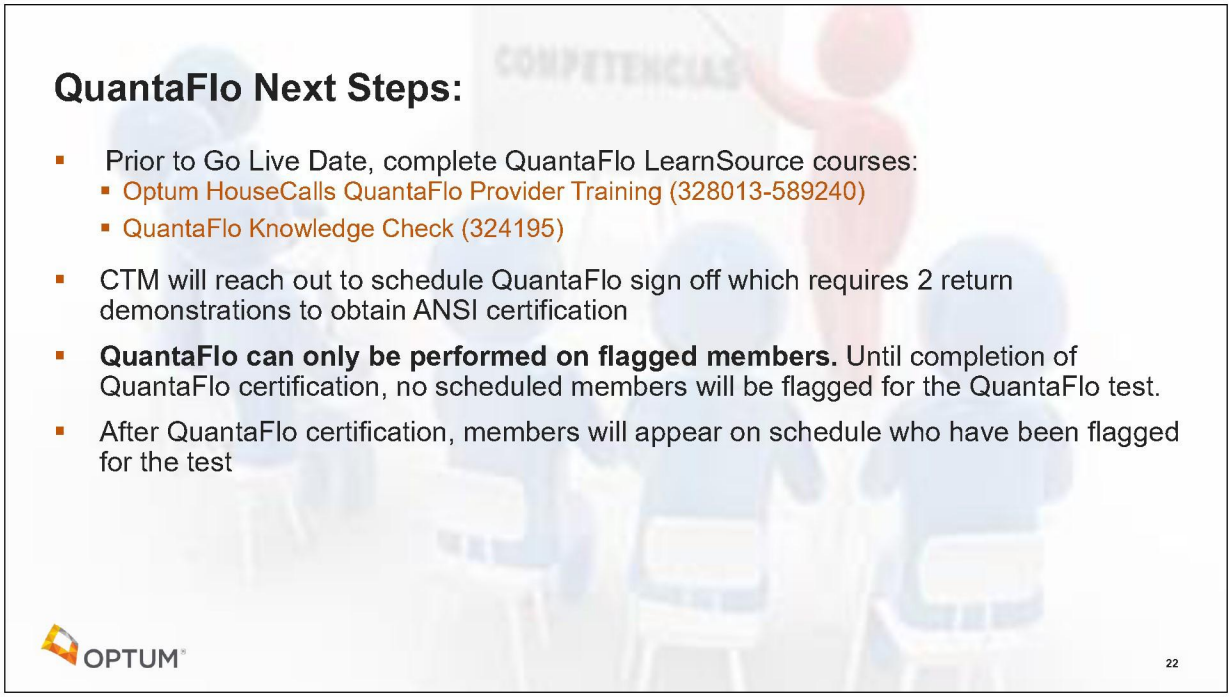
Using Quantaflo and PAD Screening for our members and during the HC visit helps us meet one of our main goals: helping our members live healthier lives. For example: In a regression analysis by Semler Scientific (2015), knowledge about PAD influenced health promoting behavior.



Let's look at QuantaFlo in action. This story describes a member in Alabama who had the QuantaFlo performed. The test was abnormal and the member was asked to inform his PCP next visit. The PCP almost ignored the AYPCP form however the member reminded the PCP about the results of the APC's quantaFlo…the member was referred and his life was truly saved as he has bilateral aneuryisms. His left leg had the size of a golf ball…and he was told by vascular they could have ruptured and he would have died.



Let's Review Next Steps for QuantaFlo Prior to Going Live and Conducting Visits in the Field:
You will be completing an online QuantaFlo Simulation course in order to receive your ANSI certification which will allow you to perform PAD screenings during HouseCalls visits. You will receive an email invitation from Semler Scientific's Training Department through your Optum Inbox with specific instructions on logging into the Simulator Site. We will also review these instructions and verify that your Log in and Password are functioning prior to the end of training. Completion of the Simulation course is required prior to your Go-live call.
After this process is complete and you have received your QuantaFlo certification, you will be eligible to perform PAD screenings on members. You will then begin to see these members "flagged" on your schedule. Keep in mind that QuantaFlo can Only be performed on flagged members.



You will be completing several LearnSource courses after you complete your training with us this week. You will follow up with your CTM to complete a demonstration and Check-off for certification after your Go-Live date. After this process is complete, you will be eligible to perform PAD screenings on members. You will then begin to see these members "flagged" on your schedule.

(**Trainer Notes** This process will change after 4.4.8 Upgrade. Slide and notes will be updated at the time.)

AAPC/CME Credit is Available!

New this year! After the presentation, learners can go online to complete the post-activity materials, claim CME/CEUs and obtain their certificate of attendance.

- **To earn CME/CEUs,** you must be logged into your optumhealtheducation.com account and complete the post-activity materials
  - Once logged in, go to: **optumhealtheducation.com/coding-live**
  - Further instructions are provided on the website
  - At the end of the process, you will be able to save or print a PDF version of your certificate
  - A complete listing of all of your activities can be found under "My Account," "My Activities"

➢ Completion of the post-activity materials concludes your participation in the activity. **The date on your certificate of attendance will reflect the date that credit was claimed**

➢ Your educator **will not** be providing a CME or CEU certificate, and a PDF copy of this presentation is not available for this education session

OPTUMHealth™
Education

OptumHealth Education (OHE) is jointly accredited by the Accreditation Council for Continuing Medical Education (ACCME), the Accreditation Council for Pharmacy Education (ACPE) and the American Nurses Credentialing Center (ANCC) to provide continuing education for the healthcare team.

OHE works to foster lifelong learning partnerships with collaborative health care teams who seek to advance their knowledge, skills and competencies relevant to their clinical practice.

This activity is jointly provided by OHE and Optum Risk, Quality & Network Solutions.

There was no commercial support received for this activity.

If you have questions, please email: moreinfo@optumhealtheducation.com.

Documenting and Coding Peripheral Vascular Diseases for Medicare Advantage

Name and Credentials
Sr. Provider Training and Development Consultant

Course Disclaimer

This course generally describes accepted coding practices and guidelines as defined in the ICD-10-CM coding book, as well as certain accepted practices for HEDIS®, as administered by NCQA, and certain accepted practices for Stars, as administered by CMS. The physician or other healthcare provider must produce ***accurate and complete*** *documentation and clinical rationale, which describes the encounter with the patient and the medical services rendered, to properly support use of the most appropriate ICD-10-CM code(s) under the guidelines and satisfy HEDIS® and Stars measures.* ***If the documentation in the medical record does not support a given code, that code cannot be used.***

The chart reviews and recommendations in this presentation are presented as examples only and are not intended to replace the professional judgment and expertise of the individual performing the coding. ***The ultimate decision regarding the specification of diagnosis resides with the clinical judgment of the physician and the reporting of the documented conditions must be in compliance with all applicable coding standards & guidelines.***

HEDIS is a registered trademark of the National Committee for Quality Assurance (NCQA).

Bolding Legend

The bolding has been revised to reflect ICD-10-CM codes that map to the CMS-HCC risk adjustment model for Payment Year 2022.

Tools:

- Fully reportable codes that risk adjust are bolded in **Black**.
- Categories and subcategories where all the codes in the category or subcategory map to risk are bolded in **Black**.

Presentations:

- Fully reportable codes that risk adjust are bolded in **Black**.
- Categories and subcategories where all the codes in the category or subcategory map to risk are bolded in **Black**.
- Codes in images of the ICD-10-CM code book that risk adjust are boxed in Teal
- Codes marked with a ✦ directly after them represent new additions to the FY 2021 ICD-10-CM code classification.

MA Payment Guide for Out of Network Payments. CMS.gov. https://www.cms.gov/Medicare/Health-Plans/MedicareAdvtgSpecRateStats/Downloads/OONPayments.pdf. Published April 15, 2015. Accessed April 23, 2021.

Medicare risk adjustment model diagnosis codes. CMS.gov. https://www.cms.gov/Medicare/Health-Plans/MedicareAdvtgSpecRateStats/Risk-Adjustors. Accessed April 23, 2021.

Announcement of Calendar Year (CY) 2022 Medicare Advantage (MA) Capitation Rates and Part C and Part D Payment Policies. CMS.gov. https://www.cms.gov/files/document/2022-announcement.pdf. Published January 15, 2021. Accessed April 23, 2021.

Agenda

At the end of this session participants will have a better understanding of:

- Medicare Advantage risk adjustment basics
- Improving coding accuracy and completeness for:
  - Cerebrovascular disease (CVD)
  - Peripheral arterial disease (PAD) and atherosclerosis
    - Amputations
    - Purpura
  - Aortic aneurysms
    - Aortic ectasia
- Quality measures
- Documentation considerations and chart mechanics

Learning Objectives

At the end of this session participants will have a better understanding of:

- Examine CVD, PAD, as well as aortic atherosclerosis, ectasia, and aneurysm from a documentation and coding perspective, and explore related quality measures.

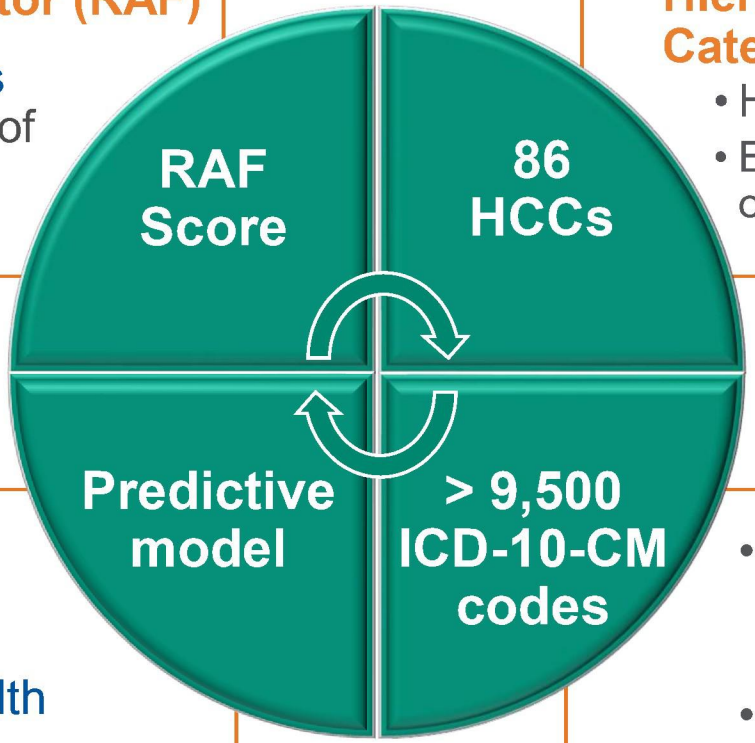
PY 2022 CMS-HCC Model

Risk Adjustment Factor (RAF)

- Each patients' RAF is reset on January 1st of each calendar year

Hierarchical Condition Category (HCC)

- HCCs are additive
- Each HCC is only reportable once per calendar year



- The model uses the prior year's RAF to predict the current year's expected health care costs

- Diagnosis codes may fall into one or more HCCs
- From face-to-face visits

Announcement of Calendar Year (CY) 2022 Medicare Advantage (MA) Capitation Rates and Part C and Part D Payment Policies. CMS.gov. https://www.cms.gov/files/document/2022-announcement.pdf. Published January 15, 2021. Accessed April 23, 2021.

Medicare risk adjustment model diagnosis codes. CMS.gov. https://www.cms.gov/Medicare/Health-Plans/MedicareAdvtgSpecRateStats/Risk-Adjustors. Accessed December 3, 2020.

How Does Risk Adjustment Impact You?

Enhanced continuity of care by conditions being monitored, treated or assessed annually

Higher importance of accurate and specific documentation and coding of all conditions each calendar year

Identifies the severity of illness and complexity related to each patients' visit

Improves quality of patient care

- Early detection or screenings, slow the conditions' progression and/or reduces the need for emergency care

Centers for Medicare & Medicaid Services. 2008 Risk Adjustment Data Technical Assistance For Medicare Advantage Organizations Participant Guide. Palmetto GBA https://www.csscoperations.com/Internet/Cssc3.Nsf/files/participant-guide-publish_052909.pdf/$File/participant-guide-publish_052909.pdf Published 2008. Accessed December 3, 2020.

Documenting and Coding

Cerebrovascular Disease

Lessons Learned from Chart Reviews

The tense matters to documentation and coding:

- Diagnosis codes have been submitted for acute conditions when the member was status post or had a history of the condition

Be cautious with the use of the following terms:

Acute

Acute stroke (**I63.-**) on first day of admission to the hospital only

Status Post

Sequelae of stroke (I69.-) should be used for all visits following the acute incident and every year the patient has a residual deficit from a prior stroke

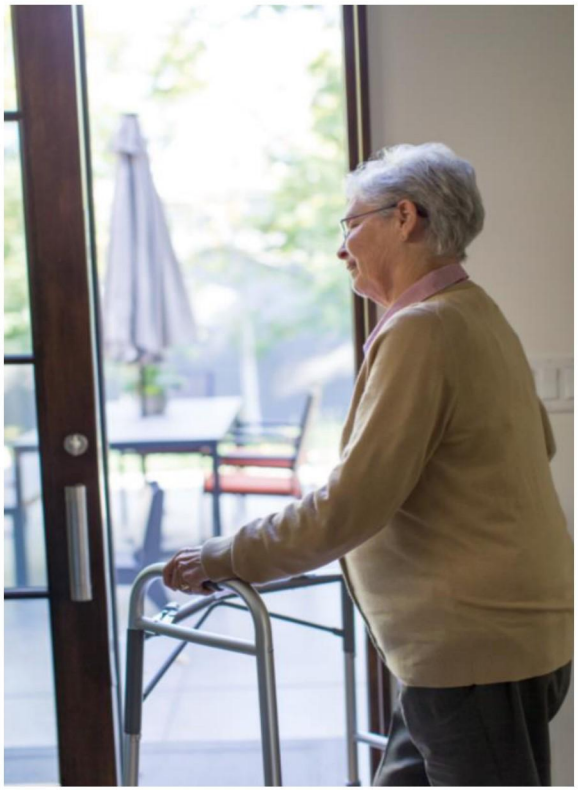
History of

History of CVA (Z86.73) should be coded if there are no residual deficits from a prior stroke

Late Effects of Prior Stroke

After an initial stroke incident, identify if the patient has residual deficits (sequelae/late effects) from the stroke (I69.3-).

- Residual deficits of a CVA include:
  - Cognitive (I69.31-)
  - Speech and language (I69.32-)
  - Monoplegia (**I69.33-**, **I69.34-**)
    - Weakness of one limb following CVA
  - Hemiplegia (**I69.35-**)
    - Weakness on one side of the body following CVA
  - Other paralytic syndrome (**I69.36-**)
  - Other sequelae of CVA (I69.39-; dysphagia, facial weakness, ataxia, etc.)



Coding examples:

- Dysphagia from previous stroke I69.391
- Dysphagia, unspecified R13.10

Improving Accuracy and Completeness
CVA

HPI: Follow up for hypertension. BP good and patient continues to monitor at home. Patient had a previous stroke, still has trouble with R arm and facial weakness.

Assessment/Plan:

Hypertension (I10) stable continue Lisinopril 10 mg per day. Labs – CBC, BNP and lipid profile in 6 months.

Late effects of cerebral infarction (I69.30) Stroke 1 year ago with residuals of right arm weakness and facial weakness. Advised to work on daily. Continue aspirin, statin.

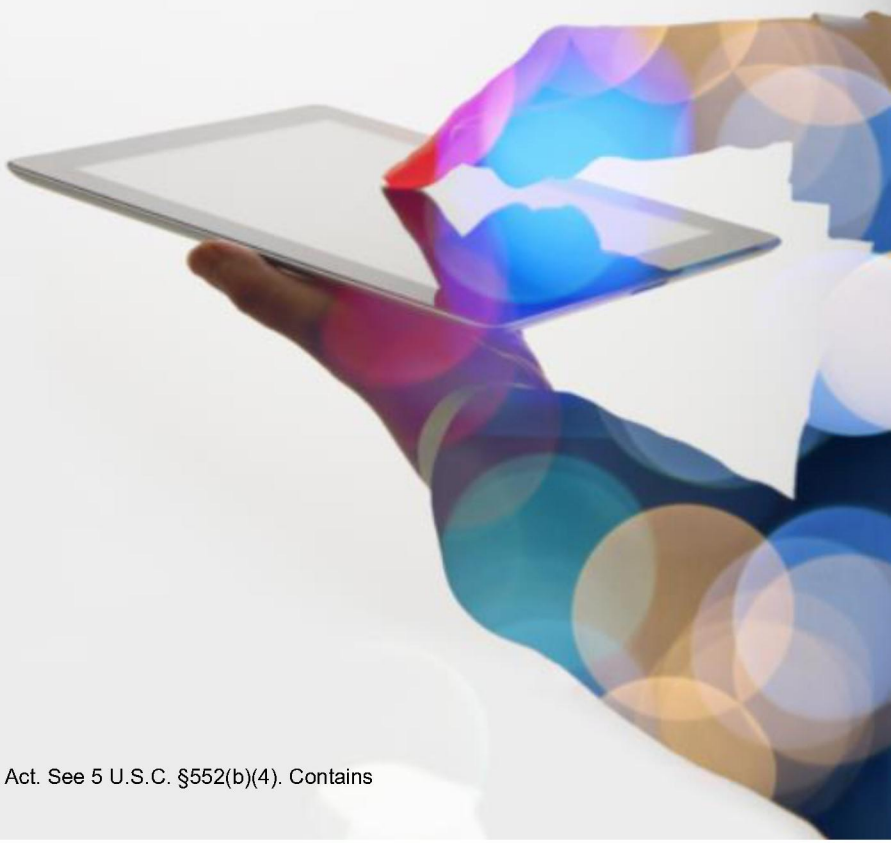
Note: FH, SH, Exam and other parts of this progress note have been selectively left out.

Currently Coded:	Greater Specificity:
➢ Essential (primary) hypertension (I10) ➢ Late effects of cerebral infarction (I69.30)	➢ Essential (primary) hypertension (I10) ➢ Facial weakness following cerebral infarction (I69.392) ➢ Monoplegia of upper limb following cerebral infarction affecting right dominant side (**I69.331**)

Accurate documentation can assist in correct health status reporting and assist the member in qualifying for additional quality programs.

Documenting and Coding

Peripheral Arterial Disease and Atherosclerosis



Peripheral Artery Disease (PAD)

- The ankle-brachial index (ABI) is a simple, noninvasive test to diagnose asymptomatic or symptomatic lower extremity PAD.[2]
- PAD/PVD is a progressive disease.
  - Avoid documenting "history of" peripheral vascular disease (PVD) and instead consider "known" peripheral vascular disease.
- The terms "PAD," "PVD," "spasm of artery" and "intermittent claudication" code to **I73.9**

PAD At-Risk Factors:

- Age ≥65 years
- Leg symptoms with exertion (e.g., claudication or rest pain)
- Abnormal lower extremity pulse examination
- Known atherosclerosis at other sites (e.g., coronary, carotid, etc.)
- Age 50-69 years: Hypertension, diabetes, hyperlipidemia, history of smoking or hyperhomocystenemia

1 American Heart Association. Circulation. AHA Statistical Update: Heart Disease and Stroke Statistics—2016 Update. http://circ.ahajournals.org/content/133/4/e38. Accessed December 14, 2020.
2 American College of Cardiology Foundation/American Heart Association. ACCF/AHA Pocket Guideline November 2011. Management of Patients With Peripheral Artery Disease (Lower Extremity, Renal, Mesenteric, and Abdominal Aortic). https://www.acc.org/~/media/clinical/pdf-files/approved-pdfs/2012/02/16/14/42/2011_pad_pktguide.pdf. Accessed December 14, 2020.

Atherosclerosis of the Lower Extremities

- Arteriosclerosis and atherosclerosis may be used interchangeably for documentation and coding purposes
- Document the site, laterality, symptom or complication (e.g., intermittent claudication, rest pain [chronic or critical limb-threatening ischemia of native arteries with rest pain], ulceration [chronic or critical limb-threatening ischemia of native arteries of extremities with ulceration] or gangrene [chronic or critical limb-threatening ischemia of native arteries of extremities with gangrene]), if applicable
  - Use an additional code to identify the type, site, laterality and severity/stage of any ulcer (**L97.-**, **L98.49-**), if applicable
    - It is important *not to* document or code ulcers as "wounds,""open wounds" or "lesions"

Note:

PAD/PVD (**I73.9**) should *not* be coded with atherosclerosis of the extremities (**I70.2- – I70.7-**)

Diabetic Atherosclerosis
PAD/PVD Documentation and Coding

- **Diabetes mellitus (DM)** – is a major risk factor for atherosclerosis of lower extremity as well as cardiovascular and cerebrovascular atherothrombosis leading to increased morbidity and mortality

Diabetes with **circulatory** complications *HCC 18 & 108*	Type 2 DM w/ diabetic peripheral angiopathy without gangrene	**E11.51**
	Type 2 DM w/ diabetic peripheral angiopathy with gangrene	**E11.52**
	Type 2 DM with other circulatory complications	**E11.59**

- Diabetes with PVD unspecified = **E11.51**
- Diabetic atherosclerosis of lower extremity with bilateral claudication = **E11.51**, **I70.213**

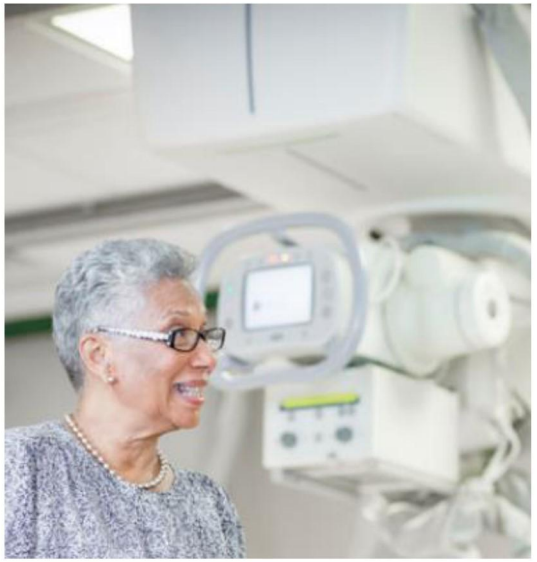
Atherosclerosis of the Native Arteries of Extremities	ICD-10-CM
unspecified	**I70.20-**
with intermittent claudication	**I70.21-**
with rest pain	**I70.22-**
(of right or left leg) with ulceration Use additional code to identify severity of ulcer (**L97.-**)	**I70.23-** — **I70.25-**
with gangrene	**I70.26-**
other	**I70.29-**

Thiruvoipati T, et al. Peripheral artery disease in patients with diabetes: Epidemiology, mechanisms, and outcomes. World Journal of Diabetes. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4499529/ Published July 10, 2015. Accessed December 14, 2020.

Diagnoses Suggested by Diagnostic Studies

Findings in diagnostic reports (e.g. MRI, chest x-ray, ultrasound, CT scan) are often noted as incidental and should be documented by provider at a face-to-face visit, if clinically significant or affects care of the patient.

- Atherosclerosis of carotid artery (occlusion and stenosis of carotid artery; I65.2-)
- Calcified aorta (atherosclerosis of the aorta; **I70.0**)
- Atherosclerosis of the renal artery (**I70.1**)
- Femoral artery stenosis (**I70.209**)
- Aortic aneurysm and dissection (**I71.-**)
  - Abdominal aortic aneurysm, without rupture (**I71.4**)
- Tortuous aorta (stricture of artery; **I77.1**)
- Aortic ectasia (**I77.81-**)
- Thrombosis of femoral vein (**I82.51-**)
- Thrombosis of popliteal vein (**I82.53-**)



Acquired Absence (a.k.a. Amputation Status)

Diabetics are at a higher risk of having a lower limb amputation.

- The status of an amputation can be coded even if it was due to other reasons such as poor circulation, cancer, serious infection, traumatic injury, etc.
- Amputations should be documented annually (include location and laterality) and inspected for any complications such as ulcers, poor prosthetic fitting or infection.

Z89.0- – Z89.2- Acquired absence of upper limb
Z89.4- Acquired absence of toe(s), foot and ankle
Z89.51- Acquired absence of leg below the knee
Z89.52- Acquired absence of knee
Z89.61- Acquired absence of leg above the knee

If phantom limb syndrome is documented, include one of the following codes:

G54.6 Phantom limb syndrome with pain
G54.7 Phantom limb syndrome without pain

Senile Purpura

Senile purpura can occur just because someone is older with no underlying condition.

- Senile purpura affects about 10% of people over the age of 50[1]
  - This percentage increases with age

Example:

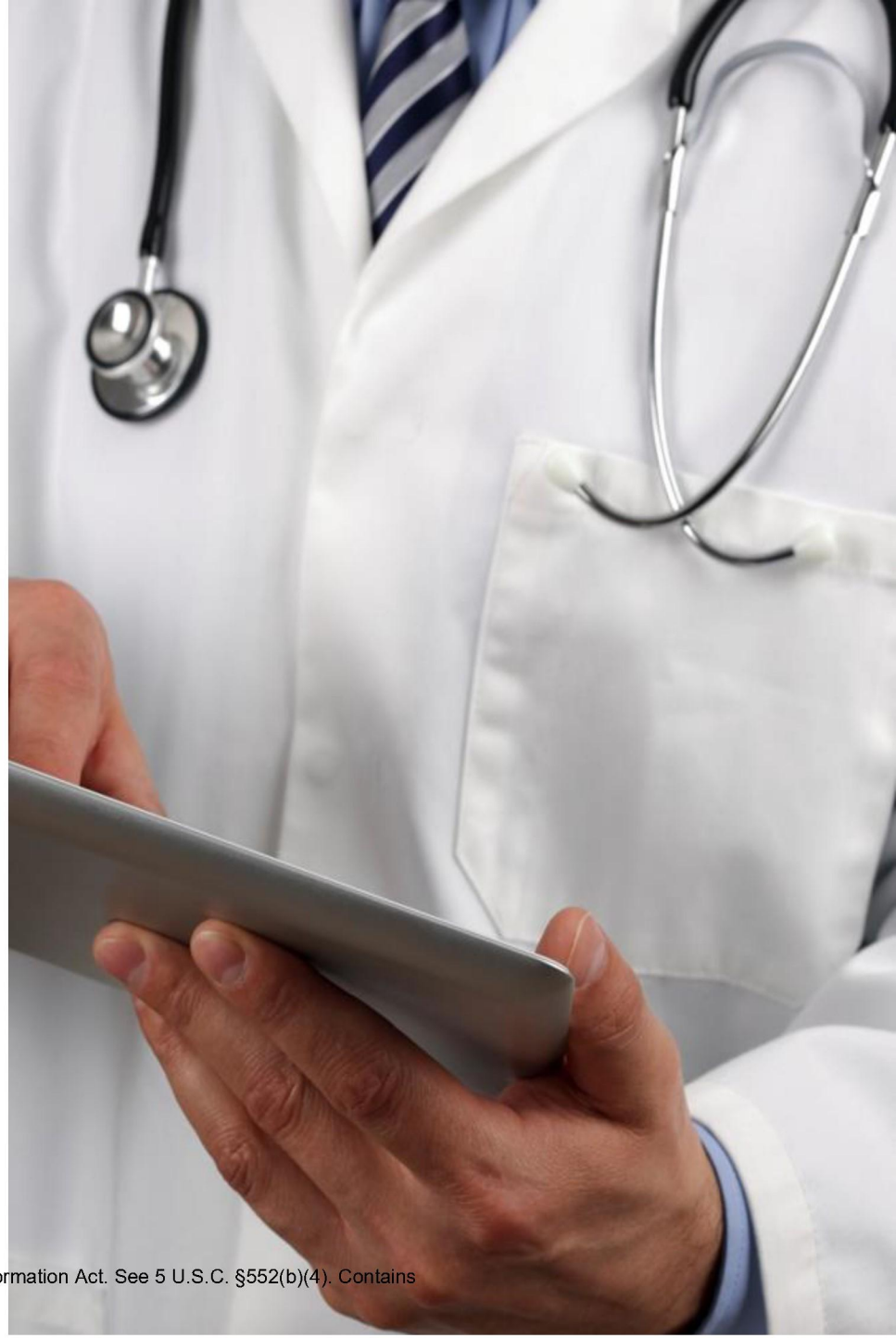
Patient has senile purpura of various sizes on both forearms and neck. Discussed avoidance of skin trauma, limiting sun exposure and use of sunscreen.

D69.2 Other nonthrombocytopenic purpura (senile purpura)

1 Berlin JM, Eisenberg DP, Berlin MB, Sarro RA, Leeman DR, Fein H. J Drugs Dermatol. A randomized, placebo-controlled, double-blind study to evaluate the efficacy of a citrus bioflavanoid blend in the treatment of senile purpura. 2011 Jul;10(7):718-22. https://www.ncbi.nlm.nih.gov/pubmed/21720653. Accessed December 14,2020.

Documenting and Coding

Aortic Aneurysms



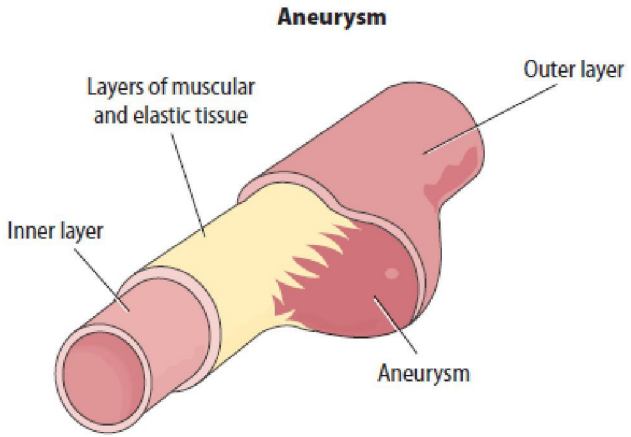
Coding Aortic Aneurysms

I71 Aortic aneurysm and dissection

EXCLUDES 1: *aortic ectasia (I77.81-)*
syphilitic aortic aneurysm (A52.Ø1)
traumatic aortic aneurysm (S25.Ø9, S35.Ø9)

I71.Ø Dissection of aortic

I71.ØØ	Dissection of unspecified site of aorta	HCC
I71.Ø1	Dissection of thoracic aorta	HCC
I71.Ø2	Dissection of abdominal aorta	HCC
I71.Ø3	Dissection of thoracoabdominal aorta	HCC
I71.1	Thoracic aortic aneurysm, ruptured	HCC
I71.2	Thoracic aortic aneurysm, without rupture	HCC
I71.3	Abdominal aortic aneurysm, ruptured	HCC
I71.4	Abdominal aortic aneurysm, without rupture	HCC
I71.5	Thoracoabdominal aortic aneurysm, ruptured	HCC
I71.6	Thoracoabdominal aortic aneurysm, without rupture	HCC
I71.8	Aortic aneurysm of unspecified site, ruptured	HCC
	Rupture of aorta NOS	
I71.9	Aortic aneurysm of unspecified site, without rupture	HCC
	Aneurysm of aorta	
	Dilatation of aorta	
	Hyaline necrosis of aorta	



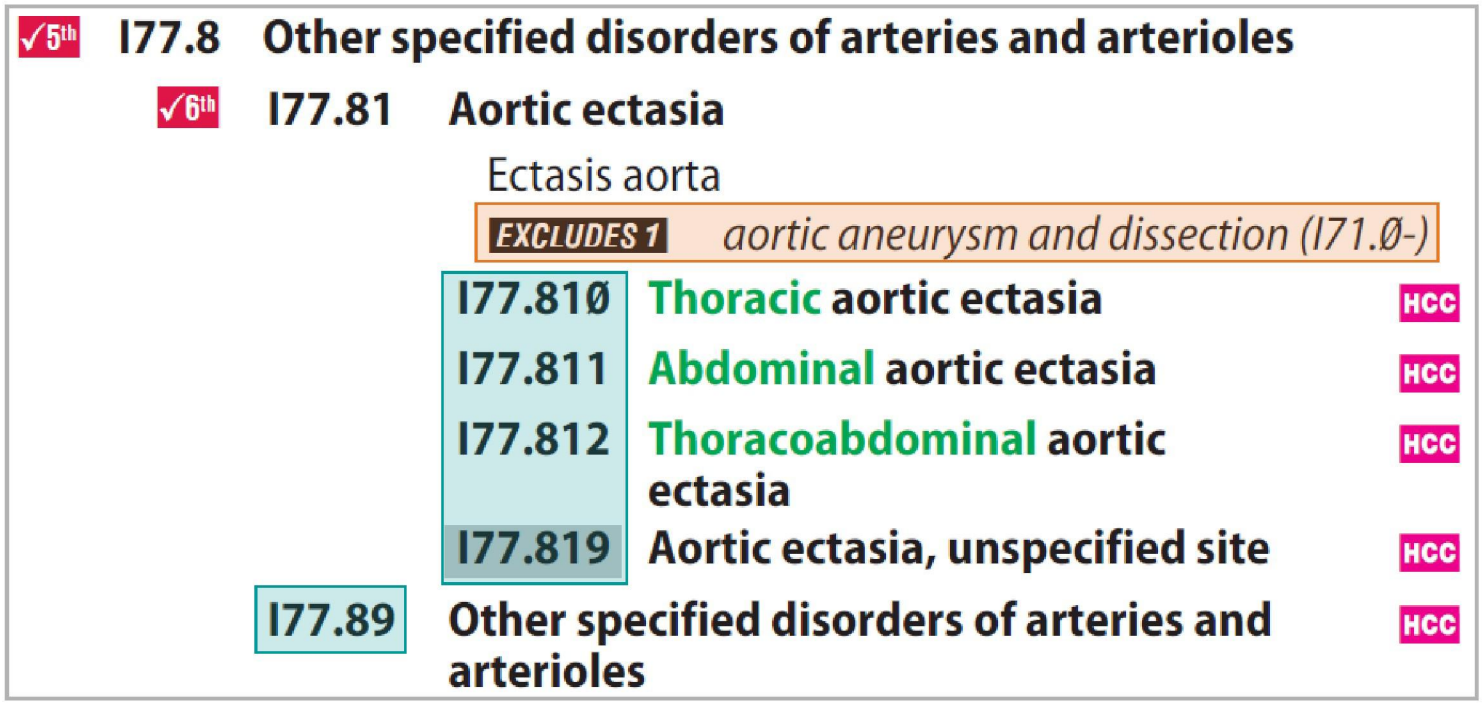
Note: Aneurysm of aorta should *not* be coded with aortic ectasia.

Unspecified Dx HCC CMS-HCC

Optum360 ICD-10-CM: Professional for Physicians 2021. Salt Lake City, UT; 2020.

Aortic Ectasia

Aortic ectasia describes aortic vessel dilation (less than 3 cm in diameter) in the absence of aneurysm formation.[1]



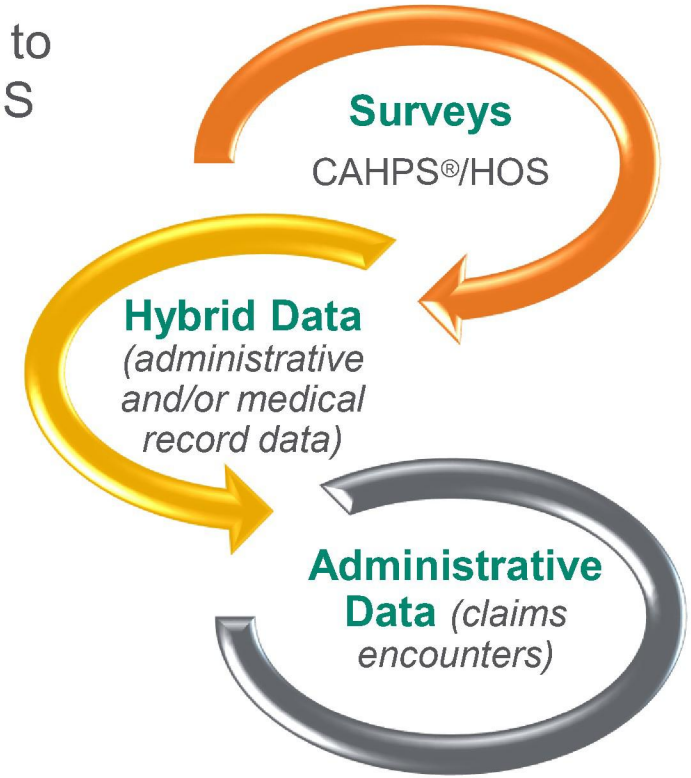
Optum360 ICD-10-CM: Professional for Physicians 2021. Salt Lake City, UT; 2020.

1. *Optum360 Coder's Desk Reference for ICD-10-CM Diagnoses 2021*. Salt Lake City, UT; 2020.

Quality Reporting

HEDIS®: Data Sources & Domains of Care

Data sources to capture HEDIS measures:



HEDIS 2021 contains 91 measures across 6 domains of care:

- Effectiveness of Care
- Access/Availability of Care
- Experience of Care
- Utilization and Risk Adjusted Utilization
- Health Plan Descriptive Information
- Measures Collected Using Electronic Clinical Data Systems

- For additional information about HEDIS, please visit the National Committee for Quality Assurance (NCQA) website at www.ncqa.org
- For additional information about the Medicare Advantage Five-Star Quality Rating System, please refer to: http://go.cms.gov/partcanddstarratings

Statin Therapy for Patients
With Cardiovascular Disease (SPC)

Metric

- ✓ The percentage of males 21–75 years of age and females 40–75 years of age during the measurement year, who were identified as having clinical atherosclerotic cardiovascular disease (ASCVD) and:
  - **Received Statin Therapy.** Members who were dispensed at least one high or moderate-intensity statin medication during the measurement year.
  - **Statin Adherence 80%.** Members who remained on a high or moderate-intensity statin medication for at least 80% of the treatment period.

Documentation

- ✓ Provider should document prescription for a high-intensity or moderate-intensity statin medication
  - Encourage patients to remain on statin medication for the treatment period

Data Source: Claims

Statin Therapy for Patients
With Diabetes (SPD)

Metric

- ✓ The percentage of members 40–75 years of age during the measurement year with diabetes who do not have clinical atherosclerotic cardiovascular disease (ASCVD) who met the following criteria.
  - **Received Statin Therapy.** Members who were dispensed at least one high or moderate-intensity statin medication during the measurement year.
  - **Statin Adherence 80%.** Members who remained on a high or moderate-intensity statin medication for at least 80% of the treatment period.

Documentation

- ✓ Provider should document prescription for a high-intensity or moderate-intensity statin medication
  - Encourage patients to remain on statin medication for the treatment period

Data Source: Claims

Intensive Behavioral Therapy (IBT) for CVD

The Centers for Medicare and Medicaid Services covers an annual IBT for Cardiovascular Disease (CVD) with HCPCS code G0446* as long as:[1]

(1) eleven months or more have elapsed from the IBT for CVD
(2) the beneficiary is competent at the time of the visit, and
(3) the visit occurs in an outpatient setting by a primary care provider (PCP)

- The IBT for CVD also MUST include three components:[1]
  - Encouraging aspirin use for the primary prevention of cardiovascular disease for men aged 45 through 79 years and women aged 55 through 79 years, whenever appropriate
  - Screening for high blood pressure in adults aged 18 and older
  - Intensive behavioral counseling to promote a healthy diet for adults with hyperlipidemia, hypertension, advancing age and other known risk factors for cardiovascular and diet-related chronic diseases

*Please check with your MA plan for coverage details for this services as coverage may vary by plan

1 "Cardiovascular Disease Services." Medicare Learning Network. Centers for Medicare & Medicaid Services, Revised March 2012. Web. 6 Dec. 2018. https://www.cms.gov/Outreach-and-Education/Medicare-Learning-Network-MLN/MLNMattersArticles/downloads/MM7636.pdf

Progress Notes

Documentation Considerations and Chart Mechanics

Documentation: The Progress Note

Clinical conditions:

Document to the highest level of specificity for each diagnosis.

Document all known conditions from:

- *Consultant or specialist*
- *Lab values*
- *Radiology results*
- *Discharge summaries*[1]

Document all chronic conditions at least once per year.[1]

Document any problem pertinent conditions that affect care, treatment or management of the patient on each date of service.[2]

1. Centers for Medicare & Medicaid Services. 2008 Risk Adjustment Data Technical Assistance For Medicare Advantage Organizations Participant Guide. Palmetto GBA https://www.csscoperations.com/Internet/Cssc3.Nsf/files/participant-guide-publish_052909.pdf/$File/participant-guide-publish_052909.pdf. Published 2008. Accessed December 3, 2020.

2. ICD-10-CM FY 2021 Guidelines and Code Classification. Centers for Disease Control and Prevention. https://www.cdc.gov/nchs/icd/icd10cm.htm. Published October 1, 2020. Accessed December 3, 2020.

Supporting Conditions with M.E.A.T.

In addition to documenting the condition(s), it is recommended to include evaluative documentation such as M.E.A.T. [1]

Monitor *(or)*
Signs & symptoms
Disease progression and/or status

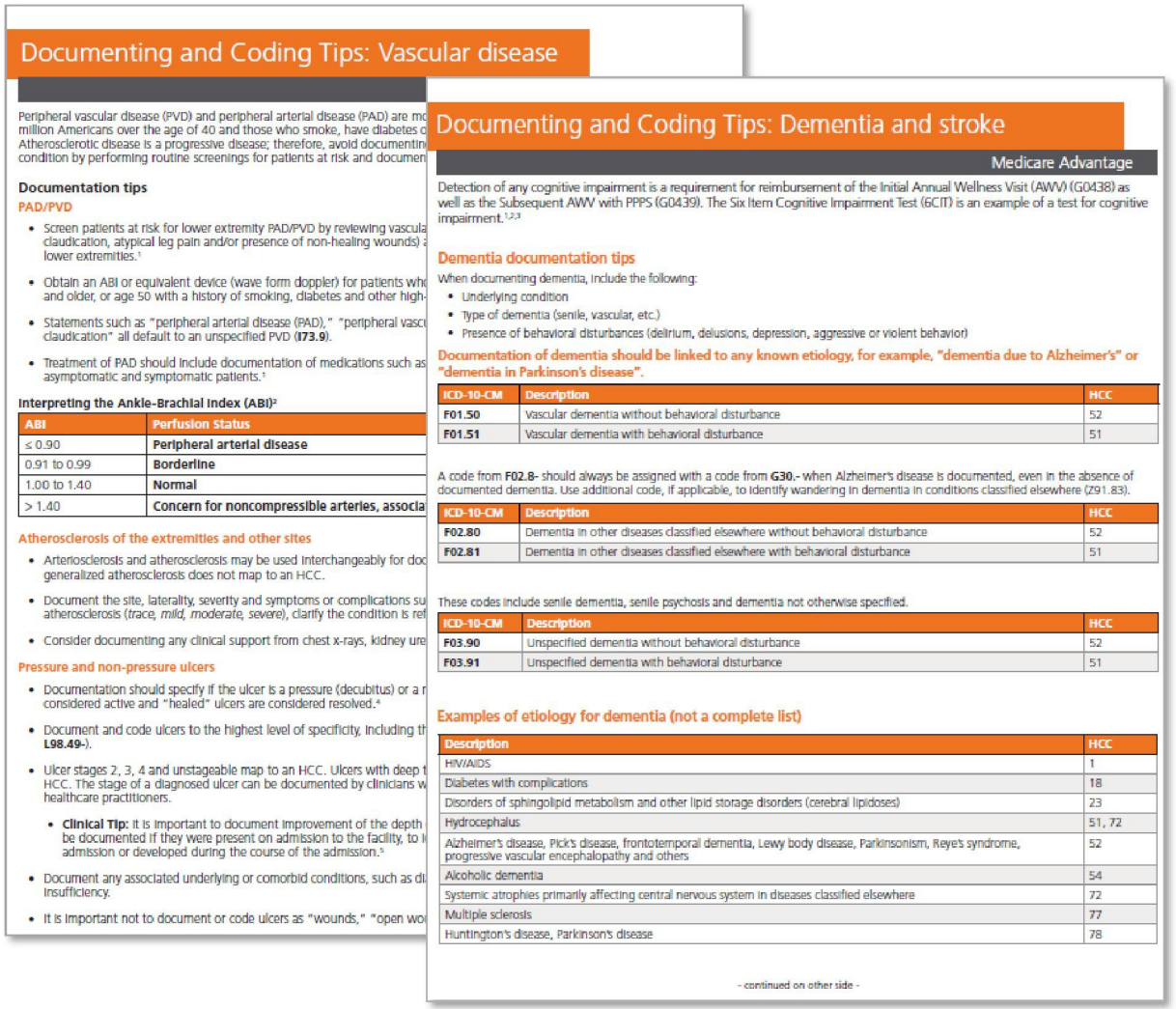
Evaluate *(or)*
Response to treatment(s)
Test results

Assess/Address *(or)*
Counsel and/or discussion
Records review
Refer to specialist

Treat *(or)*
Stop or start medications
Diagnostic and/or therapeutic plan
Patient education and/or follow-up schedule

1. CMS Medicare Learning Network®. Evaluation and Management Services Guide. U.S. Department of Health & Human Services (HHS). https://www.cms.gov/Outreach-and-Education/Medicare-Learning-Network-MLN/MLNProducts/Downloads/eval-mgmt-serv-guide-ICN006764.pdf Published February 2021. Accessed April 23, 2021.

Documentation and Coding Tools



Documenting and Coding Tips: Vascular disease

Peripheral vascular disease (PVD) and peripheral arterial disease (PAD) are mo
million Americans over the age of 40 and those who smoke, have diabetes o
Atherosclerotic disease is a progressive disease; therefore, avoid documentin
condition by performing routine screenings for patients at risk and documen

Documentation tips

PAD/PVD

- Screen patients at risk for lower extremity PAD/PVD by reviewing vascula
claudication, atypical leg pain and/or presence of non-healing wounds) a
lower extremities.[1]
- Obtain an ABI or equivalent device (wave form doppler) for patients wh
and older, or age 50 with a history of smoking, diabetes and other high-
- Statements such as "peripheral arterial disease (PAD)," "peripheral vasc
claudication" all default to an unspecified PVD (**I73.9**).
- Treatment of PAD should include documentation of medications such as
asymptomatic and symptomatic patients.[1]

Interpreting the Ankle-Brachial Index (ABI)[2]

ABI	Perfusion Status
≤ 0.90	**Peripheral arterial disease**
0.91 to 0.99	**Borderline**
1.00 to 1.40	**Normal**
> 1.40	**Concern for noncompressible arteries, associa**

Atherosclerosis of the extremities and other sites

- Arteriosclerosis and atherosclerosis may be used interchangeably for doc
generalized atherosclerosis does not map to an HCC.
- Document the site, laterality, severity and symptoms or complications su
atherosclerosis (*trace, mild, moderate, severe*), clarify the condition is ref
- Consider documenting any clinical support from chest x-rays, kidney ure

Pressure and non-pressure ulcers

- Documentation should specify if the ulcer is a pressure (decubitus) or a r
considered active and "healed" ulcers are considered resolved.[4]
- Document and code ulcers to the highest level of specificity, including th
L98.49-).
- Ulcer stages 2, 3, 4 and unstageable map to an HCC. Ulcers with deep t
HCC. The stage of a diagnosed ulcer can be documented by clinicians w
healthcare practitioners.
  - **Clinical Tip:** It is important to document improvement of the depth
be documented if they were present on admission to the facility, to l
admission or developed during the course of the admission.[5]
- Document any associated underlying or comorbid conditions, such as di
insufficiency.
- It is important not to document or code ulcers as "wounds," "open wo

Documenting and Coding Tips: Dementia and stroke

Medicare Advantage

Detection of any cognitive impairment is a requirement for reimbursement of the Initial Annual Wellness Visit (AWV) (G0438) as well as the Subsequent AWV with PPPS (G0439). The Six Item Cognitive Impairment Test (6CIT) is an example of a test for cognitive impairment.[1,2,3]

Dementia documentation tips

When documenting dementia, include the following:

- Underlying condition
- Type of dementia (senile, vascular, etc.)
- Presence of behavioral disturbances (delirium, delusions, depression, aggressive or violent behavior)

Documentation of dementia should be linked to any known etiology, for example, "dementia due to Alzheimer's" or "dementia in Parkinson's disease".

ICD-10-CM	Description	HCC
F01.50	Vascular dementia without behavioral disturbance	52
F01.51	Vascular dementia with behavioral disturbance	51

A code from **F02.8-** should always be assigned with a code from **G30.-** when Alzheimer's disease is documented, even in the absence of documented dementia. Use additional code, if applicable, to identify wandering in dementia in conditions classified elsewhere (Z91.83).

ICD-10-CM	Description	HCC
F02.80	Dementia in other diseases classified elsewhere without behavioral disturbance	52
F02.81	Dementia in other diseases classified elsewhere with behavioral disturbance	51

These codes include senile dementia, senile psychosis and dementia not otherwise specified.

ICD-10-CM	Description	HCC
F03.90	Unspecified dementia without behavioral disturbance	52
F03.91	Unspecified dementia with behavioral disturbance	51

Examples of etiology for dementia (not a complete list)

Description	HCC
HIV/AIDS	1
Diabetes with complications	18
Disorders of sphingolipid metabolism and other lipid storage disorders (cerebral lipidoses)	23
Hydrocephalus	51, 72
Alzheimer's disease, Pick's disease, frontotemporal dementia, Lewy body disease, Parkinsonism, Reye's syndrome, progressive vascular encephalopathy and others	52
Alcoholic dementia	54
Systemic atrophies primarily affecting central nervous system in diseases classified elsewhere	72
Multiple sclerosis	77
Huntington's disease, Parkinson's disease	78

- continued on other side -

We would like to…

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Documenting and Coding Tips: Vascular disease

Medicare Advantage

Peripheral vascular disease (PVD) and peripheral arterial disease (PAD) are more common as people get older. It affects about 6.5 million Americans over the age of 40 and those who smoke, have diabetes or other comorbid conditions are at a higher risk.[1] Atherosclerotic disease is a progressive disease; therefore, avoid documenting "history of PVD." Alternatively, consider assessing the condition by performing routine screenings for patients at risk and document and code PAD/PVD when clinically relevant.

Documentation tips

PAD/PVD

- Screen patients at risk for lower extremity PAD/PVD by reviewing vascular signs and symptoms (example, walking impairment, claudication, atypical leg pain and/or presence of non-healing wounds) and physical examination, evaluation and inspection of lower extremities.[1]
- Obtain an ABI or equivalent device (wave form doppler) for patients who screen positive and for asymptomatic patients age 65 and older, or age 50 with a history of smoking, diabetes and other high-risk comorbid conditions.[1]
- Statements such as "peripheral arterial disease (PAD)," "peripheral vascular disease (PVD)," "spasm of artery" and "intermittent claudication" all default to an unspecified PVD (**I73.9**).
- Treatment of PAD should include documentation of medications such as statin therapy, aspirin or clopidogrel for both asymptomatic and symptomatic patients.[1]

Interpreting the Ankle-Brachial Index (ABI)[2]

ABI	Perfusion Status
≤ 0.90	**Peripheral arterial disease**
0.91 to 0.99	**Borderline**
1.00 to 1.40	**Normal**
> 1.40	**Concern for noncompressible arteries, association with diabetes mellitus**

Atherosclerosis of the extremities and other sites

- Arteriosclerosis and atherosclerosis may be used interchangeably for documentation and coding purposes (I70.-). Unspecified or generalized atherosclerosis does not map to an HCC.
- Document the site, laterality, severity and symptoms or complications such as claudication, rest pain and ulcers. For aortic atherosclerosis (*trace, mild, moderate, severe*), clarify the condition is referring to the vessel itself and/or the aortic valve.[3]
- Consider documenting any clinical support from chest x-rays, kidney ureter bladder (KUBs), ultrasound, ABI and/or doppler units.

Pressure and non-pressure ulcers

- Documentation should specify if the ulcer is a pressure (decubitus) or a non-pressure ulcer. Documentation of "healing" ulcers are considered active and "healed" ulcers are considered resolved.[4]
- Document and code ulcers to the highest level of specificity, including the type, site, laterality and severity (stage) (L89.-, **L97.-**, **L98.49-**).
- Ulcer stages 2, 3, 4 and unstageable map to an HCC. Ulcers with deep tissue damage and unspecified stage do not map to an HCC. The stage of a diagnosed ulcer can be documented by clinicians who are not the patient's provider, including other qualified healthcare practitioners.
    - **Clinical Tip:** It is important to document improvement of the depth of a pressure ulcer (reverse staging). Pressure ulcers must be documented if they were present on admission to the facility, to identify whether the pressure ulcer developed prior to admission or developed during the course of the admission.[5]
- Document any associated underlying or comorbid conditions, such as diabetes mellitus, hypertension, hyperlipidemia and renal insufficiency.
- It is important not to document or code ulcers as "wounds," "open wounds" or "lesions."

Diabetic peripheral angiopathy (PAD/PVD) and other circulatory complications

- If the patient has atherosclerosis of native arteries of extremities (**I70.2-**) and diabetes (**E11.51**), then provide details such as laterality, location, atherosclerotic symptoms such as claudication, rest pain and ulcers, as well as diabetic manifestations, if clinically relevant.
- Diabetes with other circulatory complications (**E11.59**), hypertensive disorders (I10 – I16.-), angina pectoris (**I20.-**), etc., requires a documented causal relationship.

Other vascular diseases

Findings may be incidentally noted on diagnostic reports but should be documented if clinically significant or affects the patients' care, treatment or management, such as atherosclerosis of the aorta (**I70.0**), abdominal aortic aneurysm, without rupture (**I71.4**), stricture of artery (tortuous aorta) (**I77.1**) and aortic ectasia (**I77.8**).

The following references were used in the creation of this document:

Optum360 ICD-10-CM: Professional for Physicians 2021. Salt Lake City, UT: 2020.

1. Peripheral Arterial Disease (PAD) Fact Sheet. Centers for Disease Control and Prevention. cdc.gov/dhdsp/data_statistics/fact_sheets/fs_pad.htm. Published June 16, 2016. Accessed September 21, 2020.
2. Hennion D, Siano K. Diagnosis and Treatment of Peripheral Arterial Disease. aafp.org/afp/2013/0901/p306.html. Published 2020. Accessed September 21, 2020.
3. AHA Coding Clinic for ICD-10-CM. Aortic Stenosis. Vol 5, Q4, 1988.
4. *Optum360. Coders' Desk Reference for Diagnoses 2021.* Salt Lake City, UT: Optum360; 20209
5. Cartwright DJ. ICD-10-CM Lessons Learned: Examining Controversies in Pressure Ulcer Coding Post-Implementation. Today's Wound Clinic. todayswoundclinic.com/articles/icd-10-cm-lessons-learned-examining-controversies-pressure-ulcer-coding-post-implementation. Published February 10, 2016. Accessed January 22, 2020.

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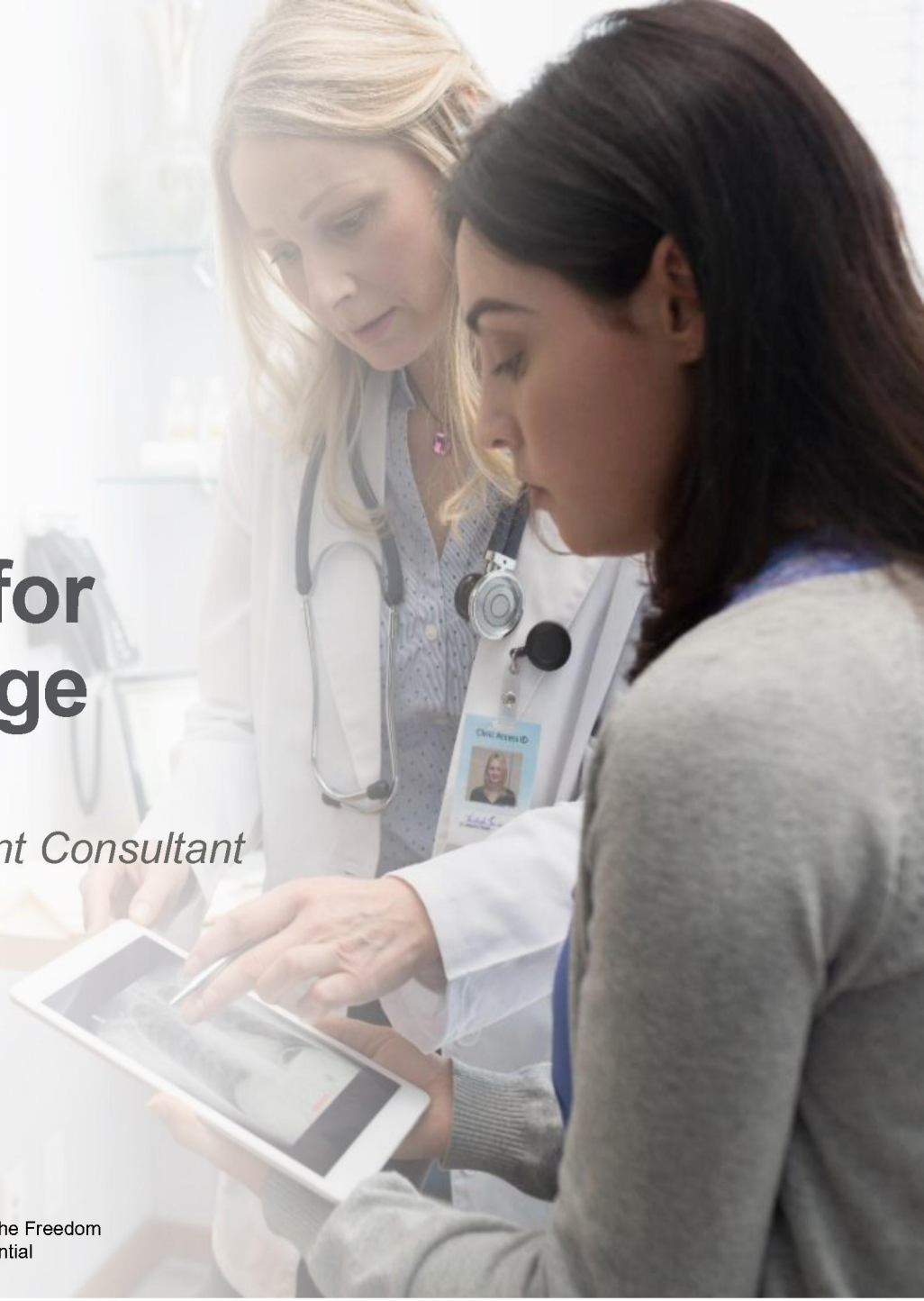
- Optum Approved Trainer
- AHIMA
  - AHIMA-Approved ICD-10-CM Trainer
- AAPC
  - AAPC Approved Instructor

Coding COPD, Arrhythmia and Vascular Disease for Medicare Advantage

Name and Credentials
Sr. Provider Training and Development Consultant



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There is **1 requirement** for the issuance of AAPC CEUs:

- **Full Attendance.** If the session is for 60 minutes, each participant is encouraged to be on the WebEx from the beginning to the end. In the event that the participant is late, full attendance is defined as starting the session no later than 5 minutes from the beginning of the presentation and staying until the end or 55 minutes. Should a participant arrive later than 5 minutes from the beginning of the presentation, a CEU **will not be issued** and we suggest that you select another date for a complete session.
- At the end of the session, if more than one person is in a single location watching and listening to the presentation, then each person should type their own information into the WebEx chat box. Please type your name, credential and email address. You should not do this for someone else.
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- We conduct repeat presentations throughout the year. If you attended this same presentation title in 2021, you will not receive additional CEU credit.
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Bolding Legend

The bolding has been revised to reflect ICD-10-CM codes that map to the CMS-HCC risk adjustment model for Payment Year 2022.

Tools:

- Fully reportable codes that risk adjust are bolded in **Black**.
- Categories and subcategories where all the codes in the category or subcategory map to risk are bolded in **Black**.

Presentations:

- Fully reportable codes that risk adjust are bolded in **Black**.
- Categories and subcategories where all the codes in the category or subcategory map to risk are bolded in **Black**.
- Codes in images of the ICD-10-CM code book that risk adjust are boxed in Teal
- Codes marked with a ✦ directly after them represent new additions to the FY 2021 ICD-10-CM code classification.

MA Payment Guide for Out of Network Payments. CMS.gov. https://www.cms.gov/Medicare/Health-Plans/MedicareAdvtgSpecRateStats/Downloads/OONPayments.pdf. Published April 15, 2015. Accessed April 23, 2021.

Medicare risk adjustment model diagnosis codes. CMS.gov. https://www.cms.gov/Medicare/Health-Plans/MedicareAdvtgSpecRateStats/Risk-Adjustors. Accessed April 23, 2021.

Announcement of Calendar Year (CY) 2022 Medicare Advantage (MA) Capitation Rates and Part C and Part D Payment Policies. CMS.gov. https://www.cms.gov/files/document/2022-announcement.pdf. Published January 15, 2021. Accessed April 23, 2021.

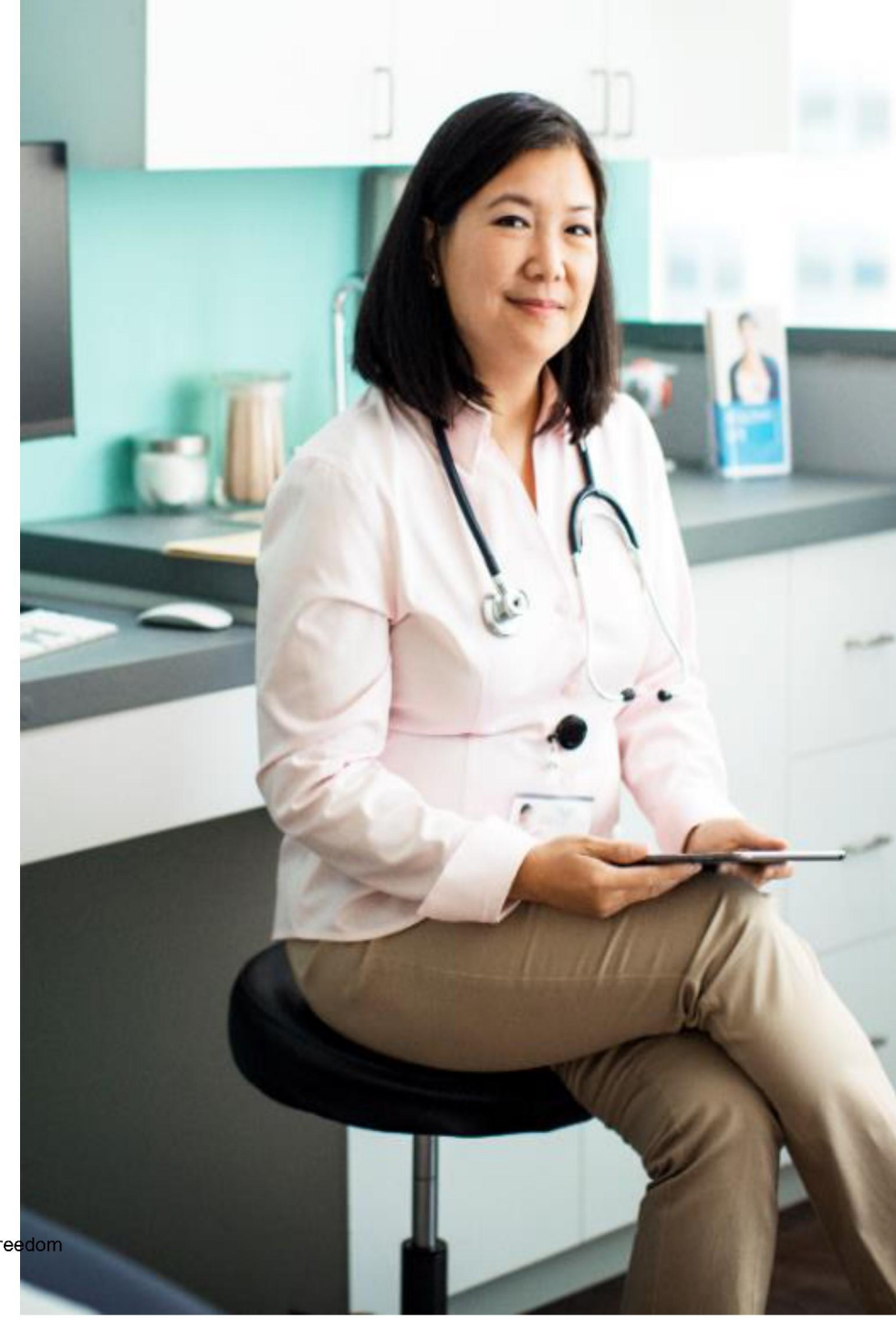
Agenda

At the end of this session participants will have a better understanding of:

- Medicare Advantage risk adjustment basics
- Improving documentation and coding accuracy for:
  - Chronic obstructive pulmonary disease (COPD)
    - Smoker's cough
  - Arrhythmias
  - Vascular disease
    - Peripheral arterial disease
    - Atherosclerosis of the extremities
- Quality reporting
- Documentation considerations and chart mechanics

Medicare Advantage (Part C)

Risk Adjustment Overview



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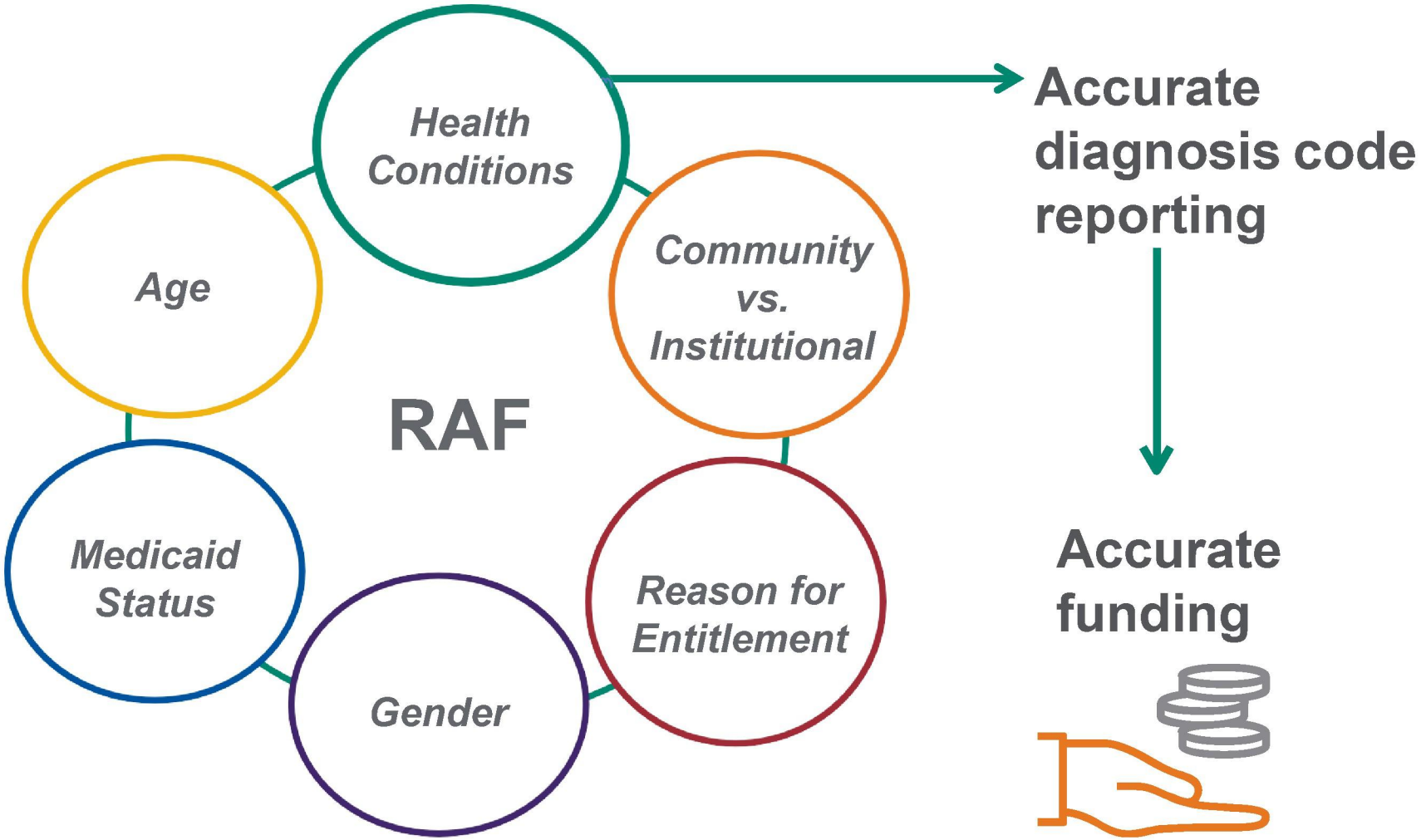
Risk Adjustment Factor

Each patient is assigned a Risk Adjustment Factor (RAF) score

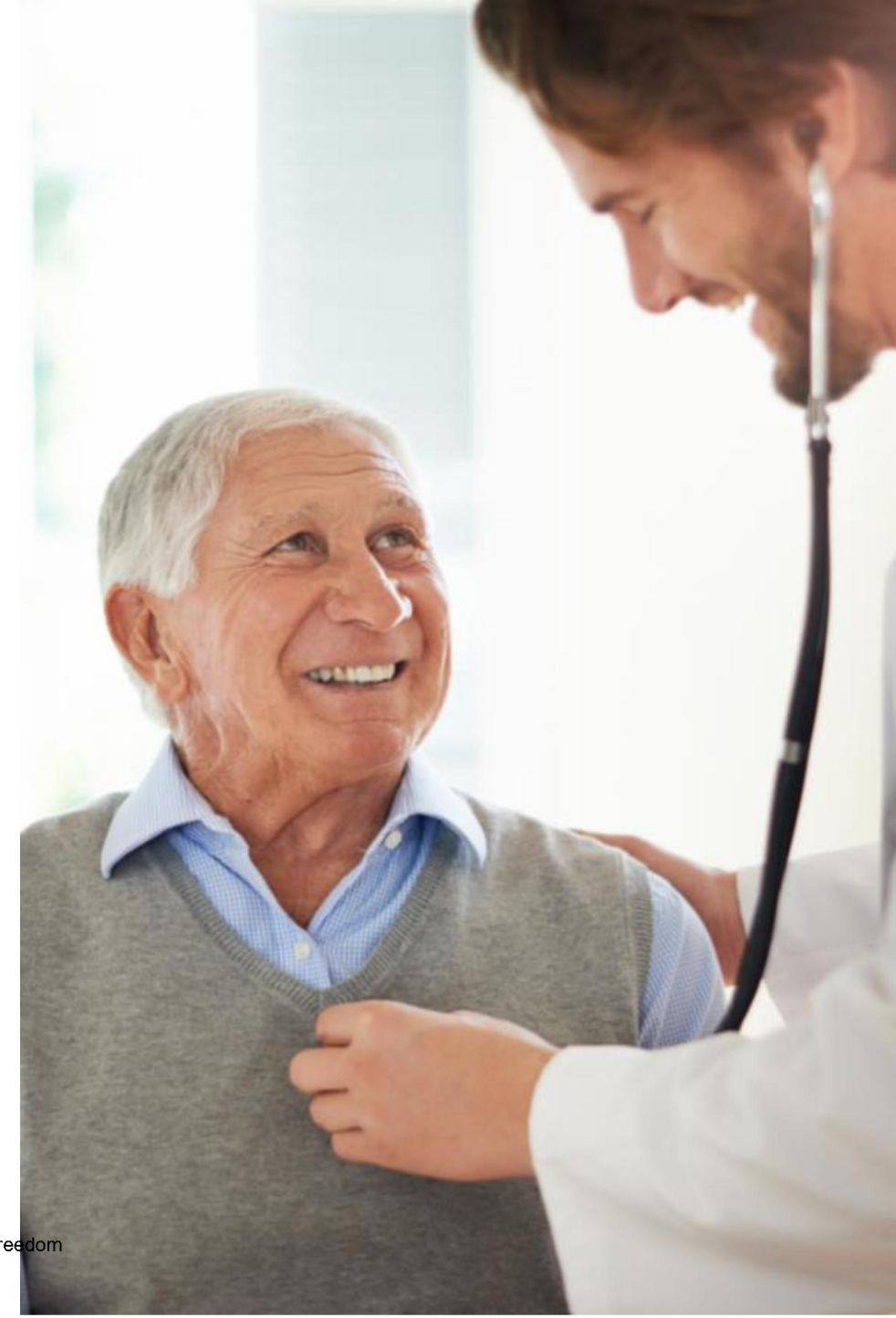
- **RAF is a numeric value assigned by CMS to identify the health status of a patient.**
  - The intent is to fund the program appropriately for the severity of illness for each enrollee.
- **RAF score is made up of the following criteria for each patient:**
  1. A demographic score based on age & sex
  2. Additional demographic risk factors are added for Medicaid status & if patient was eligible for Medicare due to a disability
  3. Additional score for the total of all chronic conditions and some disease interactions that are reported

Risk Adjustment Factor (RAF) Calculation



CMS. Module: Risk Adjustment 101 Participant Guide: 2013 National Technical Assistance. http://csscoperations.com/Internet/Cssc3.Nsf/files/2013_RA101ParticipantGuide_5CR_081513.pdf/$File/2013_RA101ParticipantGuide_5CR_081513.pdf . Published July 2013.

Chronic Obstructive Pulmonary Disease (COPD)



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True or False

When reporting either COPD or bronchiectasis, when a patient has an acute lower respiratory infection, we should also report the identified infection.

True or False

True.

Per the Tabular instructional note, "Code also to identify the infection".

J44.Ø Chronic obstructive pulmonary disease with (acute) lower respiratory infection HCC Q

Code also to identify the infection

AHA: 2019,1Q,35; 2017,4Q,96; 2017,1Q,24-25

TIP: Do not assign when only aspiration pneumonia is present. Aspiration pneumonia is not classified as a respiratory infection.

A "code also" note instructs that two codes may be required to fully describe a condition, but this note does not provide sequencing direction. The sequencing depends on the circumstances of the encounter.

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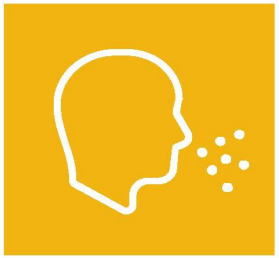
COPD With or Without Exacerbation

Chronic obstructive pulmonary disease (**J44.-**)

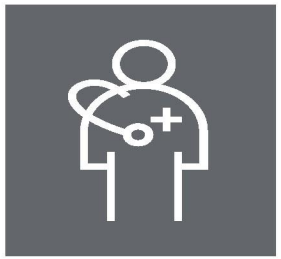
J44.- Necessitates specific documentation to indicate with or without acute exacerbation, or with lower respiratory infection



COPD with acute bronchitis

- **J44.0** Chronic obstructive pulmonary disease with (acute) lower respiratory infection
- J20.9 Acute bronchitis

Note: Code also to identify the infection



COPD with acute exacerbation

Documentation must support a decompensation of the COPD condition itself to support an acute exacerbation

- **J44.1** Chronic obstructive pulmonary disease with (acute) exacerbation

COPD with acute exacerbation triggered by an infection

If an infection is superimposed on the COPD condition with acute exacerbation, assign:

- **J44.1** Chronic obstructive pulmonary disease with (acute) exacerbation
- **J44.0** Chronic obstructive pulmonary disease with acute lower respiratory infection

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Additional COPD Codes

The following codes should be documented and coded if applicable:

- Hypoxemia (R09.02)
- Dependence on respirator [ventilator] status (**Z99.11**)
- Mechanical complication of respirator (**J95.850**)
- Dependence on supplemental oxygen (Z99.81)
  - Dependence on long-term oxygen
  - Code first the condition for which the patient is on oxygen (e.g. COPD)
- Ventilator associated pneumonia (**J95.851**)
- Tobacco use (Z72.0)
- Nicotine dependence, unspecified, uncomplicated (F17.-)
- Personal history of nicotine dependence (Z87.891)

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Improving Accuracy and Completeness
COPD

Assessment/Plan: Patient is here for an acute exacerbation of her COPD. She improved with Medrol Dose pack but is still wheezing. She may require more steroids. Prescription sent to patient's pharmacy. No indication for antibiotics at this time. Continue Symbicort and short acting bronchodilator inhalers.

- **J44.9** COPD

Rx sent to patient's pharmacy for Prednisone 20 MG tabs daily for 7 days #14. Given that patient is a type 2 diabetic, side effect of hyperglycemia for this medication was reviewed with patient. Increase blood sugar checks daily to ensure side effect is not interfering with patient's already poorly controlled levels.

Note: FH, SH, Exam and other parts of this progress note have been selectively left out.

Currently Coded:	Greater Specificity:
➢ COPD (**J44.9**)	➢ COPD with acute exacerbation (**J44.1**) ➢ Diabetes with hyperglycemia (**E11.65**)

Accurate documentation can assist in correct health status reporting, and assist the member in qualifying for additional quality programs.

Diagnoses Suggested by Diagnostic Studies

A note that just states an abnormal finding "noted" on a diagnostic study, such as…

- " ***COPD***, *noted on CXR"*
- "***Secondary Pulmonary Hypertension***, *noted on Echocardiogram"*
- ***Atherosclerosis of the Aorta***, *noted on CXR"*

-will NOT validate diagnosis codes

- **Abnormal test results – are not coded unless the provider has interpreted the tests and documents the significance of the abnormal test**
  - **The provider must document the "cognitive work" to support the diagnosis codes**

Consider

R93.8 Abnormal findings on diagnostic imaging of other specified body structures

R93.1 Abnormal findings on diagnostic imaging of heart and coronary circulation

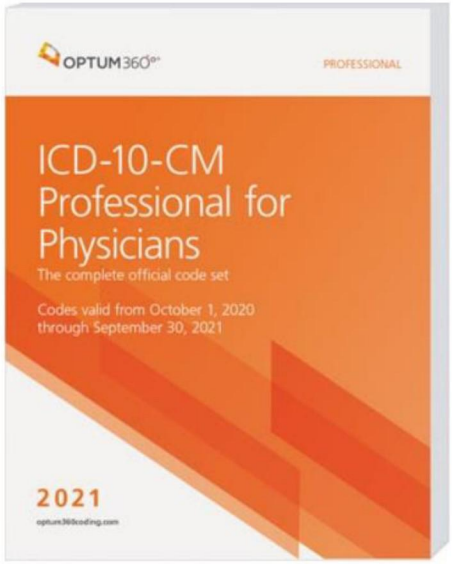
Documenting COPD

- COPD conditions that include the presence of the following should be documented:
  - Asthma *(identify type of asthma when present)*
  - Chronic bronchitis
    - *Obstructive*
    - *With airway obstruction*
    - *Emphysematous*
- Document the following when present:
  - Respiratory infections *(identify infectious agent if known)*
  - Acute exacerbations if any
  - Tobacco
    - *Use*
    - *Exposure to*
    - *Dependence*

Coding Scenario: COPD

Using the ICD-10-CM code book, lets discover looking up the following to identify proper code selection(s):

- Chronic obstructive asthma

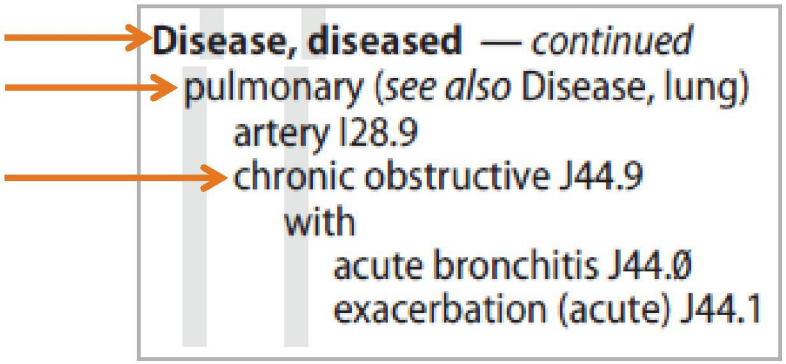


Optum360 ICD-10-CM: Professional for Physicians 2021. Salt Lake City, UT; 2020.

Coding Scenario Look Up: ICD-10-CM Index

Chronic obstructive asthma

Step 1: Look up term in Alphabetic Index:

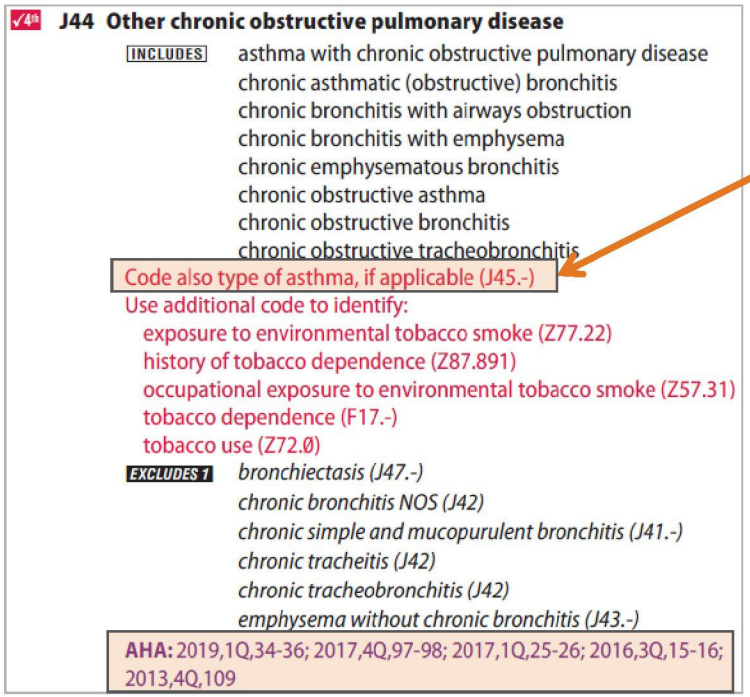


Optum360 ICD-10-CM: Professional for Physicians 2021. Salt Lake City, UT; 2020.

Coding Scenario Look Up: Tabular

Chronic obstructive asthma

Step 2: Verify code in Tabular



J44 Other chronic obstructive pulmonary disease

INCLUDES asthma with chronic obstructive pulmonary disease
chronic asthmatic (obstructive) bronchitis
chronic bronchitis with airways obstruction
chronic bronchitis with emphysema
chronic emphysematous bronchitis
chronic obstructive asthma
chronic obstructive bronchitis
chronic obstructive tracheobronchitis

Code also type of asthma, if applicable (J45.-)

Use additional code to identify:
exposure to environmental tobacco smoke (Z77.22)
history of tobacco dependence (Z87.891)
occupational exposure to environmental tobacco smoke (Z57.31)
tobacco dependence (F17.-)
tobacco use (Z72.0)

EXCLUDES 1 *bronchiectasis (J47.-)*
chronic bronchitis NOS (J42)
chronic simple and mucopurulent bronchitis (J41.-)
chronic tracheitis (J42)
chronic tracheobronchitis (J42)
emphysema without chronic bronchitis (J43.-)

AHA: 2019,1Q,34-36; 2017,4Q,97-98; 2017,1Q,25-26; 2016,3Q,15-16; 2013,4Q,109

J44.9 Chronic obstructive pulmonary disease, unspecified HCC Q

Chronic obstructive airway disease NOS
Chronic obstructive lung disease NOS

EXCLUDES 2 *lung diseases due to external agents (J60-J70)*

AHA: 2019,1Q,36; 2017,4Q,96-97; 2016,1Q,36; 2014,4Q,21; 2013,4Q,109

HCC CMS-HCC Q QPP

Code Assignment: **J44.9**

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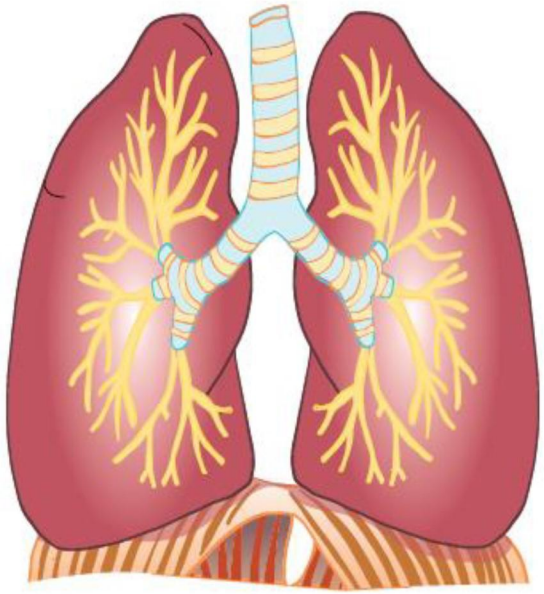
Smoker's Cough

- If the documentation indicates that the patient has "smoker's cough", the ICD-10-CM index directs us to use **J41.0**, Simple chronic bronchitis.

Cough (affected) (chronic) (epidemic) (nervous) RØ5
with hemorrhage — *see* Hemoptysis
bronchial RØ5
with grippe or influenza — *see* Influenza, with, respiratory manifestations NEC
functional F45.8
hysterical F45.8
laryngeal, spasmodic RØ5
psychogenic F45.8
smokers' J41.Ø



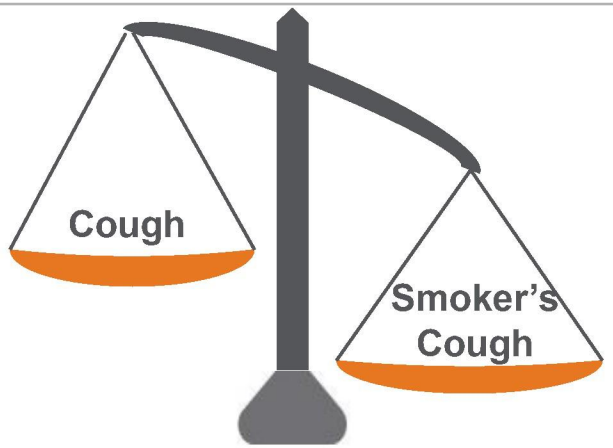
Optum360 ICD-10-CM: Professional for Physicians 2021. Salt Lake City, UT; 2020.

Improving Accuracy and Completeness

Smokers' Cough

Assessment/Plan: 65-year-old male patient presents today with a follow up on medications. Just had multiple labs done, which are all great except low vitamin D, so has been placed on high dose. Stomach normal, no chest pain. Trazodone works well for insomnia. Tobacco dependence with smoker's cough during the night, discussed various cessation strategies.

- E55.9 Vitamin-D deficiency, unspecified
- R05 Cough
- F17.210 Nicotine dependence, cigarettes, uncomplicated
- G47.00 Insomnia, unspecified

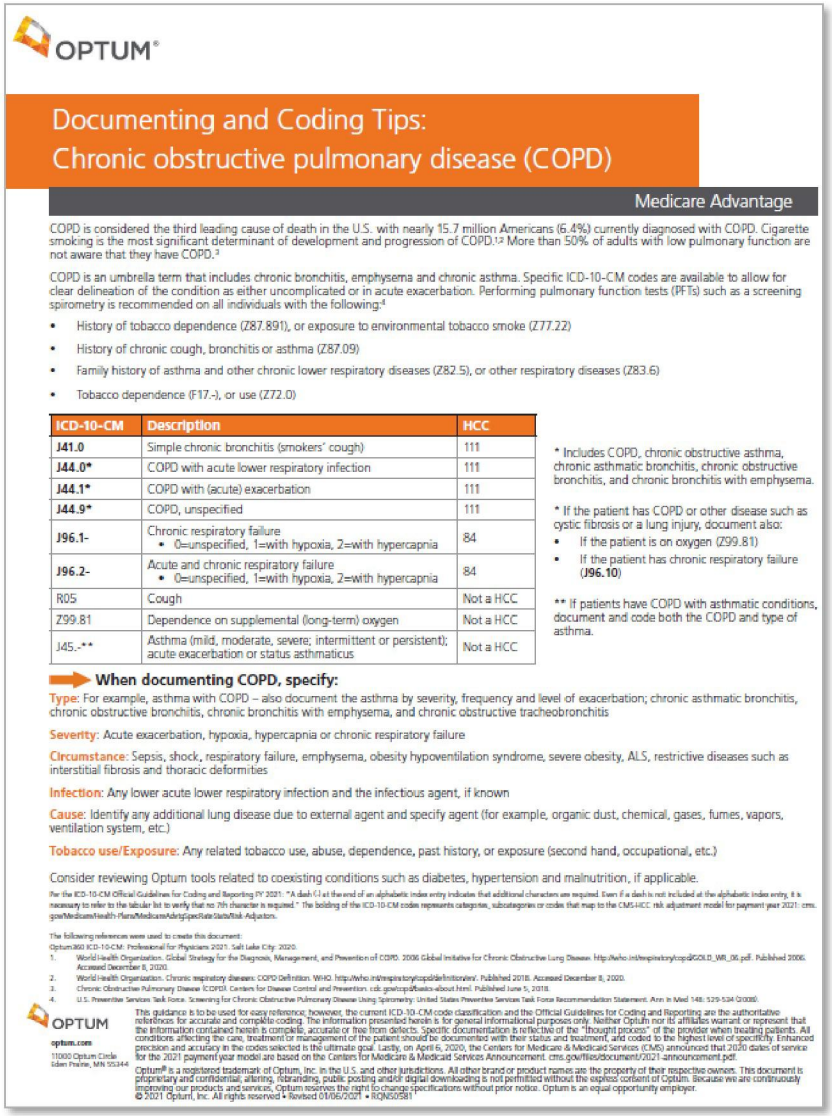


Greater Specificity:

- Vitamin D deficiency, unspecified (E55.9)
- Smoker's cough (**J41.0**)
  - *Should be defined in documentation*
- Nicotine dependence, cigarettes, with unspecified nicotine-induced disorders (F17.219)
- Insomnia, unspecified (G47.00)

Accurate documentation can assist in correct health status reporting, and assist the member in qualifying for additional quality programs.

Documentation and Coding Tool



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Documenting and Coding Tips: Chronic obstructive pulmonary disease (COPD)

Medicare Advantage

COPD is considered the third leading cause of death in the U.S. with nearly 15.7 million Americans (6.4%) currently diagnosed with COPD. Cigarette smoking is the most significant determinant of development and progression of COPD.[1,2] More than 50% of adults with low pulmonary function are not aware that they have COPD.[3]

COPD is an umbrella term that includes chronic bronchitis, emphysema and chronic asthma. Specific ICD-10-CM codes are available to allow for clear delineation of the condition as either uncomplicated or in acute exacerbation. Performing pulmonary function tests (PFTs) such as a screening spirometry is recommended on all individuals with the following:[4]

- History of tobacco dependence (Z87.891), or exposure to environmental tobacco smoke (Z77.22)
- History of chronic cough, bronchitis or asthma (Z87.09)
- Family history of asthma and other chronic lower respiratory diseases (Z82.5), or other respiratory diseases (Z83.6)
- Tobacco dependence (F17.-), or use (Z72.0)

ICD-10-CM	Description	HCC
J41.0	Simple chronic bronchitis (smokers' cough)	111
J44.0*	COPD with acute lower respiratory infection	111
J44.1*	COPD with (acute) exacerbation	111
J44.9*	COPD, unspecified	111
J96.1-	Chronic respiratory failure • 0=unspecified, 1=with hypoxia, 2=with hypercapnia	84
J96.2-	Acute and chronic respiratory failure • 0=unspecified, 1=with hypoxia, 2=with hypercapnia	84
R05	Cough	Not a HCC
Z99.81	Dependence on supplemental (long-term) oxygen	Not a HCC
J45.-**	Asthma (mild, moderate, severe; intermittent or persistent); acute exacerbation or status asthmaticus	Not a HCC

* Includes COPD, chronic obstructive asthma, chronic asthmatic bronchitis, chronic obstructive bronchitis, and chronic bronchitis with emphysema.

* If the patient has COPD or other disease such as cystic fibrosis or a lung injury, document also:
- If the patient is on oxygen (Z99.81)
- If the patient has chronic respiratory failure (**J96.10**)

** If patients have COPD with asthmatic conditions, document and code both the COPD and type of asthma.

When documenting COPD, specify:

Type: For example, asthma with COPD – also document the asthma by severity, frequency and level of exacerbation; chronic asthmatic bronchitis, chronic obstructive bronchitis, chronic bronchitis with emphysema, and chronic obstructive tracheobronchitis

Severity: Acute exacerbation, hypoxia, hypercapnia or chronic respiratory failure

Circumstance: Sepsis, shock, respiratory failure, emphysema, obesity hypoventilation syndrome, severe obesity, ALS, restrictive diseases such as interstitial fibrosis and thoracic deformities

Infection: Any lower acute lower respiratory infection and the infectious agent, if known

Cause: Identify any additional lung disease due to external agent and specify agent (for example, organic dust, chemical, gases, fumes, vapors, ventilation system, etc.)

Tobacco use/Exposure: Any related tobacco use, abuse, dependence, past history, or exposure (second hand, occupational, etc.)

Consider reviewing Optum tools related to coexisting conditions such as diabetes, hypertension and malnutrition, if applicable.

Per the ICD-10-CM Official Guidelines for Coding and Reporting FY 2021: "A dash (-) at the end of an alphabetic index entry indicates that additional characters are required. Even if a dash is not included at the alphabetic index entry, it is necessary to refer to the tabular list to verify that no 7th character is required." The bolding of the ICD-10-CM codes represents categories, subcategories or codes that map to the CMS-HCC risk adjustment model for payment year 2021: cms.gov/Medicare/Health-Plans/MedicareAdvtgSpecRateStats/Risk-Adjustors.

The following references were used to create this document:
Optum360 ICD-10-CM: Professional for Physicians 2021. Salt Lake City: 2020.
1. World Health Organization. Global Strategy for the Diagnosis, Management, and Prevention of COPD. 2006 Global Initiative for Chronic Obstructive Lung Disease. http://who.int/respiratory/copd/GOLD_WR_06.pdf. Published 2006. Accessed December 8, 2020.
2. World Health Organization. Chronic respiratory diseases: COPD Definition. WHO. http://who.int/respiratory/copd/definition/en/. Published 2018. Accessed December 8, 2020.
3. Chronic Obstructive Pulmonary Disease (COPD). Centers for Disease Control and Prevention. cdc.gov/copd/basics-about.html. Published June 5, 2018.
4. U.S. Preventive Services Task Force. Screening for Chronic Obstructive Pulmonary Disease Using Spirometry: United States Preventive Services Task Force Recommendation Statement. Ann In Med 148: 529-534 (2008).

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optum.com
11000 Optum Circle
Eden Prairie, MN 55344

This guidance is to be used for easy reference; however, the current ICD-10-CM code classification and the Official Guidelines for Coding and Reporting are the authoritative references for accurate and complete coding. The information presented herein is for general informational purposes only. Neither Optum nor its affiliates warrant or represent that the information contained herein is complete, accurate or free from defects. Specific documentation is reflective of the "thought process" of the provider when treating patients. All conditions affecting the care, treatment or management of the patient should be documented with their status and treatment, and coded to the highest level of specificity. Enhanced precision and accuracy in the codes selected is the ultimate goal. Lastly, on April 6, 2020, the Centers for Medicare & Medicaid Services (CMS) announced that 2020 dates of service for the 2021 payment year model are based on the Centers for Medicare & Medicaid Services Announcement. cms.gov/files/document/2021-announcement.pdf.

Arrhythmia

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Dysrhythmia Reporting

Heart Dysrhythmias (Unspecified)

Description	ICD-10-CM
Cardiac arrhythmia, unspecified	I49.9
Other specified cardiac arrhythmias	I49.8

A significant number of dysrhythmias are reported as "unspecified".

Can these conditions be documented and coded more specifically?

- **For example**: In ICD-10-CM **atrial fibrillation** can be differentiated by paroxysmal, persistent and chronic.

I47.0	Re-entry ventricular tachycardia
I47.1	Supraventricular tachycardia
I47.2	Ventricular tachycardia
I47.9	Paroxysmal tachycardia, unspecified
I48.0	Paroxysmal atrial fibrillation
I48.11	Longstanding persistent atrial fibrillation
I48.19	Other persistent atrial fibrillation
I48.20	Chronic atrial fibrillation, unspecified
I48.21	Persistent atrial fibrillation
I48.91	Unspecified atrial fibrillation
I48.2	Chronic atrial fibrillation
I48.3	Typical (Type I) atrial flutter
I48.4	Atypical (Type II) atrial flutter
I48.92	Unspecified atrial flutter
I49.01	Ventricular fibrillation
I49.02	Ventricular flutter
I49.2	Junctional premature depolarization
I49.5	Sick sinus syndrome
R00.1	Sinoatrial node dysfunction *(appears as severe sinus bradycardia, sinus bradycardia with tachycardia or sinus bradycardia with atrioventricular block*
R00.1	Other specified cardiac arrhythmias *(i.e. coronary sinus, ectopic or nodal rhythm disorder)*

Sick Sinus Syndrome

You can code sick sinus syndrome (SSS) after the pacemaker has been placed and no problems are detected during the visit.

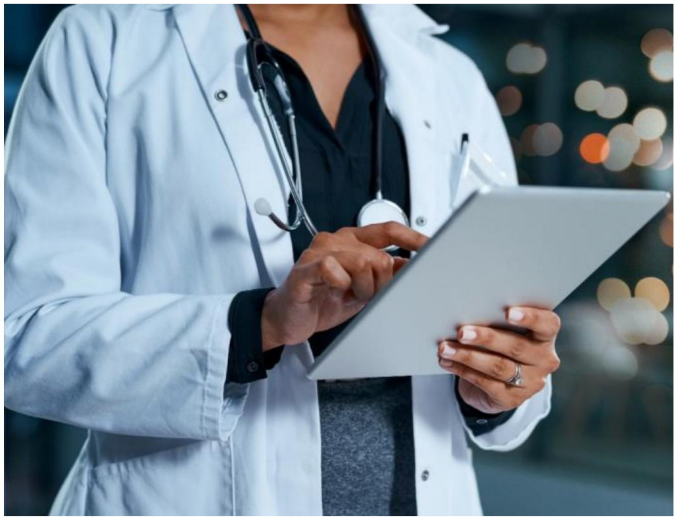
It is appropriate *to* code both the SSS and presence of cardiac pacemaker since the SSS is still present and has not been cured since its being controlled by the pacemaker.

- If a pacemaker, automatic cardioverter/defibrillator (AICD), cardiac resynchronization pacemaker (CRT-P), or bi-ventricular defibrillator (CRT-D) is present, document what was the underlying rhythm that necessitated placement of the cardiac device.

AHA Coding Clinic, Journal of AHIMA. *American Hospital Association Coding Clinic*. 2019; First Quarter: 33.

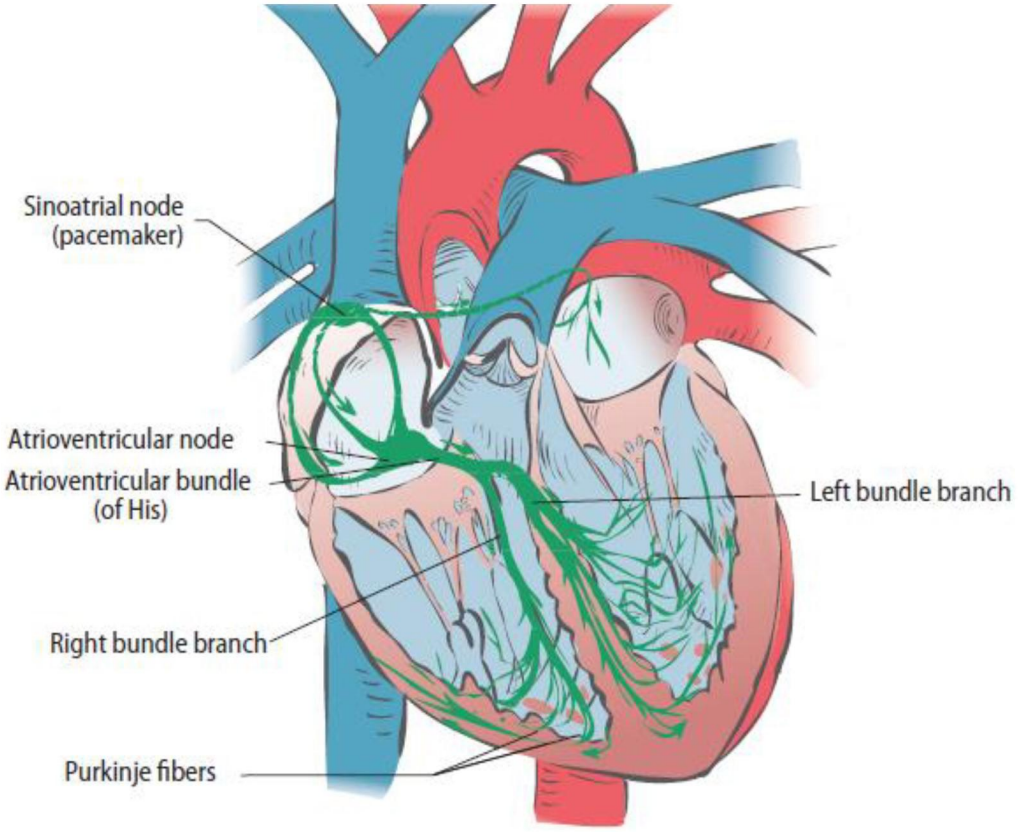
Coding Example: Sick Sinus Syndrome

SSS controlled by dual chamber permanent pacemaker.



I49.5 Sick sinus syndrome
Z95.0 Presence of cardiac pacemaker

Atrial Fibrillation



- Atrial fibrillation is the most common serious abnormal heart rhythm affecting approximately 3.03 million patients in the United States.
- It doubles the risk of mortality and increases the risk of stroke fivefold.

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Improving Accuracy and Completeness

Arrhythmia

Assessment/Plan:

The EKG demonstrates chronic atrial fibrillation is rate controlled on a beta-blocker. Her INR is therapeutic on the current dose of warfarin.

I49.9 Cardiac arrhythmia

Note: FH, SH, Exam and other parts of this progress note have been selectively left out.

Currently Coded:	Greater Specificity:
➢ Cardiac arrhythmia, unspecified (I49.9)	➢ Chronic atrial fibrillation, unspecified (**I48.20**) ➢ Long term (current) use of anticoagulants (Z79.01)

Accurate documentation can assist in correct health status reporting, and assist the member in qualifying for additional quality programs.

Secondary Hypercoagulable State

Consider documenting secondary hypercoagulable state, **D68.69**, in patients with atrial fibrillation, on anticoagulants.

Note: Document and link the underlying condition, in this case atrial fibrillation, as the cause of the hypercoagulable state.

Coding example:

Secondary hypercoagulable state due to AFib, will continue to monitor. Her INR is therapeutic on the current dose of warfarin. AFib stable, continue beta blocker.

I48.91 Unspecified atrial fibrillation
D68.69 Other thrombophilia (secondary hypercoagulable state)
Z79.01 Long term (current) use of anticoagulants

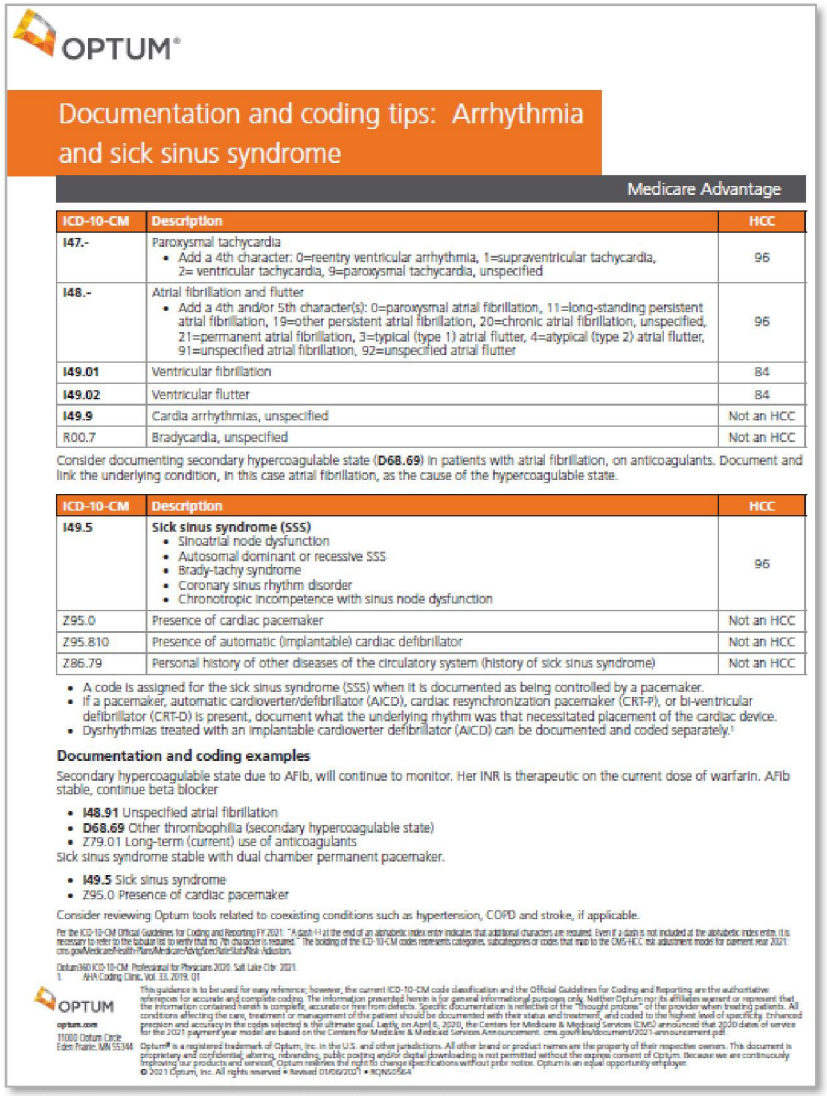
Documenting Arrhythmias

Documentation tips:

- Location (e.g., atrial, ventricular, supraventricular, etc.)
- Rhythm name (e.g., flutter, fibrillation, type 1 atrial flutter, long QT syndrome, sick sinus syndrome, etc.)
- Acuity (e.g., acute, chronic, etc.)
- Cause (e.g., hyperkalemia, hypertension, alcohol consumption, digoxin, amiodarone, verapamil HCl)

cms.gov. 2021. [online] Available at: https://www.cms.gov/Medicare/Coding/ICD10/Downloads/ICD10ClinicalConceptsCardiology1.pdf. Accessed 4 February 2021.

Documentation and Coding Tool



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Documentation and coding tips: Arrhythmia and sick sinus syndrome

Medicare Advantage

ICD-10-CM	Description	HCC
I47.-	Paroxysmal tachycardia • Add a 4th character: 0=reentry ventricular arrhythmia, 1=supraventricular tachycardia, 2= ventricular tachycardia, 9=paroxysmal tachycardia, unspecified	96
I48.-	Atrial fibrillation and flutter • Add a 4th and/or 5th character(s): 0=paroxysmal atrial fibrillation, 11=long-standing persistent atrial fibrillation, 19=other persistent atrial fibrillation, 20=chronic atrial fibrillation, unspecified, 21=permanent atrial fibrillation, 3=typical (type 1) atrial flutter, 4=atypical (type 2) atrial flutter, 91=unspecified atrial fibrillation, 92=unspecified atrial flutter	96
I49.01	Ventricular fibrillation	84
I49.02	Ventricular flutter	84
I49.9	Cardia arrhythmias, unspecified	Not an HCC
R00.7	Bradycardia, unspecified	Not an HCC

Consider documenting secondary hypercoagulable state (**D68.69**) in patients with atrial fibrillation, on anticoagulants. Document and link the underlying condition, in this case atrial fibrillation, as the cause of the hypercoagulable state.

ICD-10-CM	Description	HCC
I49.5	**Sick sinus syndrome (SSS)** • Sinoatrial node dysfunction • Autosomal dominant or recessive SSS • Brady-tachy syndrome • Coronary sinus rhythm disorder • Chronotropic incompetence with sinus node dysfunction	96
Z95.0	Presence of cardiac pacemaker	Not an HCC
Z95.810	Presence of automatic (implantable) cardiac defibrillator	Not an HCC
Z86.79	Personal history of other diseases of the circulatory system (history of sick sinus syndrome)	Not an HCC

- A code is assigned for the sick sinus syndrome (SSS) when it is documented as being controlled by a pacemaker.
- If a pacemaker, automatic cardioverter/defibrillator (AICD), cardiac resynchronization pacemaker (CRT-P), or bi-ventricular defibrillator (CRT-D) is present, document what the underlying rhythm was that necessitated placement of the cardiac device.
- Dysrhythmias treated with an implantable cardioverter defibrillator (AICD) can be documented and coded separately.[1]

Documentation and coding examples

Secondary hypercoagulable state due to AFib, will continue to monitor. Her INR is therapeutic on the current dose of warfarin. AFib stable, continue beta blocker

- **I48.91** Unspecified atrial fibrillation
- **D68.69** Other thrombophilia (secondary hypercoagulable state)
- Z79.01 Long-term (current) use of anticoagulants

Sick sinus syndrome stable with dual chamber permanent pacemaker.

- **I49.5** Sick sinus syndrome
- Z95.0 Presence of cardiac pacemaker

Consider reviewing Optum tools related to coexisting conditions such as hypertension, COPD and stroke, if applicable.

Per the ICD-10-CM Official Guidelines for Coding and Reporting FY 2021: "A dash (-) at the end of an alphabetic index entry indicates that additional characters are required. Even if a dash is not included at the alphabetic index entry, it is necessary to refer to the tabular list to verify that no 7th character is required." The booking of the ICD-10-CM codes represents categories, subcategories or codes that map to the CMS-HCC risk adjustment model for payment year 2021. cms.gov/Medicare/Health-Plans/MedicareAdvtgSpecRateStats/Risk-Adjustors.

Optum360 ICD-10-CM Professional for Physicians 2020. Salt Lake City: 2021

1. AHA Coding Clinic, Vol. 33, 2019, Q1

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This guidance is to be used for easy reference; however, the current ICD-10-CM code classification and the Official Guidelines for Coding and Reporting are the authoritative references for accurate and complete coding. The information presented herein is for general informational purposes only. Neither Optum nor its affiliates warrant or represent that the information contained herein is complete, accurate or free from defects. Specific documentation is reflective of the "thought process" of the provider when treating patients. All conditions affecting the care, treatment or management of the patient should be documented with their status and treatment, and coded to the highest level of specificity. Enhanced precision and accuracy in the codes selected is the ultimate goal. Lastly, on April 6, 2020, the Centers for Medicare & Medicaid Services (CMS) announced that 2020 dates of service for the 2021 payment year model are based on the Centers for Medicare & Medicaid Services Announcement. cms.gov/files/document/2021-announcement.pdf

Vascular Disease

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Peripheral Artery Disease (PAD)

- The ankle-brachial index (ABI) is a simple, noninvasive test to diagnose asymptomatic or symptomatic lower extremity PAD.[2]
- PAD/PVD is a progressive disease.
  - Avoid documenting "history of" peripheral vascular disease (PVD) and instead consider "known" peripheral vascular disease.
- The terms "PAD," "PVD," "spasm of artery" and "intermittent claudication" code to **I73.9**

PAD At-Risk Factors:

- Age ≥65 years
- Leg symptoms with exertion (e.g., claudication or rest pain)
- Abnormal lower extremity pulse examination
- Known atherosclerosis at other sites (e.g., coronary, carotid, etc.)
- Age 50-69 years: Hypertension, diabetes, hyperlipidemia, history of smoking or hyperhomocystenemia

1 American Heart Association. Circulation. AHA Statistical Update: Heart Disease and Stroke Statistics—2016 Update. http://circ.ahajournals.org/content/133/4/e38. Accessed December 14, 2020.
2 American College of Cardiology Foundation/American Heart Association. ACCF/AHA Pocket Guideline November 2011. Management of Patients With Peripheral Artery Disease (Lower Extremity, Renal, Mesenteric, and Abdominal Aortic). https://www.acc.org/~/media/clinical/pdf-files/approved-pdfs/2012/02/16/14/42/2011_pad_pktguide.pdf. Accessed December 14, 2020.

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True or False

When a provider documents rest pain we code to leg pain.

True or False

True.

If the provider does not specify that the rest pain is due to Atherosclerosis of the Extremities, the rest pain should be coded to M79.60-.

Atherosclerosis of the Lower Extremities

- Arteriosclerosis and atherosclerosis may be used interchangeably for documentation and coding purposes
- Document the site, laterality, symptom or complication (e.g., intermittent claudication, rest pain [chronic or critical limb-threatening ischemia of native arteries with rest pain], ulceration [chronic or critical limb-threatening ischemia of native arteries of extremities with ulceration] or gangrene [chronic or critical limb-threatening ischemia of native arteries of extremities with gangrene]), if applicable
  - Use an additional code to identify the type, site, laterality and severity/stage of any ulcer (**L97.-**, **L98.49-**), if applicable
    - It is important *not to* document or code ulcers as "wounds," "open wounds" or "lesions"

Note:

PAD/PVD (**I73.9**) should *not* be coded with atherosclerosis of the extremities (**I70.2- – I70.7-**)

Atherosclerosis of the Extremities

Coding Hierarchy

Gangrene — **I70.26-**

Includes:
- ulceration
- rest pain
- claudication

Use additional code for severity of ulcer

Ulceration — **I70.23-, I70.24-, I70.25-**

Includes:
- rest pain
- claudication

Use additional code for severity of ulcer

Rest Pain — **I70.22-**

Includes:
-claudication

Claudication — **I70.21-**

Optum360 ICD-10-CM: Professional for Physicians 2021. Salt Lake City, UT; 2020.

Improving Accuracy and Completeness

Atherosclerosis

HPI: Patient with known atherosclerosis of the left lower extremity presents with an ulcer on left calf. Patient states it has been hurting for the past 2 weeks and has been taking Tylenol to help with the pain.

Assessment/Plan:

Left leg atherosclerosis (**I70.202**) wound is attributed to patient's existing but otherwise stable atherosclerosis of extremity.

Unspecified open wound, unspecified lower leg, initial encounter (S81.809A) refer patient to wound specialist. Follow up in 2 weeks.

Note: FH, SH, Exam and other parts of this progress note have been selectively left out.

Currently Coded:	Greater Specificity:
➢ Atherosclerosis of left leg (**I70.202**) ➢ Open wound of lower leg (S81.809A)	➢ Atherosclerosis of native arteries of left leg with ulceration of calf (**I70.242**) ➢ Non-pressure chronic ulcer of left calf with unspecified severity (**L97.229**)

Accurate documentation can assist in correct health status reporting and assist the member in qualifying for additional quality programs.

Diabetic Atherosclerosis

PAD/PVD Documentation and Coding

- Diabetes mellitus (DM) – is a major risk factor for atherosclerosis of lower extremity as well as cardiovascular and cerebrovascular atherothrombosis leading to increased morbidity and mortality

Diabetes with **circulatory** complications *HCC 18 & 108*	Type 2 DM w/ diabetic peripheral angiopathy without gangrene	**E11.51**
	Type 2 DM w/ diabetic peripheral angiopathy with gangrene	**E11.52**
	Type 2 DM with other circulatory complications	**E11.59**

- Diabetes with PVD unspecified = **E11.51**
- Diabetic atherosclerosis of lower extremity with bilateral claudication = **E11.51**, **I70.213**

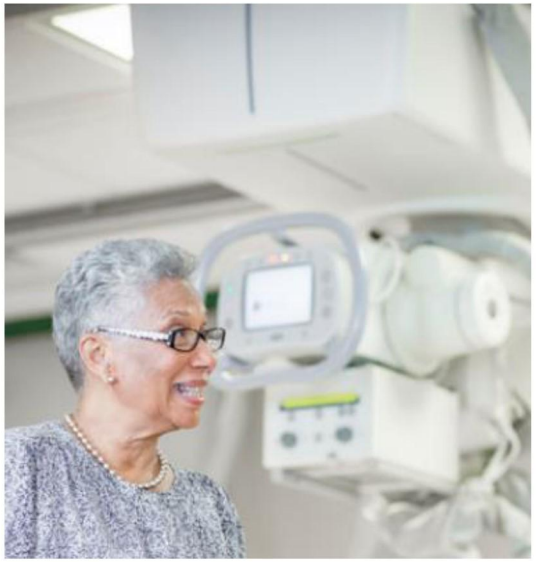
Atherosclerosis of the Native Arteries of Extremities	ICD-10-CM
unspecified	**I70.20-**
with intermittent claudication	**I70.21-**
with rest pain	**I70.22-**
(of right or left leg) with ulceration Use additional code to identify severity of ulcer (**L97.-**)	**I70.23- — I70.25-**
with gangrene	**I70.26-**
other	**I70.29-**

Thiruvoipati T, et al. Peripheral artery disease in patients with diabetes: Epidemiology, mechanisms, and outcomes. World Journal of Diabetes. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4499529/ Published July 10, 2015. Accessed December 14, 2020.

Diagnoses Suggested by Diagnostic Studies

Findings in diagnostic reports (e.g. MRI, chest x-ray, ultrasound, CT scan) are often noted as incidental and should be documented by provider at a face-to-face visit, if clinically significant or affects care of the patient.

- Atherosclerosis of carotid artery (occlusion and stenosis of carotid artery; I65.2-)
- Calcified aorta (atherosclerosis of the aorta; **I70.0**)
- Atherosclerosis of the renal artery (**I70.1**)
- Femoral artery stenosis (**I70.209**)
- Aortic aneurysm and dissection (**I71.-**)
  - Abdominal aortic aneurysm, without rupture (**I71.4**)
- Tortuous aorta (stricture of artery; **I77.1**)
- Aortic ectasia (**I77.81-**)
- Thrombosis of femoral vein (**I82.51-**)
- Thrombosis of popliteal vein (**I82.53-**)



Intensive Behavioral Therapy (IBT) for CVD

- The Centers for Medicare and Medicaid Services covers an annual Intensive Behavioral Therapy (IBT) for Cardiovascular Disease (CVD).[1]
  - CMS covers this CVD Risk Reduction Visit (HCPCS code G0446*) as long as:

    (1) eleven months or more have elapsed from the month of the last CVD Risk Reduction Visit

    (2) the beneficiary is competent at the time of the visit, and

    (3) the visit occurs in an outpatient setting by a primary care provider (PCP)

*Please check with your Medicare Advantage plan for coverage details for this services as coverage may vary by plan

Cardiovascular Disease Services. Medicare Learning Network. Centers for Medicare & Medicaid Services, Revised March 2012. https://www.cms.gov/Outreach-and-Education/Medicare-Learning-Network-MLN/MLNMattersArticles/downloads/MM7636.pdf

Intensive Behavioral Therapy (IBT) for CVD

- The IBT for CVD also MUST include three components:
  - Encouraging aspirin use for the primary prevention of cardiovascular disease for men aged 45 through 79 years and women aged 55 through 79 years, whenever appropriate
  - Screening for high blood pressure in adults aged 18 and older
  - Intensive behavioral counseling to promote a healthy diet for adults with hyperlipidemia, hypertension, advancing age and other known risk factors for cardiovascular and diet-related chronic diseases

Cardiovascular Disease Services. Medicare Learning Network. Centers for Medicare & Medicaid Services, Revised March 2012. https://www.cms.gov/Outreach-and-Education/Medicare-Learning-Network-MLN/MLNMattersArticles/downloads/MM7636.pdf

Documentation and Coding Tool

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Documenting and Coding Tips: Vascular disease

Peripheral vascular disease (PVD) and peripheral arterial disease
million Americans over the age of 40 and those who smoke, ha
Atherosclerotic disease is a progressive disease; therefore, avoi
condition by performing routine screenings for patients at risk

Documentation tips

PAD/PVD

- Screen patients at risk for lower extremity PAD/PVD by revi
claudication, atypical leg pain and/or presence of non-heal
lower extremities.[1]
- Obtain an ABI or equivalent device (wave form doppler) fo
and older, or age 50 with a history of smoking, diabetes a
- Statements such as "peripheral arterial disease (PAD)," "pe
claudication" all default to an unspecified PVD (**I73.9**).
- Treatment of PAD should include documentation of medic
asymptomatic and symptomatic patients.[1]

Interpreting the Ankle-Brachial Index (ABI)[2]

ABI	Perfusion Status
≤ 0.90	Peripheral arterial disease
0.91 to 0.99	Borderline
1.00 to 1.40	Normal
> 1.40	Concern for noncompressible arte

Atherosclerosis of the extremities and other sites

- Arteriosclerosis and atherosclerosis may be used interchan
generalized atherosclerosis does not map to an HCC.
- Document the site, laterality, severity and symptoms or co
atherosclerosis (*trace, mild, moderate, severe*), clarify the c
- Consider documenting any clinical support from chest x-ra

Pressure and non-pressure ulcers

- Documentation should specify if the ulcer is a pressure (de
considered active and "healed" ulcers are considered reso
- Document and code ulcers to the highest level of specificit
L98.49-).
- Ulcer stages 2, 3, 4 and unstageable map to an HCC. Ulce
HCC. The stage of a diagnosed ulcer can be documented
healthcare practitioners.
  - **Clinical Tip:** It is important to document improvement
be documented if they were present on admission to t
admission or developed during the course of the admi
- Document any associated underlying or comorbid conditio
insufficiency.
- It is important not to document or code ulcers as "wound

Diabetic peripheral angiopathy (PAD/PVD) and other circulatory complications

- If the patient has atherosclerosis of native arteries of extremities (**I70.2-**) and diabetes (**E11.51**), then provide details such as laterality, location, atherosclerotic symptoms such as claudication, rest pain and ulcers, as well as diabetic manifestations, if clinically relevant.
- Diabetes with other circulatory complications (**E11.59**), hypertensive disorders (I10 – I16.-), angina pectoris (**I20.-**), etc., requires a documented causal relationship.

Other vascular diseases

Findings may be incidentally noted on diagnostic reports but should be documented if clinically significant or affects the patients' care, treatment or management, such as atherosclerosis of the aorta (**I70.0**), abdominal aortic aneurysm, without rupture (**I71.4**), stricture of artery (tortuous aorta) (**I77.1**) and aortic ectasia (**I77.8**).

The following references were used in the creation of this document:

Optum360 ICD-10-CM: Professional for Physicians 2021. Salt Lake City, UT: 2020.

1. Peripheral Arterial Disease (PAD) Fact Sheet. Centers for Disease Control and Prevention. cdc.gov/nchs/data_statistics/fact_sheets/fs_pad.htm. Published June 16, 2016. Accessed September 21, 2020.
2. Hennion D, Siano K. Diagnosis and Treatment of Peripheral Arterial Disease. aafp.org/afp/2013/0901/p306.html. Published 2020. Accessed September 21, 2020.
3. AHA Coding Clinic for ICD-10-CM: Aortic Stenosis. Vol 5, Q4, 1988.
4. Optum360. *Coders' Desk Reference for Diagnoses 2021*. Salt Lake City, UT: Optum360; 20209
5. Cartwright DJ. ICD-10-CM Lessons Learned: Examining Controversies in Pressure Ulcer Coding Post-Implementation. Today's Wound Clinic. todayswoundclinic.com/articles/icd-10-cm-lessons-learned-examining-controversies-pressure-ulcer-coding-post-implementation. Published February 10, 2016. Accessed January 22, 2020.

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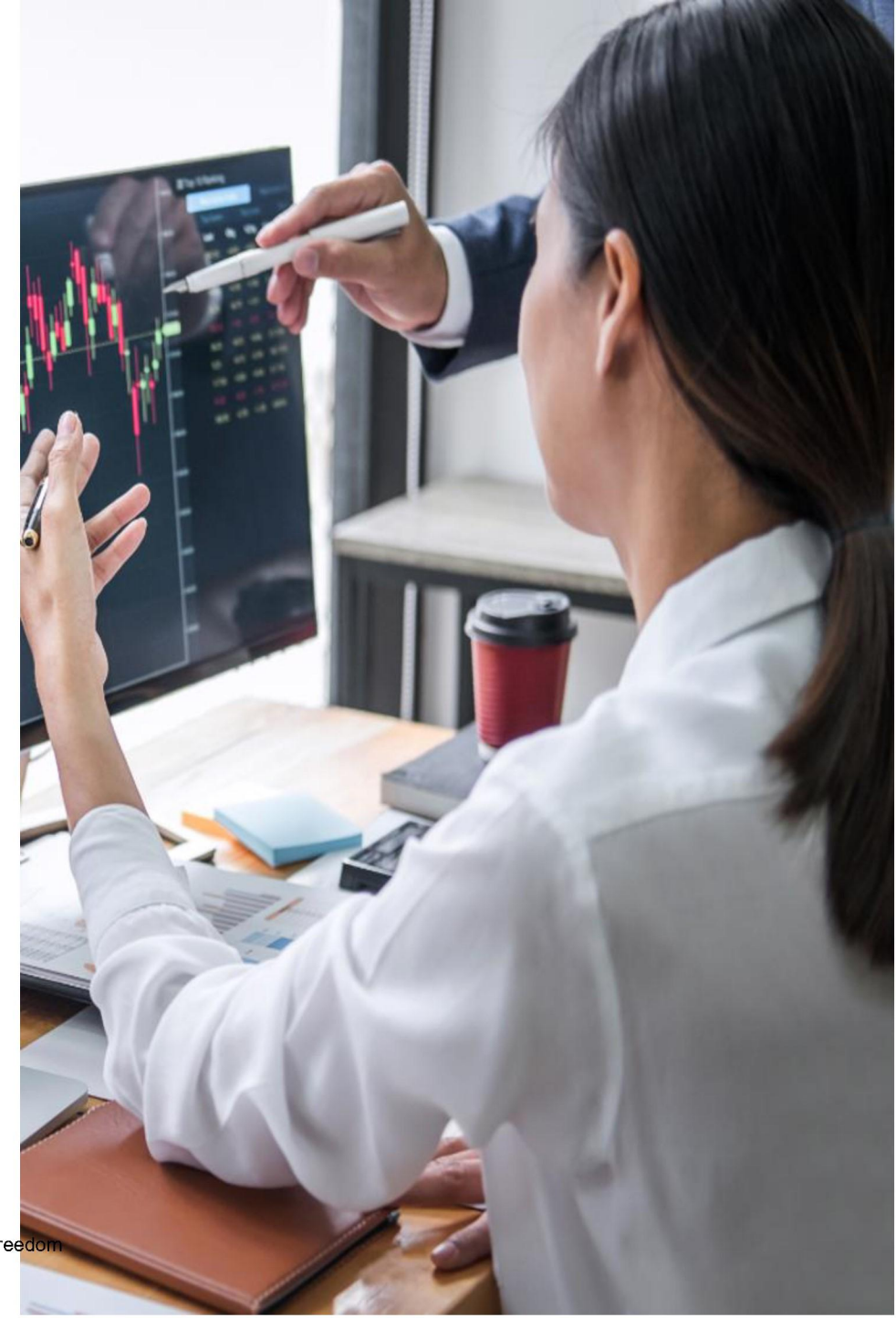
Reporting Quality



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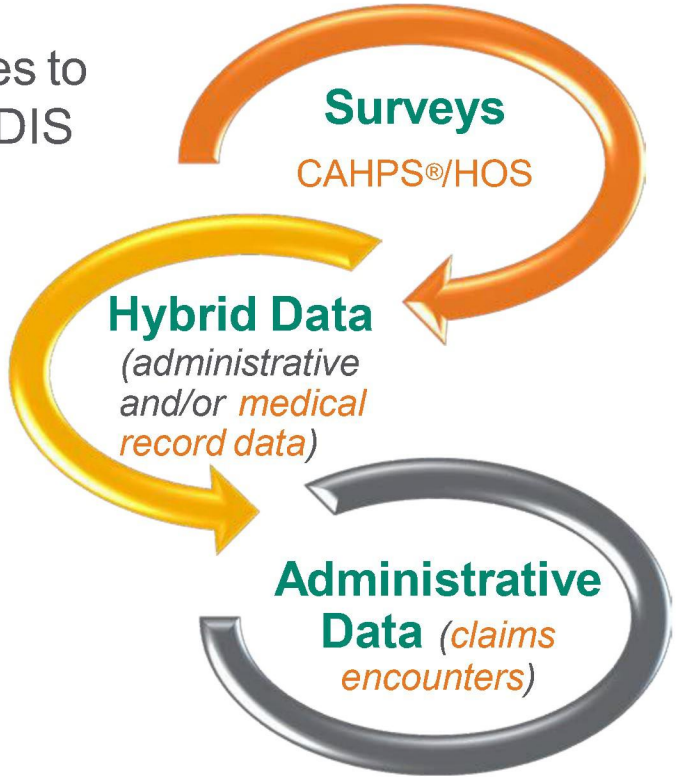
HEDIS®: Data Sources & Domains of Care

Data sources to capture HEDIS measures:



HEDIS 2021 contains 91 measures across 6 domains of care:

- Effectiveness of Care
- Access/Availability of Care
- Experience of Care
- Utilization and Risk Adjusted Utilization
- Health Plan Descriptive Information
- Measures Collected Using Electronic Clinical Data Systems

- For additional information about HEDIS, please visit the National Committee for Quality Assurance (NCQA) website at www.ncqa.org
- For additional information about the Medicare Advantage Five-Star Quality Rating System, please refer to: http://go.cms.gov/partcanddstarratings

Use of Spirometry Testing
In the Assessment and Diagnosis of COPD (SPR)

Metric

- ✓ MA members 40 years of age and older with a new diagnosis (or newly active) COPD, who received appropriate spirometry testing to confirm the diagnosis.
- ✓ Performed yearly (begins July 1 of the year prior to the measurement year and ends June 30 of the measurement year).

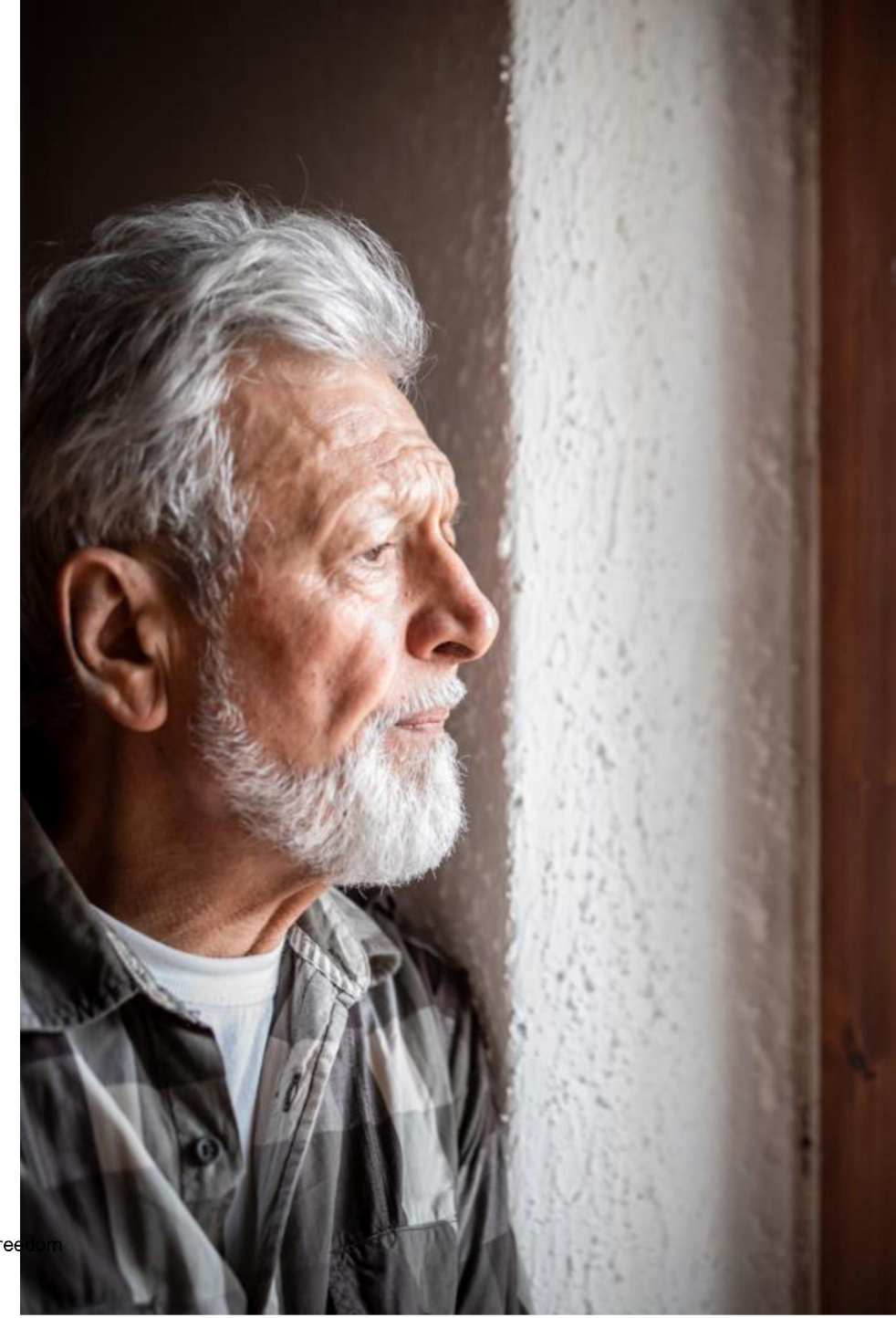
Documentation

- ✓ Document spirometry testing to confirm diagnosis of COPD, emphysema or chronic bronchitis.
  - Address the severity of disease
  - Assess response to therapy
  - Monitor disease progression
  - Distinguish asthma from COPD
  - Implement preventative measures with appropriate follow-up visits

Tip: A period of 2 years with no diagnosis of COPD is needed for a member to be considered newly diagnosed.

Data sources: Claims and chart review

HEDIS Frailty and Advanced Illness Exclusions



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HEDIS Frailty and Advanced Illness Exclusions

Quality measures that were intended for the general adult population may not be appropriate for those with limited life expectancy, advanced illness and/or frailty. As such, NCQA added a selective set of exclusion for members who are most likely not able to benefit from the measured services.

Note: Supplemental and medical record data may not be used for these exclusions.

Measures*	≥ 66 years old with frailty and advanced illness	≥ 81 years old with frailty	≥ 66 years old living long-term in nursing home
Breast cancer screening	Excluded	n/a	Excluded
Colorectal cancer screening	Excluded	n/a	Excluded
Controlling high blood pressure	Excluded	Excluded	Excluded
Osteoporosis management in women who had a fracture	Excluded	Excluded	Excluded
Comprehensive diabetes care	Excluded	n/a	Excluded

* Partial measure listing. See the HEDIS technical specifications for the complete list.

HEDIS Frailty and Advanced Illness Criteria

Frailty and advanced illness include, but are not limited to:

Frailty
Age-related cognitive decline
Bed confinement
Durable medical equipment (for example, cane, walker and wheelchair)
Dependence on supplemental oxygen
Falls or history of falling
Gait abnormality (different types)
Home Health/Home Care (different types)
Limitations of activities due to disability
Malaise or fatigue
Muscle weakness or atrophy
Pressure ulcers
Underweight or failure to thrive

Advanced Illness
Cancer (Different types and stages)
Dementia (Alzheimer's, Lewy body dementia or dispensed a dementia medication)
Heart disease (Heart failure [HF] or hypertensive heart disease with HF, Chronic kidney disease [CKD] stage 5 and/or end-stage renal disease [ESRD])
Hepatic (Cirrhosis, hepatitis, fibrosis or sclerosis)
Nervous system (Huntington's disease, Parkinson's disease or Pick's disease)
Renal (CKD stage 5 or ESRD)
Respiratory (Emphysema, pulmonary fibrosis or respiratory failure)

* Partial listing. See the HEDIS technical specifications for the complete list.

Documentation and Coding Tools

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Advanced illness and frailty exclusions

The National Committee for Quality Assurance (NCQA) has allowed additional exclusions to the Healthcare Effecti Information Set (HEDIS®) measures for patients with advanced illness and frailty.

Quality measures that were designed and intended for a general adult population may not always be appropriate expectancy or advanced illness and frailty. As such, NCQA is implementing exclusions across selected HEDIS meas population who is most likely to benefit from the measured services.[1]

Use of HEDIS-approved ICD-10-CM, CPT® and HCPCS codes can substantially reduce medical record requests for purposes.

Exclusion criteria

Members who are 66 years of age or older as of December 31 of the measurement year can be excluded from th have *both* advanced illness and frailty, or if they are living long term in a nursing home.

Members who are 81 years of age or older can be excluded from CBP, KED, OMW and PBH if they have frailty on

Note: Advanced illness can be reported in the measurement year or the year prior; frailty must be reported in the

- Breast Cancer Screening (BCS)
- Colorectal Cancer Screening (COL)
- Comprehensive Diabetes Care (CDC)
- Controlling High Blood Pressure (CBP)
- Kidney Health Evaluation for Patients with Diabetes (KED)
- Osteoporosis Management in Women Who Had a Fracture (OMW)
- Osteoporosis Screening in Older Wor
- Persistence of Beta-Blocker Treatmen
- Statin Therapy for Patients with Card
- Statin Therapy for Patients with Diab

ICD-10-CM Advanced Illness Codes for HEDIS

Note: Advanced illness codes must be billed in the measurement year or the year prior to the measurement year to exclude the patient from the quality measures listed above.

A81.00	Creutzfeldt-Jakob disease, unspecified
A81.01	Variant Creutzfeldt-Jakob disease
A81.09	Other Creutzfeldt-Jakob disease
C25.0	Malignant neoplasm of head of pancreas
C25.1	Malignant neoplasm of body of pancreas
C25.2	Malignant neoplasm of tail of pancreas
C25.3	Malignant neoplasm of pancreatic duct
C25.4	Malignant neoplasm of endocrine pancreas
C25.7	Malignant neoplasm of other parts of pancreas
C25.8	Malignant neoplasm of overlapping sites of pancreas
C25.9	Malignant neoplasm of pancreas, unspecified
C71.0	Malignant neoplasm of cerebrum, except lobes and ventricles
C71.1	Malignant neoplasm of frontal lobe
C71.2	Malignant neoplasm of temporal lobe
C71.3	Malignant neoplasm of parietal lobe
C71.4	Malignant neoplasm of occipital lobe
C71.5	Malignant neoplasm of cerebral ventricle
C71.6	Malignant neoplasm of cerebellum
C71.7	Malignant neoplasm of brain stem
C71.8	Malignant neoplasm of overlapping sites of brain
C71.9	Malignant neoplasm of brain, unspecified
C77.0	Secondary and unspecified malignant neoplasm of lymph nodes of head, face and neck
C77.1	Secondary and unspecified ma intrathoracic lymph nodes
C77.2	Secondary and unspecified ma abdominal lymph nodes
C77.3	Secondary and unspecified ma upper limb lymph nodes
C77.4	Secondary and unspecified ma and lower limb lymph nodes
C77.5	Secondary and unspecified ma pelvic lymph nodes
C77.8	Secondary and unspecified ma nodes of multiple regions
C77.9	Secondary and unspecified ma node, unspecified
C78.00	Secondary malignant neoplasm
C78.01	Secondary malignant neoplasm
C78.02	Secondary malignant neoplasm
C78.1	Secondary malignant neoplasm
C78.2	Secondary malignant neoplasm
C78.30	Secondary malignant neoplasm organ
C78.39	Secondary malignant neoplasm
C78.4	Secondary malignant neoplasm
C78.5	Secondary malignant neoplasm
C78.6	Secondary malignant neoplasm peritoneum
C78.7	Secondary malignant neoplasm
C78.80	Secondary malignant neoplasm organ

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Closing gaps in quality measures

Including HEDIS®, Consumer Assessment of Healthcare Providers and Systems (CAHPS®) and the Health Outcomes Survey (HOS)

Medicare Advantage and the Affordable Care Act

Progress Notes

Documentation Considerations & Chart Mechanics

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Documentation: The Progress Note

Clinical conditions:

Document to the highest level of specificity for each diagnosis.

Document all known conditions from:

- *Consultant or specialist*
- *Lab values*
- *Radiology results*
- *Discharge summaries*[1]

Document all chronic conditions at least once per year.[1]

Document any problem pertinent conditions that affects care, treatment and management of the patient on each date of service.[2]

1. CMS. 2008 Risk Adjustment Data Technical Assistance For Medicare Advantage Organizations Participant Guide. CMS.gov. http://www.csscoperations.com/internet/Cssc.nsf/files/2008-resource-guide_060109.pdf/$File/2008-resource-guide_060109.pdf. Published 2008. Accessed January 25, 2021.

2. ICD-10-CM FY 2021 Guidelines and Code Classification. Centers for Disease Control and Prevention. https://www.cdc.gov/nchs/icd/icd10cm.htm. Published October 1, 2020. Accessed January 25, 2021.

Supporting Conditions with M.E.A.T.

In addition to documenting the condition(s), it is recommended to include evaluative documentation such as M.E.A.T. [1]

Monitor *(or)*
Signs & symptoms
Disease progression and/or status

Evaluate *(or)*
Response to treatment(s)
Test results

Assess/Address *(or)*
Counsel and/or discussion
Records review
Refer to specialist

Treat *(or)*
Stop or start medications
Diagnostic and/or therapeutic plan
Patient education and/or follow-up schedule

1. CMS Medicare Learning Network®. Evaluation and Management Services Guide. U.S. Department of Health & Human Services (HHS). https://www.cms.gov/Outreach-and-Education/Medicare-Learning-Network-MLN/MLNProducts/Downloads/eval-mgmt-serv-guide-ICN006764.pdf Published February 2021. Accessed April 23, 2021.

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Any Questions?

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There is **1 requirement** for the issuance of AAPC CEUs:

- **Full Attendance.** If the session is for 60 minutes, each participant is encouraged to be on the WebEx from the beginning to the end. In the event that the participant is late, full attendance is defined as starting the session no later than 5 minutes from the beginning of the presentation and staying until the end or 55 minutes. Should a participant arrive later than 5 minutes from the beginning of the presentation, a CEU **will not be issued** and we suggest that you select another date for a complete session.
- At the end of the session, if more than one person is in a single location watching and listening to the presentation, then each person should type their own information into the WebEx chat box. Please type your name, credential and email address. You should not do this for someone else.
- An attendance report is generated within WebEx after the session is finished. Once the participant meets the criteria listed above, they will be included in the CEU email from Optum.
- **This process can take a minimum of 10 business days to complete**

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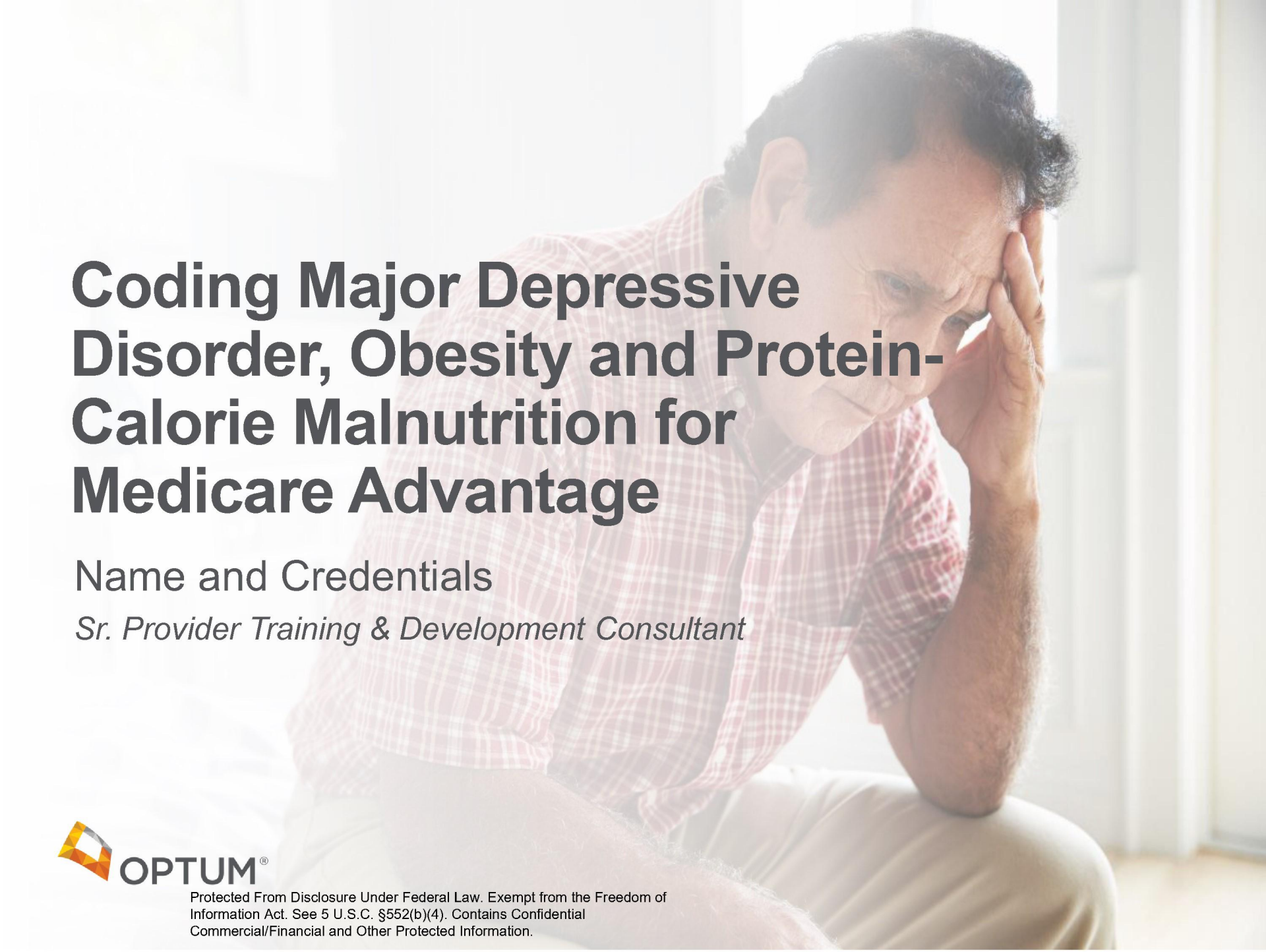
- AHIMA
  - AHIMA-Approved ICD-10-CM Trainer
- AAPC
  - AAPC Approved Instructor
- American Institute of Healthcare Compliance (AIHC)
  - ICD-CT/CM



Coding Major Depressive Disorder, Obesity and Protein-Calorie Malnutrition for Medicare Advantage

Name and Credentials

Sr. Provider Training & Development Consultant

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About Optum:

Market Consultation

Optum collaborates with health care professionals and health plans towards improved health outcomes

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Optum applies technology and health intelligence solutions that help providers accurately document and code health care services while improving the overall quality of patient care.

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This course generally describes accepted coding practices and guidelines as defined in the ICD-10-CM coding book, as well as certain accepted practices for HEDIS®, as administered by The National Committee for Quality Assurance (NCQA), and certain accepted practices for Stars, as administered by CMS. The physician or other healthcare provider must produce ***accurate and complete*** *documentation and clinical rationale, which describes the encounter with the patient and the medical services rendered, to properly support use of the most appropriate ICD-10-CM code(s) under the guidelines and satisfy HEDIS and Stars measures.* ***If the documentation in the medical record does not support a given code, that code cannot be used.***

The chart reviews and recommendations in this presentation are presented as examples only and are not intended to replace the professional judgment and expertise of the individual performing the coding. ***The ultimate decision regarding the specification of diagnosis resides with the clinical judgment of the physician and the reporting of the documented conditions must be in compliance with all applicable coding standards & guidelines.***

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Bolding Legend

The bolding has been revised to reflect ICD-10-CM codes that map to the CMS-HCC risk adjustment model for Payment Year 2021.

Tools:

- Fully reportable codes that risk adjust are bolded in **Black**.
- Categories and subcategories where all the codes in the category or subcategory map to risk are bolded in **Black**.

Presentations:

- Fully reportable codes that risk adjust are bolded in **Black**.
- Categories and subcategories where all the codes in the category or subcategory map to risk are bolded in **Black**.
- Codes in images of the ICD-10-CM code book that risk adjust are boxed in Teal
- Codes marked with a ✦ directly after them represent new additions to the FY 2020 ICD-10-CM code classification.

MA Payment Guide for Out of Network Payments. CMS.gov. https://www.cms.gov/Medicare/Health-Plans/MedicareAdvtgSpecRateStats/Downloads/OONPayments.pdf. Published April 15, 2015.

Medicare risk adjustment model diagnosis codes (2017 & 2020). CMS.gov. https://www.cms.gov/Medicare/Health-Plans/MedicareAdvtgSpecRateStats/Risk-Adjustors Accessed April 13, 2020.

Announcement of Calendar Year (CY) 2021 Medicare Advantage (MA) Capitation Rates and Part C and Part D Payment Policies. CMS.gov. https://www.cms.gov/files/document/2021-announcement.pdf. Published April 6, 2020. Accessed April 10, 2020.

Agenda

At the end of this session participants will have a better understanding of:

- Medicare Advantage Risk Adjustment model and process
- Improving documentation and coding accuracy for chronic conditions:
  - Major Depressive Disorder
  - Obesity and Body Mass Index (BMI)
  - Protein-Calorie Malnutrition
- Quality Reporting
- Documentation Considerations and Chart Mechanics

PY 2021 CMS-HCC Model

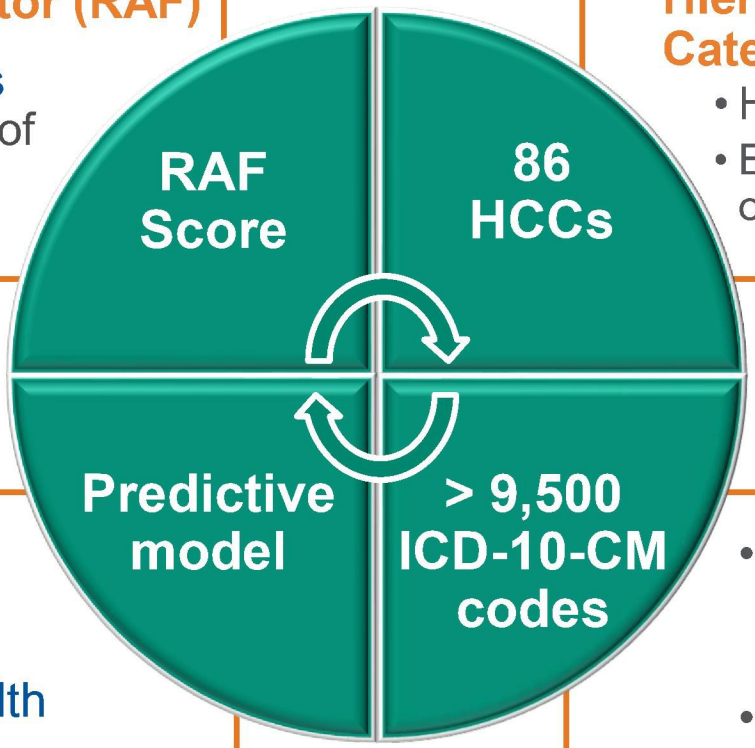
25%-75% Blend with 2020 and 2017 CMS-HCC Models

Risk Adjustment Factor (RAF)

- Each patients' RAF is reset on January 1st of each calendar year

Hierarchical Condition Category (HCC)

- HCCs are additive
- Each HCC is only reportable once per calendar year



- The model uses the prior year's RAF to predict the current year's expected health care costs

- Diagnosis codes may fall into one or more HCCs
- From face-to-face visits

United States. Department of Health and Human Services, Centers for Medicare & Medicaid Services. *Announcement* 2021. Web https://www.cms.gov/files/document/2021-announcement.pdf

Medicare risk adjustment model diagnosis codes (2017 & 2020). CMS.gov. https://www.cms.gov/Medicare/Health-Plans/MedicareAdvtgSpecRateStats/Risk-Adjustors. Accessed April 13, 2020.

How Does Risk Adjustment Impact You?

Enhanced continuity of care by conditions being monitored, treated or assessed annually

Higher importance of accurate and specific documentation and coding of all conditions each calendar year

Identifies the severity of illness and complexity related to each patients' visit

Improves quality of patient care

- Early detection or screenings, slow the conditions' progression and/or reduces the need for emergency care

Centers for Medicare & Medicaid Services. 2008 Risk Adjustment Data Technical Assistance For Medicare Advantage Organizations Participant Guide. Palmetto GBA https://www.csscoperations.com/internet/Cssc.nsf/files/2008-resource-guide_060109.pdf/$FIle/2008-resource-guide_060109.pdf Published 2008. Accessed November 19, 2019

Documenting & Coding

Major Depressive Disorder

OPTUM®

True or False?

Depression is more common in people who also have other illnesses (such as heart disease or cancer) or whose function becomes limited.

Answer:

True

Providers should document and code major depression and any chronic condition(s) that impact the patient's care, treatment or management at least once in a calendar year.

- 80% of older adults have at least one chronic health condition
- 50% of older adults have two or more chronic health conditions

Major Depressive Disorders

- Depression can adversely affect the course and outcome of common chronic conditions.
- One in six patients over the age of 65 years suffers from depression.
- Major depression is highly recurrent, with recurrent episodes occurring in ≥50% of patients.

CMS National Coverage Determination (NCD) for screening for Depression in Adults, October 2011. Web. 8 Jan 2020. www.cms.gov/medicare-coverage-database/details/ncd-details.aspx?NCDId=346&ncdver=1&bc=AAAAQAAAAAAA&

Coding Major Depressive Disorders

- **Avoid Unspecified – depression codes**

F32.9	MDD, single episode, unspecified
F41.8	Depression with anxiety
F43.21	Grief reaction; brief depressive reaction

  - are often not coded correctly
  - are appropriate at times

- **Be Specific – Identify the Problem**

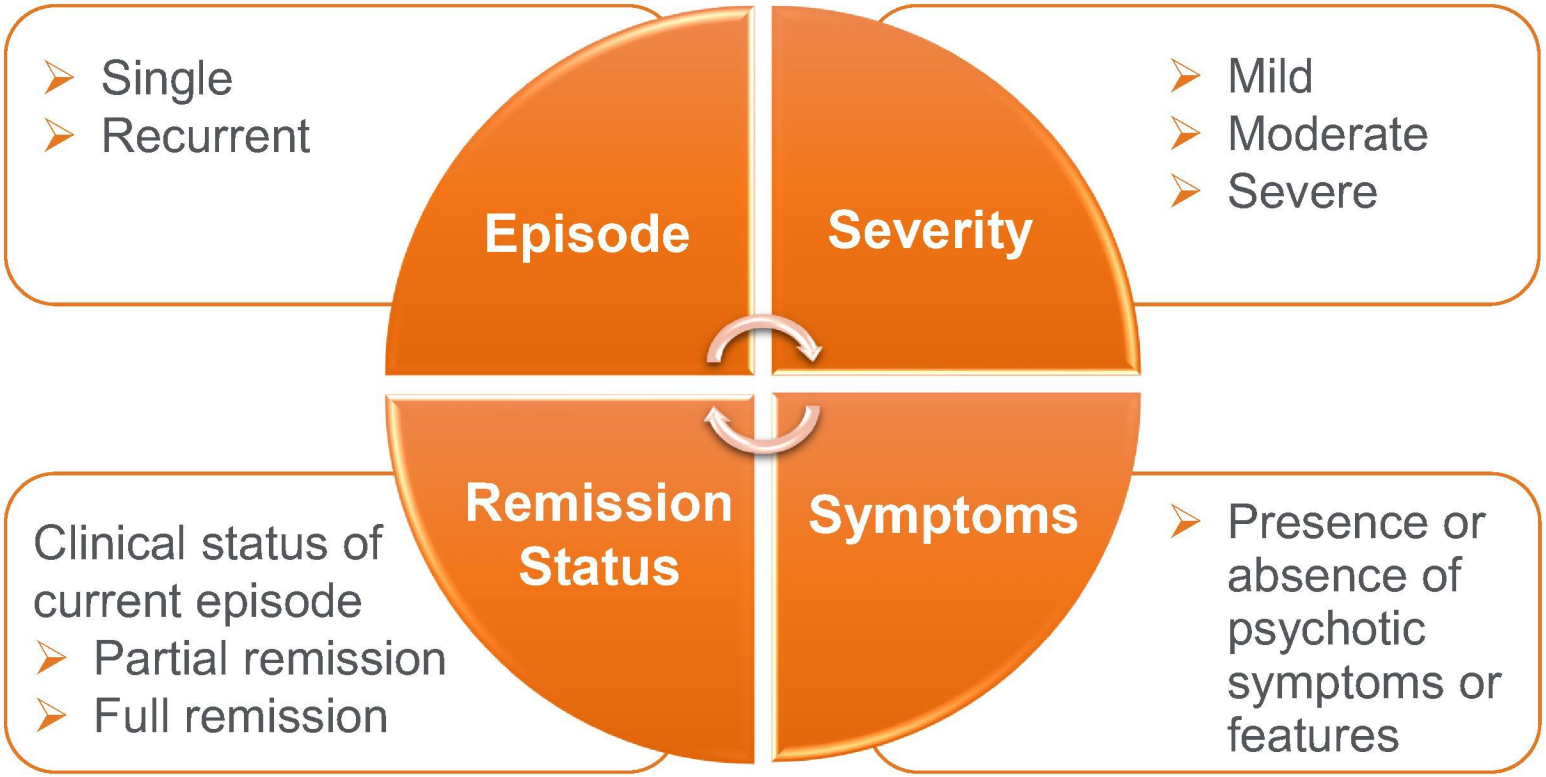
F32.- or **F33**.-

Major depressive disorder, single or recurrent episode

- However, if serious [affective] mood disorders (**F39**) exist, document and code specifically
  - Used when not sufficient as hypomanic or mild depressive episodes; Use only when clinically relevant

Major Depressive Disorder Documentation

The clinical documentation of Major Depressive Disorder (MDD) should specify:



APA. Diagnostic and Statistical Manual of Mental Disorders. 5th ed. Arlington, VA: American Psychiatric Association; 2013.

Major Depressive Disorder, Single Episode

DSM-5 criteria: Five (or more) of the following symptoms lasting at least two weeks; at least one of the symptoms is either depressed mood or loss of interest or pleasure:

• Depressed mood	• Fatigue or low energy	• Poor concentration
• Insomnia or hypersomnia	• Psychomotor retardation or agitation	• Thoughts of worthlessness or guilt
• Loss of interest or pleasure in most or all activities	• Significant weight loss or weight gain or a decrease or increase in appetite	• Recurrent thoughts about death or suicidal ideation

F32.0 Major depressive disorder, single episode, mild
F32.1 Major depressive disorder, single episode, moderate
F32.2 Major depressive disorder, single episode, severe w/o psychotic features
F32.3 Major depressive disorder, single episode, severe w/psychotic features

Other and unspecified types do not risk adjust
- F32.89 Other specified depressive episodes
- F32.9 Major depressive disorder, single episode, unspecified (Depression, NOS)

APA. Diagnostic and Statistical Manual of Mental Disorders. 5th ed. Arlington, VA: American Psychiatric Association; 2013.

Improving Accuracy and Completeness

Major Depressive Disorder

Assessment/Plan: Patient presents today concerned about his general mood. PHQ9 was administered and patient meets criteria for major depression. At this time he meets the criteria for mild severity. With the recent fire at his house and stress at work in addition to having young children at home he is feeling overwhelmed. We had a long conversation about this issue and he elected to try Effexor 37.5 mg. Patient will follow up in 4-6 weeks.

- F32.9 Depression, unspecified
- Labs ordered for testosterone, serum and TSH

Note: FH, SH, Exam and other parts of this progress note have been selectively left out.

Currently Coded:	Greater Specificity:
➢ Depression, unspecified (F32.9)	➢ Major Depression, single episode, mild (**F32.0**)

Accurate documentation can assist in correct health status reporting and assist the member in qualifying for additional quality programs.

Major Depressive Disorder, Recurrent

An episode is considered recurrent when there is an interval of at least two consecutive months between separate episodes during which criteria are not met for a major depressive episode.

Note: An individual can experience only one single depressive episode during his or her lifetime.

- In most cases, the depressive episodes continue, although the timing of the episodes for each patient varies

F33.0 Major depressive disorder, recurrent, mild
F33.1 Major depressive disorder, recurrent, moderate
F33.2 Major depressive disorder, recurrent, severe w/o psychotic features
F33.3 Major depressive disorder, recurrent, severe with psychotic features
F33.8 Other recurrent depressive episodes
F33.9 Major depressive disorder, recurrent, unspecified

APA. Diagnostic and Statistical Manual of Mental Disorders. 5th ed. Arlington, VA: American Psychiatric Association; 2013

Improving Accuracy and Completeness
Major Depressive Disorder

HPI: 69 yo M with ongoing pressure pain in the upper abdominal area with daily symptoms and recurrent depression. Patient has history of gallstones.

Assessment & Plan:

Abdominal pain (R10.9) Ultrasound abdomen to rule out gallstone.

Chronic depression (F32.9) Stable, controlled on current medication therapy; refill Zoloft 100mg. Discussed alternative coping mechanisms in detail such as counseling/therapy, finding a new hobby, spending more time outside or walking.

Note: FH, SH, Exam and other parts of this progress note have been selectively left out.

Currently Coded:	Greater Specificity:
➢ Chronic Depression (F32.9) ➢ Codes to major depressive disorder, single episode, unspecified	➢ Major Depressive Disorder, recurrent, unspecified (**F33.9**)

Accurate documentation can assist in correct health status reporting and assist the member in qualifying for additional quality programs.

Major Depressive Disorder, In Remission

Whether or not a patient is actively being treated for depression (for example, receiving counseling and/or currently on antidepressive medication(s) and is "stable"), the provider should still document and code in remission status, such as:

Partial remission

- Occasional symptoms from a previous major depressive episode without meeting full criteria or a hiatus lasting < 2 months without any significant symptoms

Full remission

- No significant signs or symptoms of the disturbance present during the past two months

F32.4 Major depressive disorder, single episode, in partial remission

F32.5 Major depressive disorder, single episode, in full remission

F33.40 Major depressive disorder, recurrent, in remission, unspecified

F33.41 Major depressive disorder, recurrent, in partial remission

F33.42 Major depressive disorder, recurrent, in full remission

APA. Diagnostic and Statistical Manual of Mental Disorders. 5th ed. Arlington, VA: American Psychiatric Association; 2013

Improving Accuracy and Completeness
Major Depressive Disorder

HPI: 79 y.o. female with depression in partial remission. Continues to have some symptoms. The current treatment plan includes: psychotherapy and meds (citalopram 20mg qd).

Assessment & Plan:

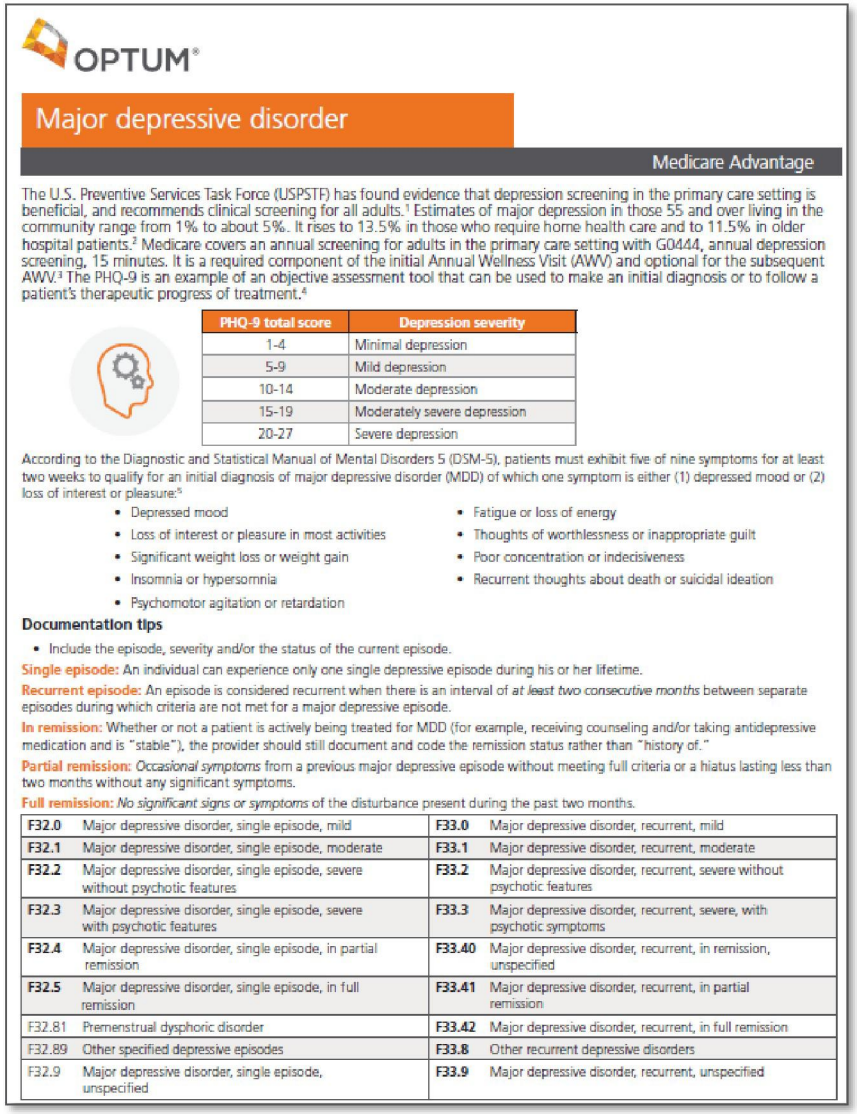
Depression F32.9
Stable on med. Followed by psychiatry, Dr. John Doe
- Continue current care

Note: FH, SH, Exam and other parts of this progress note have been selectively left out.

Currently Coded:	Greater Specificity:
➢ Major depressive disorder, single episode, unspecified (Depression, NOS) (F32.9)	➢ Major Depressive Disorder, single episode, partial remission (**F32.4**) ➢ Major Depressive Disorder, recurrent episode, partial remission (**F33.41**) • Query provider to confirm

Accurate documentation can assist in correct health status reporting and assist the member in qualifying for additional quality programs.

Major Depressive Disorder Tool



OPTUM®

Major depressive disorder

Medicare Advantage

The U.S. Preventive Services Task Force (USPSTF) has found evidence that depression screening in the primary care setting is beneficial, and recommends clinical screening for all adults.[1] Estimates of major depression in those 55 and over living in the community range from 1% to about 5%. It rises to 13.5% in those who require home health care and to 11.5% in older hospital patients.[2] Medicare covers an annual screening for adults in the primary care setting with G0444, annual depression screening, 15 minutes. It is a required component of the initial Annual Wellness Visit (AWV) and optional for the subsequent AWV.[3] The PHQ-9 is an example of an objective assessment tool that can be used to make an initial diagnosis or to follow a patient's therapeutic progress of treatment.[4]

PHQ-9 total score	Depression severity
1-4	Minimal depression
5-9	Mild depression
10-14	Moderate depression
15-19	Moderately severe depression
20-27	Severe depression

According to the Diagnostic and Statistical Manual of Mental Disorders 5 (DSM-5), patients must exhibit five of nine symptoms for at least two weeks to qualify for an initial diagnosis of major depressive disorder (MDD) of which one symptom is either (1) depressed mood or (2) loss of interest or pleasure:[5]

- Depressed mood
- Loss of interest or pleasure in most activities
- Significant weight loss or weight gain
- Insomnia or hypersomnia
- Psychomotor agitation or retardation
- Fatigue or loss of energy
- Thoughts of worthlessness or inappropriate guilt
- Poor concentration or indecisiveness
- Recurrent thoughts about death or suicidal ideation

Documentation tips

- Include the episode, severity and/or the status of the current episode.

Single episode: An individual can experience only one single depressive episode during his or her lifetime.

Recurrent episode: An episode is considered recurrent when there is an interval of *at least two consecutive months* between separate episodes during which criteria are not met for a major depressive episode.

In remission: Whether or not a patient is actively being treated for MDD (for example, receiving counseling and/or taking antidepressive medication and is "stable"), the provider should still document and code the remission status rather than "history of."

Partial remission: *Occasional symptoms* from a previous major depressive episode without meeting full criteria or a hiatus lasting less than two months without any significant symptoms.

Full remission: *No significant signs or symptoms* of the disturbance present during the past two months.

F32.0	Major depressive disorder, single episode, mild	**F33.0**	Major depressive disorder, recurrent, mild
F32.1	Major depressive disorder, single episode, moderate	**F33.1**	Major depressive disorder, recurrent, moderate
F32.2	Major depressive disorder, single episode, severe without psychotic features	**F33.2**	Major depressive disorder, recurrent, severe without psychotic features
F32.3	Major depressive disorder, single episode, severe with psychotic features	**F33.3**	Major depressive disorder, recurrent, severe, with psychotic symptoms
F32.4	Major depressive disorder, single episode, in partial remission	**F33.40**	Major depressive disorder, recurrent, in remission, unspecified
F32.5	Major depressive disorder, single episode, in full remission	**F33.41**	Major depressive disorder, recurrent, in partial remission
F32.81	Premenstrual dysphoric disorder	**F33.42**	Major depressive disorder, recurrent, in full remission
F32.89	Other specified depressive episodes	**F33.8**	Other recurrent depressive disorders
F32.9	Major depressive disorder, single episode, unspecified	**F33.9**	Major depressive disorder, recurrent, unspecified

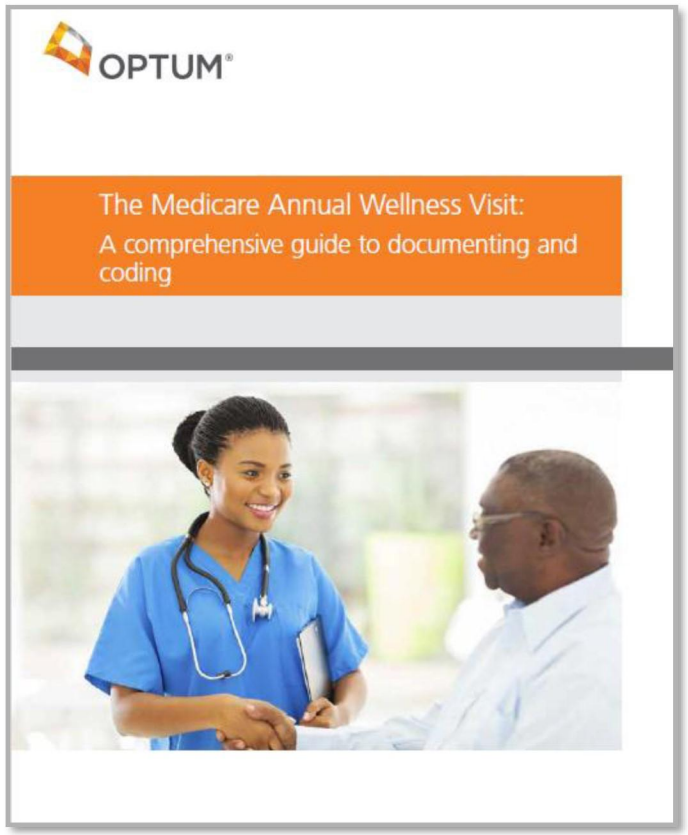
Additional Screening/Preventive Services
Depression

Screening for depression is a component of the "Welcome to Medicare" initial preventative physical exam (IPPE) and the initial annual wellness visit (AWV).

- Document the review of potential risk factors for depression

The subsequent AWV does *not* require a depression screening. It is an optional screening.

- Requires an update of health risk assessment (HRA)



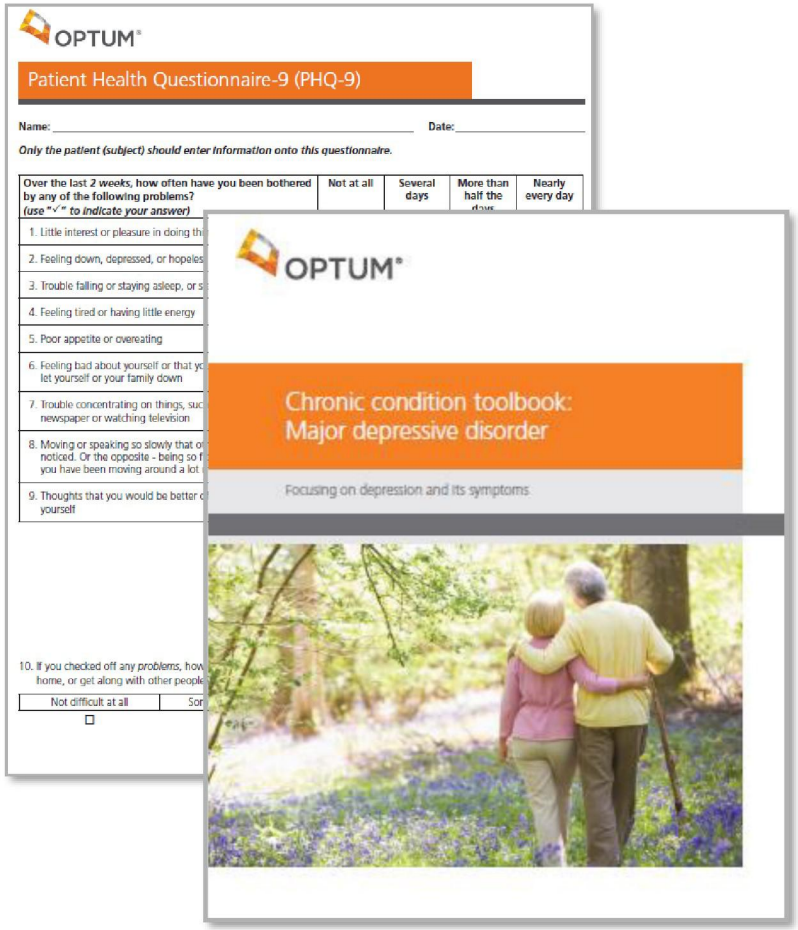
"Annual Wellness Visit: Medicare Learning Network." Centers for Medicare & Medicaid Services. Department of Health and Human Services, August 2018. Web. 8 Jan 2020. https://www.cms.gov/Outreach-and-Education/Medicare-Learning-Network-MLN/MLNProducts/Downloads/AWV-Chart-ICN905706TextOnly.pdf

"Initial Preventive Physical Examination (IPPE)." Centers for Medicare & Medicaid Services. Department of Health and Human Services, August 2018. Web. 8 Jan 2020. http://www.cms.gov/Outreach-and-Education/Medicare-Learning-Network-MLN/MLNProducts/Downloads/MPS_QRI_IPPE001a.pdf

Additional Screening/Preventive Services
Depression

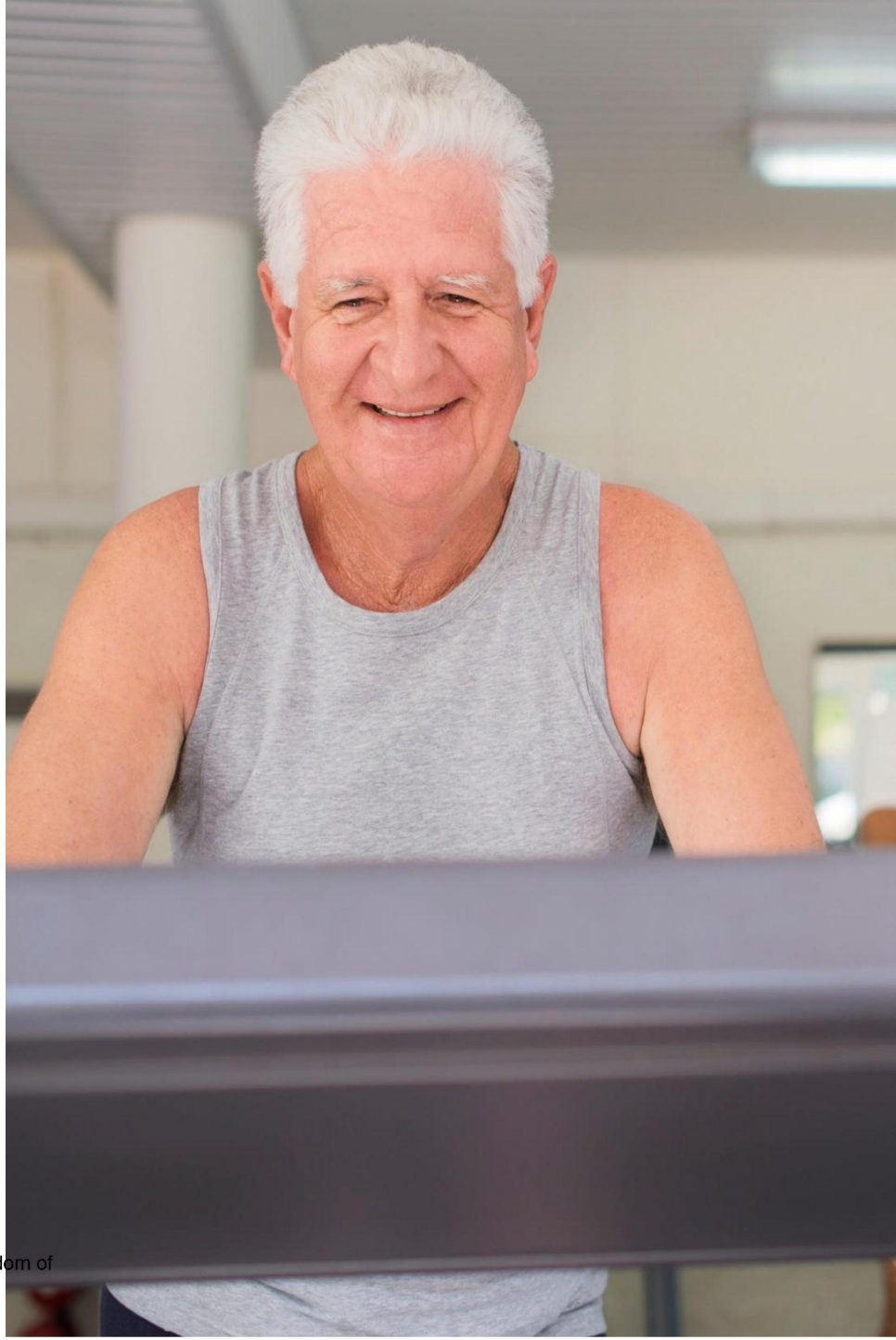
Screening for depression:

- Included with G0444 Annual depression screening, 15 minutes
  - Any appropriate ICD-10-CM code can be used
    - Example: Z13.31, Encounter for screening for depression
  - Please check with your health plan regarding contract specifics as coverage may vary
- There are a number of evidence-based media tools that are effective in screening for depression
  - The Patient Health Questionnaire (PHQ-9) is one screening tool and is available from Optum
- If the patient meets the DSM-5 criteria for major depressive disorder, it must be clearly documented by episode and severity



Documenting & Coding

Obesity and BMI



OPTUM®

Coding Overweight and Obesity

- **Obesity codes are often under coded**

E66.3 Overweight

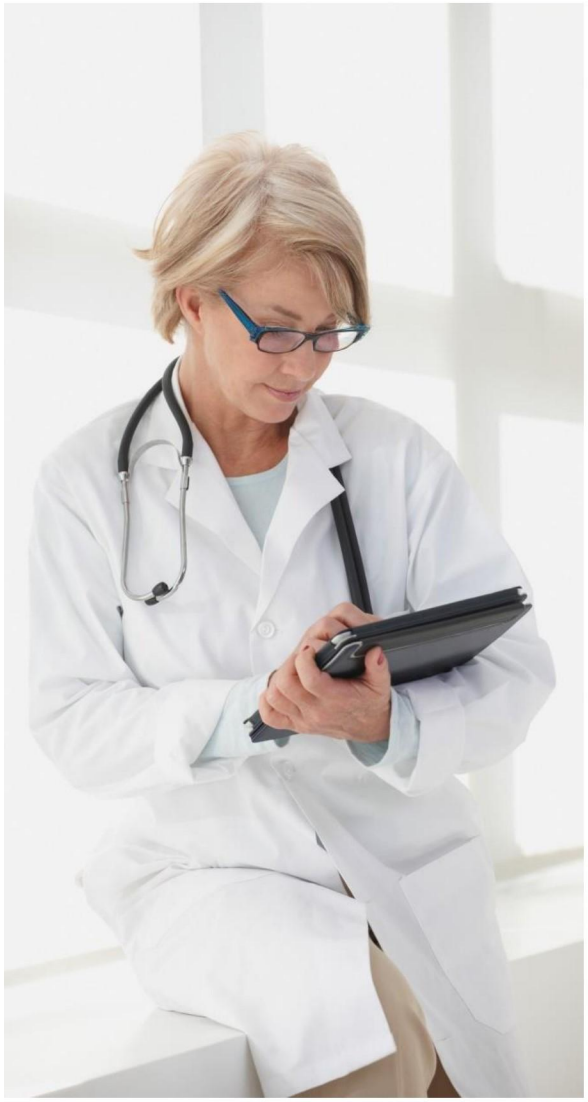
- is often not coded correctly
- is appropriate at times.

- **Be specific –identify the problem**

E66.01
E66.2

Morbid (severe) obesity due to excess calories or with alveolar hypoventilation

- Document and code serious weight concerns with high risk obesity-associated complication



Overweight, Obesity and Morbid Obesity

ICD-10-CM	Code Description
E66.01	**Morbid (severe) obesity due to excess calories**
E66.09	**Other obesity due to excess calories**
E66.1	**Drug-induced obesity** Use additional code for adverse effect, if applicable, to identify drug (T36-T50 with fifth or sixth character 5)
E66.2	**Morbid (severe) obesity with alveolar hypoventilation**
E66.3	**Overweight**
E66.8	Other obesity
E66.9	**Obesity, unspecified**

Note:
Documentation must support an established overweight, obese or morbid (severe) obesity diagnosis.

- *The condition cannot be coded from the BMI*

Optum360 ICD-10-CM: Professional for Physicians 2020. Salt Lake City, UT: 2019.

Morbid Obesity

- Obese class II: BMI ≥35-39.9 *with a related comorbidity*[1] (for example, DM, HTN, COPD, etc.) with supportive documentation of the comorbid conditions can be reported as:
  - **E66.01** Morbid obesity
  - Z68.35-Z68.39 BMI based on the appropriate range
  - Additional code(s) for co-morbidity
- Obese class III (morbid obesity; severe obesity) is generally recognized as a person with a BMI of ≥ 40.

Classification	BMI Principal cut-off points
Normal range	*18.50–24.99*
Overweight	*>25.00*
Pre-obese	25.00–29.99
Obese	*>30.00*
Obese class I	30.00–34.99
Obese class II	35.00–39.99
Obese class III (Morbid obesity)	≥40.00

Example:

Severe obesity with co-morbidity and BMI of 35.2

Optum360 ICD-10-CM: Professional for Physicians 2020 Salt Lake City, UT; 2019.

1 Buchwald H. Consensus Conference Statement Bariatric surgery for morbid obesity: Health implications for patients, health professionals, and third-party payers. https://asmbs.org/resources/consensus-statement Published March 2005. Accessed November 27, 2019.

Body Mass Index (BMI)

BMI (Z68.-) should only be reported as a secondary diagnoses

- BMI is as an essential HEDIS and Stars quality measure required by CMS
  - *Do not round up the BMI*
  - *Weight and BMI must noted*
- BMI codes can be assigned from the dietician's or other caregiver's documentation, but the provider must document the condition (i.e. overweight, morbid obesity, malnutrition, etc)

E66 Overweight and obesity

Code first obesity complicating pregnancy, childbirth and the puerperium, if applicable (O99.21-)

Use additional code to identify body mass index (BMI), if known (Z68.-)

Z68 Body mass index [BMI]

Kilograms per meters squared

NOTE ►BMI adult codes are for use for persons 20 years of age or older◄

Note: BMI Z68.30-Z68.34 not shown here

Z68.3	Body mass index [BMI] 30-39, adult		
Z68.35	Body mass index [BMI] 35.0-35.9, adult		A
Z68.36	Body mass index [BMI] 36.0-36.9, adult		A
Z68.37	Body mass index [BMI] 37.0-37.9, adult		A
Z68.38	Body mass index [BMI] 38.0-38.9, adult		A
Z68.39	Body mass index [BMI] 39.0-39.9, adult		A
Z68.4	Body mass index [BMI] 40 or greater, adult		
Z68.41	Body mass index [BMI] 40.0-44.9, adult	HCC	A
Z68.42	Body mass index [BMI] 45.0-49.9, adult	HCC	A
Z68.43	Body mass index [BMI] 50-59.9, adult	HCC	A
Z68.44	Body mass index [BMI] 60.0-69.9, adult	HCC	A
Z68.45	Body mass index [BMI] 70 or greater, adult	HCC	A

HCC CMS-HCC A Adult: 15-124 ►◄ Revised Text

Optum360 ICD-10-CM: Professional for Physicians 2020. Salt Lake City, UT; 2019.

Coding for the Management of Obesity

Example:

Severe obesity with comorbidity and BMI 35.2

Z71.3	Dietary counseling and surveillance
Z71.8	Exercise counseling
Z72.3	Lack of physical exercise
Z72.4	Inappropriate diet and eating habits
Z91.11	Patient's noncompliance with dietary regimen
Z98.84	Bariatric surgery status

Improving Accuracy and Completeness
Obesity

BP	Temp	WT	HT	BMI *kg/m²*
117/70	98.3	229.4 lbs	5'6"	37.0

Physical Examination; *Constitutional*

- Appearance: morbidly obese, well developed, well nourished, in no acute distress, appears about reported age.

Assessment:

- Diabetes mellitus, Type II (**E11.9**) stable continue current regimen; labs reviewed.
- Obesity (E66.9) discussed diabetic diet and increase exercise (walking) as tolerated.

Note: FH, SH, Exam and other parts of this progress note have been selectively left out.

Currently Coded:	Greater Specificity:
➢ Diabetes mellitus, Type II (**E11.9**) ➢ Obesity, unspecified (E66.9)	➢ Diabetes mellitus, Type II (**E11.9**) ➢ Morbid Obesity (**E66.01**) ➢ BMI 37.0-37.9 (Z68.37)

Accurate documentation can assist in correct health status reporting and assist the member in qualifying for additional quality programs.

Improving Accuracy and Completeness

Obesity

BP	Pulse	Temp	WT	HT	BMI *kg/m²*
140/90	70	98	299 lbs	5'11"	41

Assessment:
Essential (primary) hypertension (I10)
Obesity (E66.9)

Plan:
Hypertension stable continue current treatment
Discussion regarding morbid obesity increasing cardiovascular risk; patient educated on importance and health benefits of weight loss. Encouraged to follow a 1800 cal/day diet.

Note: FH, SH, Exam and other parts of this progress note have been selectively left out.

Currently Coded:	Greater Specificity:
➢ Hypertension (I10) ➢ Obesity, unspecified (E66.9)	➢ Hypertension (I10) ➢ Morbid Obesity (**E66.01**) ➢ BMI 40-44.9 (**Z68.41**)

Accurate documentation can assist in correct health status reporting and assist the member in qualifying for additional quality programs.

Intensive Behavioral Therapy (IBT)

For Obesity: G0447*

Requirements

- Alert and competent patients with BMI ≥30
- Counseling by primary care practitioner in primary care setting
- Dietary (nutritional) assessment
- Intensive behavioral counseling and behavioral therapy to promote sustained weight loss through high intensity interventions on diet and exercise
- Five "A"s: **A**ssess, **A**dvise, **A**gree, **A**ssist, **A**rrange

* Please check with your health plan regarding contract specifics as coverage may vary.

http://www.cms.gov/Outreach-and-Education/Medicare-Learning-Network-MLN/MLNMattersArticles/downloads/MM7641.pdf

Optum360 *2020 HCPCS Level II Professional*. Salt Lake City, UT: Optum360; 2019.

Intensive Behavioral Therapy (IBT)

For Obesity: G0447*

Schedule of Visits

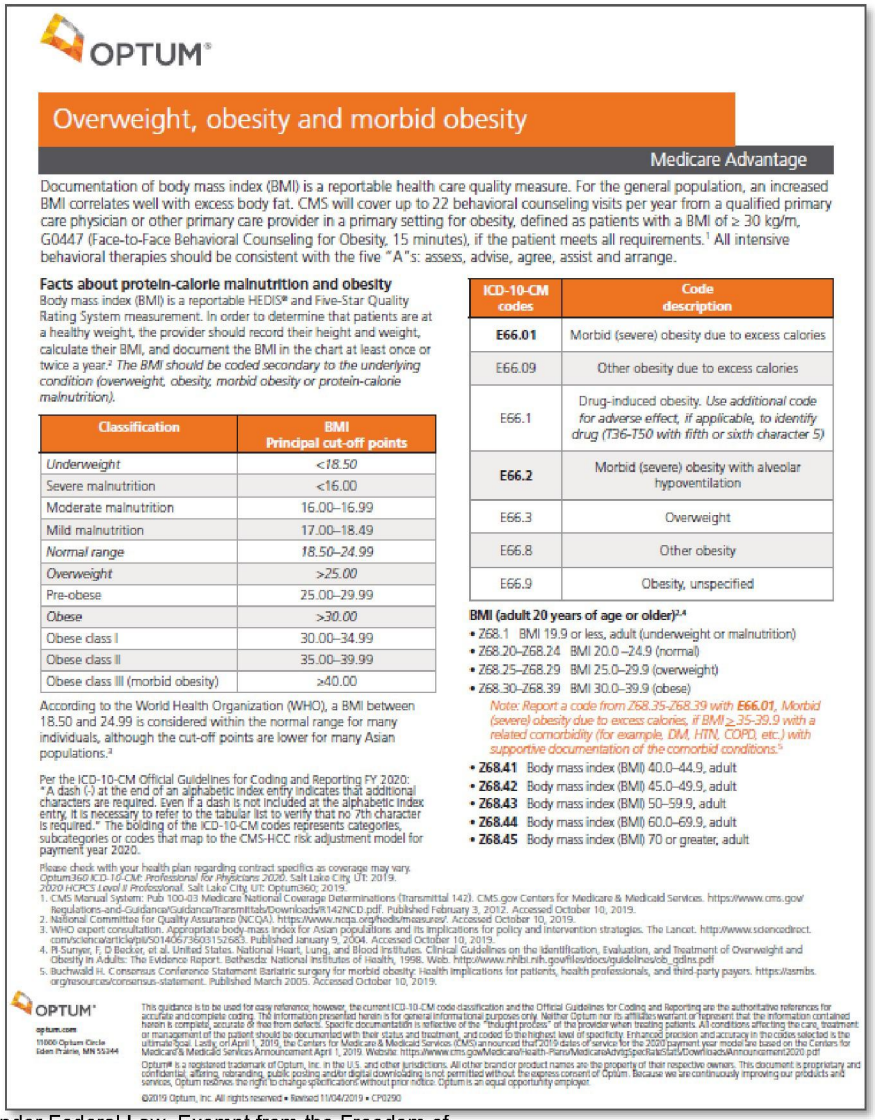
- Medicare covers a maximum of 22 IBT for obesity sessions in a 12-month period
  - One face-to-face visit every week for the first month
  - One face-to-face visit every other week for months 2 – 6
  - One face-to-face visit every month for months 7 – 12, if the beneficiary meets the 3 kg (6.6 pounds) weight loss requirement during the first 6 months

* Please check with your health plan regarding contract specifics as coverage may vary.

http://www.cms.gov/Outreach-and-Education/Medicare-Learning-Network-MLN/MLNMattersArticles/downloads/MM7641.pdf

Optum360 *2020 HCPCS Level II Professional*. Salt Lake City, UT: Optum360; 2019.

Obesity Tool



OPTUM®

Overweight, obesity and morbid obesity

Medicare Advantage

Documentation of body mass index (BMI) is a reportable health care quality measure. For the general population, an increased BMI correlates well with excess body fat. CMS will cover up to 22 behavioral counseling visits per year from a qualified primary care physician or other primary care provider in a primary setting for obesity, defined as patients with a BMI of ≥ 30 kg/m, G0447 (Face-to-Face Behavioral Counseling for Obesity, 15 minutes), if the patient meets all requirements.[1] All intensive behavioral therapies should be consistent with the five "A"s: assess, advise, agree, assist and arrange.

Facts about protein-calorie malnutrition and obesity

Body mass index (BMI) is a reportable HEDIS® and Five-Star Quality Rating System measurement. In order to determine that patients are at a healthy weight, the provider should record their height and weight, calculate their BMI, and document the BMI in the chart at least once or twice a year.[2] *The BMI should be coded secondary to the underlying condition (overweight, obesity, morbid obesity or protein-calorie malnutrition).*

Classification	BMI Principal cut-off points
Underweight	*<18.50*
Severe malnutrition	<16.00
Moderate malnutrition	16.00–16.99
Mild malnutrition	17.00–18.49
Normal range	*18.50–24.99*
Overweight	*>25.00*
Pre-obese	25.00–29.99
Obese	*>30.00*
Obese class I	30.00–34.99
Obese class II	35.00–39.99
Obese class III (morbid obesity)	>40.00

According to the World Health Organization (WHO), a BMI between 18.50 and 24.99 is considered within the normal range for many individuals, although the cut-off points are lower for many Asian populations.[3]

Per the ICD-10-CM Official Guidelines for Coding and Reporting FY 2020: "A dash (-) at the end of an alphabetic index entry indicates that additional characters are required. Even if a dash is not included at the alphabetic index entry, it is necessary to refer to the tabular list to verify that no 7th character is required." The bolding of the ICD-10-CM codes represents categories, subcategories or codes that map to the CMS-HCC risk adjustment model for payment year 2020.

ICD-10-CM codes	Code description
E66.01	Morbid (severe) obesity due to excess calories
E66.09	Other obesity due to excess calories
E66.1	Drug-induced obesity. *Use additional code for adverse effect, if applicable, to identify drug (T36-T50 with fifth or sixth character 5)*
E66.2	Morbid (severe) obesity with alveolar hypoventilation
E66.3	Overweight
E66.8	Other obesity
E66.9	Obesity, unspecified

BMI (adult 20 years of age or older)[2,4]

- Z68.1 BMI 19.9 or less, adult (underweight or malnutrition)
- Z68.20–Z68.24 BMI 20.0–24.9 (normal)
- Z68.25–Z68.29 BMI 25.0–29.9 (overweight)
- Z68.30–Z68.39 BMI 30.0–39.9 (obese)

Note: Report a code from Z68.35-Z68.39 with ***E66.01****, Morbid (severe) obesity due to excess calories, if BMI ≥ 35-39.9 with a related comorbidity (for example, DM, HTN, COPD, etc.) with supportive documentation of the comorbid conditions.*[5]

- **Z68.41** Body mass index (BMI) 40.0–44.9, adult
- **Z68.42** Body mass index (BMI) 45.0–49.9, adult
- **Z68.43** Body mass index (BMI) 50–59.9, adult
- **Z68.44** Body mass index (BMI) 60.0–69.9, adult
- **Z68.45** Body mass index (BMI) 70 or greater, adult

Please check with your health plan regarding contract specifics as coverage may vary.
Optum360 ICD-10-CM: Professional for Physicians 2020. Salt Lake City, UT: 2019.
2020 HCPCS Level II Professional. Salt Lake City, UT: Optum360; 2019.

1. CMS Manual System: Pub 100-03 Medicare National Coverage Determinations (Transmittal 142). CMS.gov Centers for Medicare & Medicaid Services. https://www.cms.gov/Regulations-and-Guidance/Guidance/Transmittals/Downloads/R142NCD.pdf. Published February 3, 2012. Accessed October 10, 2019.
2. National Committee for Quality Assurance (NCQA). https://www.ncqa.org/hedismeasures/. Accessed October 10, 2019.
3. WHO expert consultation. Appropriate body-mass index for Asian populations and its implications for policy and intervention strategies. The Lancet. http://www.sciencedirect.com/science/article/pii/S0140673603152683. Published January 9, 2004. Accessed October 10, 2019.
4. Pi-Sunyer, F, D Becker, et al. United States. National Heart, Lung, and Blood Institutes. Clinical Guidelines on the Identification, Evaluation, and Treatment of Overweight and Obesity in Adults: The Evidence Report. Bethesda: National Institutes of Health, 1998. Web. http://www.nhlbi.nih.gov/files/docs/guidelines/ob_gdlns.pdf
5. Buchwald H. Consensus Conference Statement Bariatric surgery for morbid obesity: Health implications for patients, health professionals, and third-party payers. https://asmbs.org/resources/consensus-statement. Published March 2005. Accessed October 10, 2019.

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Documenting & Coding

Protein-Calorie Malnutrition

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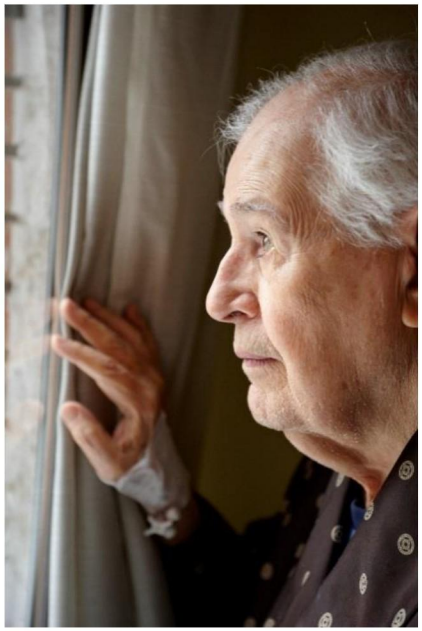
Protein-Calorie Malnutrition

- Providers should assess for malnutrition whenever they are notified of or notice:
  - Unexpected weight loss
  - Diminished nutritional intake
  - Low BMI
  - Prolonged hospital or skilled nursing facility (SNF) stays
- The prevalence of protein-calorie malnutrition varies depending on the clinical setting



Setting	Prevalence
Community setting	4%
Subacute care facility	29%
Hospitalized elderly aged 60-79	27%
Hospitalized elderly aged ≥80	38%
Hospitalized over two weeks and aged ≥70 years of age	30-40%

1. Berrington de Gonzalez A and others (December 2010). Body-Mass Index and Mortality among 1.46 Million White Adults. N. Engl. J. Med. 363 (23): 2211–9. (2010)

Protein-Calorie Malnutrition

It's Worth a Second Look!

If documenting:

R63.4	Abnormal Weight Loss
R63.0	Loss of Appetite
R63.6	Underweight
R62.7	Adult Failure to Thrive

Consider the following:

E44.1	*Protein-Calorie Malnutrition, Mild Degree*
E46	*Protein-Calorie Malnutrition, Unspecified*

Note: Document comorbidities[1]

- Cancer
- Pancreatitis
- Liver disease
- Anemia
- ESRD
- Alcoholic hepatitis
- Cirrhosis
- Celiac disease
- Obesity
- Cystic fibrosis
- Depression
- CHF
- Dementia
- Alcohol use disorder

1 Optum360. Guide to Clinical Validation, Documentation and Coding: Validating Code Assignments with Clinical Documentation. 2017th ed. West Valley City, UT: Optum360; 2016.

Coding Protein-Calorie Malnutrition

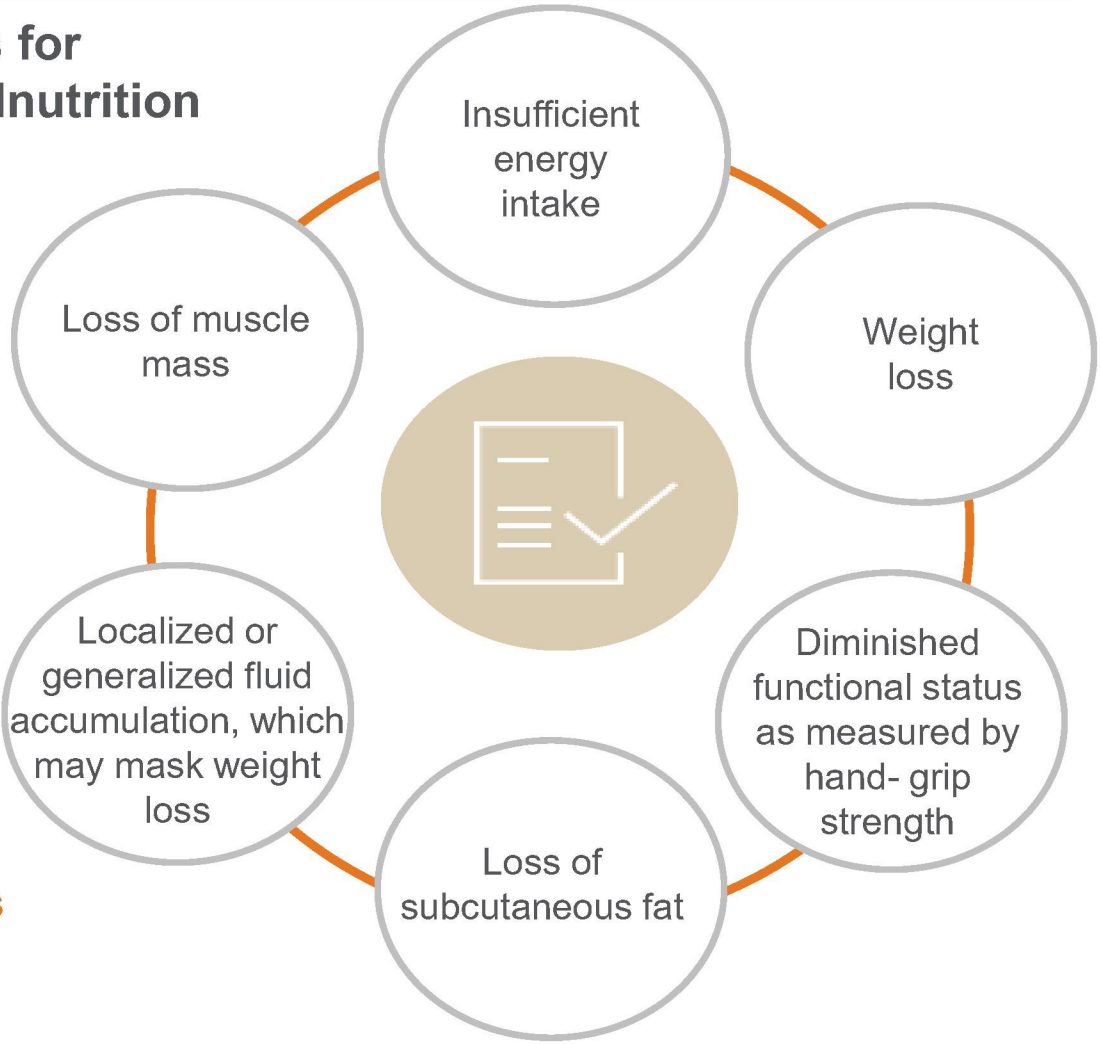
ICD-10-CM	Code Description	Examples of Diagnostic Criteria
E44.0	Moderate protein-calorie malnutrition	"Second Degree" Characterized by superimposed biochemical changes in electrolytes, lipids, blood plasma [1,2]
E44.1	Mild protein-calorie malnutrition	"First Degree" Characterized by tissue wasting in an adult, but few or no biochemical changes [1]
E46	Unspecified protein-calorie malnutrition	Not elsewhere specified [1] Protein-calorie imbalance NOS; Malnutrition NOS [2]
R64	Cachexia	Wasting disease; general ill health and poor nutrition.[1] Code first underlying condition if known.[2]

1. Optum360. Coders' Desk Reference for Diagnoses 2020. Salt Lake City, UT: Optum360; 2019.
2. Optum360 ICD-10-CM: Professional for Physicians 2020. Salt Lake City, UT; 2019.
3. Optum360. Guide to Clinical Validation, Documentation and Coding: Validating Code Assignments with Clinical Documentation. 2017th ed. West Valley City , UT: Optum360; 2016.

Protein-Calorie Malnutrition

Recommended characteristics for diagnosing protein-calorie malnutrition

- Identify a specific tool (SNAQ 65+, CANS, A.S.P.E.N., etc.) to define PCM criteria.
- The American Society for Parenteral and Enteral Nutrition (A.S.P.E.N.).
  - Standardized the approach to diagnosing malnutrition in adults.[1]
- There is no single parameter to define adult malnutrition.
  - A.S.P.E.N. recommends the identification of two or more of the following six characteristics for diagnosis.



White JV. et al. Consensus Statement: Academy of Nutrition and Dietetics and American Society for Parenteral and Enteral Nutrition: Characteristics Recommended for the Identification and Documentation of Adult Malnutrition (Undernutrition). JPEN J Parenter Enteral Nutr. 2012;36: 275-283. https://doi.org/10.1016/j.jand.2012.03.012

Protein-Calorie Malnutrition

- Although PCM can be diagnosed when the BMI is ≤18.9, it should be noted that the elderly are at increased risk of death when the BMI is ≤ 21.[1]
  - Based on the provider's clinical judgement.

- Therefore, the provider should ensure that the elderly have adequate caloric and protein intake so that the BMI is above 21.

Example:

Protein-calorie malnutrition with BMI 18

1. Berrington de Gonzalez A and others (December 2010). Body-Mass Index and Mortality among 1.46 Million White Adults. N Engl J Med. 363 (23): 2211-9. (2010)

Improving Accuracy and Completeness

Protein Calorie Malnutrition

HPI: Follow up for medication refill for depression. Food intake curtailed due to appetite being on and off.

PE; General appearance: Looks thin, has lost 4 lbs, in no acute distress.

Assessment:
Major depression recurrent, mild (**F33.0**) Pt reports good control. Renew Escitalopram 10mg and continue to monitor.
Loss of appetite (R63.0) Unintentional weight loss of 4 lbs since last visit. Start Ensure BID.

Note: FH, SH, Exam and other parts of this progress note have been selectively left out.

Currently Coded:	Greater Specificity (Suspect):
➢ Major depression recurrent, mild (**F33.0**) ➢ Loss of appetite (R63.0)	➢ Major depression recurrent, mild (**F33.0**) ➢ Protein-calorie malnutrition (**E46**) • *Should be defined in documentation*

Accurate documentation can assist in correct health status reporting and assist the member in qualifying for additional quality programs.

Improving Accuracy and Completeness

Protein Calorie Malnutrition

HPI: She continues to feel weak. She is more tired. Also, has issues with walking, she has some weakness in the legs.

BP	Pulse	Temp	WT	HT	BMI *kg/m²*
119/76	88	98.3	105 lbs	5'3"	18.6

Assessment:
Weakness (R53.1) referred to PT; CBC ordered.
BMI less than 19, adult (Z68.1) recommended to drink Ensure to supplement one meal.

Note: FH, SH, Exam and other parts of this progress note have been selectively left out.

Currently Coded:	Greater Specificity (Suspect):
➢ Weakness (R53.1) ➢ BMI less than 19, adult (Z68.1)	➢ Weakness (R53.1) ➢ Protein-calorie malnutrition (**E46**) • Should be defined in documentation ➢ BMI less than 19, adult (Z68.1)

Accurate documentation can assist in correct health status reporting and assist the member in qualifying for additional quality programs.

Protein-Calorie Malnutrition - Tool

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Protein-Calorie Malnutrition

Medicare Advantage

In order to improve the reporting of malnutrition among the elderly, it is important for providers to document the condition in the medical record and for coders to be aware of malnutrition as a potential diagnosis. Protein-calorie malnutrition (PCM) risk increases with age and level of care, and it is estimated to be present in at least 20% of hospitalized and nursing home patients.[1]

Protein-calorie malnutrition is associated with many disease states, including:[2]

- Cancer
- Alcohol abuse and/or dependence
- Liver disease
- Chronic kidney disease (CKD)
- Pancreatitis
- Drug abuse and/or dependence
- Anemia
- End stage renal disease (ESRD)

Documentation tips:[2,3]

- Weight loss or gain
- Lab values, if appropriate
  Note: Protein-calorie malnutrition to a mild degree, **E44.1**, or unspecified, **E46**, require few or no biochemical labs to validate use of these codes.
- Degree or severity
- BMI and any underlying conditions
- Treatment plan

Protein-calorie malnutrition codes represent a confirmed clinical diagnosis. The codes listed below are considered signs and symptoms and should only be used if a definitive diagnosis cannot be achieved.

- R62.7 Adult failure to thrive
- R63.0 Loss of appetite
- R63.4 Abnormal weight loss
- R63.6 Underweight

A variation of the Short Nutritional Assessment Questionnaire has been developed for community-dwelling members who are age 65 years or older: SNAQ^{65+}. Please note that there are other SNAQ surveys for both hospitalized members and those in residential care or care homes.[4]

ICD-10-CM codes	Code description	Examples of diagnostic criteria
E43	**Severe** Protein-calorie malnutrition	**"Third degree"** occurs when adequate protein or calories are not received for normal growth, body maintenance and the energy necessary for ordinary activities[5]
E44.0	**Moderate** Protein-calorie malnutrition	**"Second degree"** is characterized by superimposed biochemical changes in electrolytes, lipids and blood plasma[5]
E44.1	**Mild** Protein-calorie malnutrition	**"First degree"** is characterized by tissue wasting in an adult, **but few or no biochemical changes**[5]
E45	**Retarded development** following protein-calorie malnutrition	Nutritional stunting or short stature, physical retardation due to malnutrition[5]
E46	**Unspecified** Protein-calorie malnutrition	Malnutrition NOS Protein-calorie imbalance NOS
R64	**Cachexia**	**Wasting syndrome; general ill health and poor nutrition.**[5] Code first underlying condition, if known

Elements of Short Nutritional Assessment Questionnaire 65+ (SNAQ^{65+})[4]

Findings	Not undernourished	At-risk for undernutrition	Undernourished
Unintentional weight loss within the last six months	< 4 kg (8.8 lbs.)		≥ 4 kg (8.8 lbs.)
Mid-upper arm circumference	≥ 25 cm (9.8 inches)		< 25 cm (9.8 inches)
Appetite and functionality	Good appetite and/or well-functioning	Poor appetite *and* poor functioning	

- If the patient does not know whether he/she has had weight loss within this period, ask the patient: if clothes have become too big, if the belt has had to be tightened recently, and/or if the watch has become looser around the wrist
- For the mid-upper arm circumference measurement: Keep the left arm at a 90° angle with the palm of the hand turned toward the body; determine the center point between the lateral bone of the shoulder (acromion) and the tip of the elbow (olecranon); and then measure the circumference of the left upper arm at the center point with the arm hanging loosely
- For appetite and functionality, ask the member whether:
  - He/she has had a poor appetite in the past week
  - He/she can walk up and down a staircase of 15 steps without resting
    - For patients who can no longer climb stairs, ask whether they can walk outside for five minutes without resting
    - For wheelchair-bound members, determine if they can move around in the wheelchair for five minutes without resting

Recommended characteristics for diagnosing protein-calorie malnutrition

In 2009, The American Society for Parenteral and Enteral Nutrition (A.S.P.E.N.) recognized the need to standardize the approach to the diagnosis of malnutrition in adults, since there is no single parameter for adult malnutrition.[5]

The identification of *two or more of the following six characteristics* is recommended for diagnosis:

- Insufficient energy intake[6,7,8]
- Weight loss[9, 10, 11, 12]
- Loss of muscle mass[12, 13]
- Loss of subcutaneous fat[12, 13]
- Localized or generalized fluid accumulation that may sometimes mask weight loss[12, 13]
- Diminished functional status as measured by hand-grip strength[12, 14, 15, 16, 17, 18, 19]

Facts about protein-calorie malnutrition and obesity

Body mass index (BMI) is a reportable HEDIS/Five-Star Quality Rating health care quality measurement. In order to determine that patients are at a healthy weight, the provider should record their height and weight, calculate the BMI, and document the BMI in the chart at least once or twice a year.[3]

BMI	Weight status	Status and BMI coding	
19.9 or less	Underweight	R63.6	Z68.1
	Cachexia	**R64**	
	Protein-calorie malnutrition	**E43 – E46**	
20 – 24.9	Normal	-	Z68.20 – Z68.24
25.0 – 29.9	Overweight	E66.3	Z68.25 – Z68.29
30.0 – 39.9	Obese	E66.9	Z68.30 – Z68.39
40 and above	Morbid obesity	**E66.01**	**Z68.4-**

Although PCM can be diagnosed when the BMI is ≤ 18.9, it should be noted that the elderly are at increased risk of death when the BMI is ≤ 21.[20] Therefore, the provider should ensure that the elderly have adequate caloric and protein intake so that the BMI is above 21. The BMI should be coded secondary to the underlying condition (overweight, obesity, morbid obesity, underweight, cachexia or protein-calorie malnutrition).

Per the ICD-10-CM Official Guidelines for Coding and Reporting FY 2020: "A dash (-) at the end of an alphabetic index entry indicates that additional characters are required. Even if a dash is not included at the alphabetic index entry, it is necessary to refer to the tabular list to verify that no 7th character is required." The bolding of the ICD-10-CM codes represents categories, subcategories or codes that map to the CMS-HCC risk adjustment model for payment year 2020.

- HEDIS® is a registered trademark of the National Committee for Quality Assurance (NCQA)
- For additional information about the Medicare Advantage Five-Star Quality Rating System, please refer to: go.cms.gov/partcanddstarratings

Optum360 ICD-10-CM: Professional for Physicians 2020. Salt Lake City, UT: 2019.

1. Ball CI, Lee AS, Tamura BK. Malnutrition in the nursing home. Current neurology and neuroscience reports. https://www.ncbi.nlm.nih.gov/pubmed/25394167. Published January 2015. Accessed October 3, 2019.
2. Hoffer, John L. "Clinical Nutrition: Protein-energy Malnutrition in the Inpatient." Ed. Canadian Medical Association Journal. (2001).
3. *Optum360. Coders' Desk Reference for Diagnoses 2020.* Salt Lake City, UT: Optum360; 2019.
4. Dutch Malnutrition Screening Group. Short Nutritional Assessment Questionnaire 65+ (SNAQ^{65+}) screening tools. http://www.fightmalnutrition.eu/toolkits/screening. Accessed on October 3, 2019.
5. White JV, et al. Consensus Statement: Academy of Nutrition and Dietetics and American Society for Parenteral and Enteral Nutrition: Characteristics Recommended for the Identification and Documentation of Adult Malnutrition (Undernutrition). JPEN J Parenter Enteral Nutr. 2012;36: 275-283.
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7. Bankhead R, Boullata J, Brantley S, et al; A.S.P.E.N. Board of Directors. Enteral nutrition practice recommendations. JPEN J Parenter Enteral Nutr. 2009;33(2):122-167.
8. Evidence-Based Nutrition Practice Guidelines. Nutrition Guidelines List. EAL. https://www.andeal.org/category.cfm?cid=14. Accessed October 3, 2019.
9. Blackburn GL, Bistrian BR, Maini BS, Schlamm HT, Smith MF. Nutritional and metabolic assessment of the hospitalized patient. JPEN J Parenter Enteral Nutr. 1977;1(1):11-22.
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16. Windsor JA, Hill GA. Grip strength: a measure of the proportion of protein loss in surgical patients. Br J Surg. 2005;75:880-882.
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19. Cruz-Jentoft AJ, Baeyens JP, Bauer JM, et al. Sarcopenia: consensus on definition and diagnosis. Report of the European Working Group on Sar- copenia in Older People. Age 12-423.
20. Barrington de Gonzalez A and others (December 2010). Body-Mass Index and Mortality among 1.46 Million White Adults. N. Engl. J. Med. 363 (23): 2211-9. (2010).

Reporting Quality

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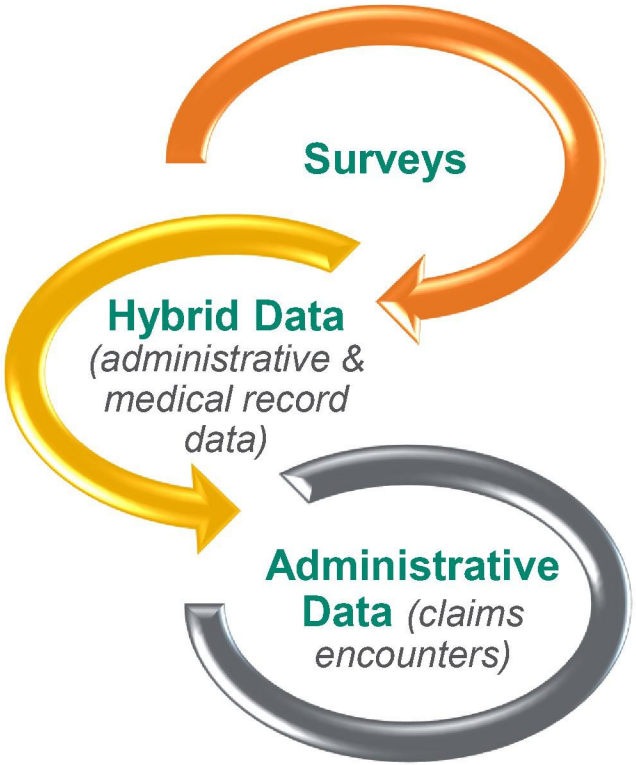
HEDIS®: Data Sources & Domains of Care

Data sources to capture HEDIS measures:



HEDIS 2020 contains 96 measures across 6 domains of care:

- Effectiveness of Care
- Access/Availability of Care
- Experience of Care
- Utilization and Risk Adjusted Utilization
- Health Plan Descriptive Information
- Measures Collected Using Electronic Clinical Data Systems

- For additional information about HEDIS, please visit the National Committee for Quality Assurance (NCQA) website at www.ncqa.org
- For additional information about the Medicare Advantage Five-Star Quality Rating System, please refer to: http://go.cms.gov/partcanddstarratings

Adult BMI Assessment (ABA)

Metric

- ✓ MA members 18-74 years of age.
- ✓ Had an outpatient visit and BMI was documented during the current calendar year or year prior.

Documentation

- ✓ Weight and BMI must be from same data source.
  - ✓ Notation of only BMI or only weight is not sufficient.
  - ✓ Do not round up the BMI.

Tip: *If the BMI is outside of the normal range, document and code the condition (for example, malnutrition, overweight, obese or morbid obesity).*

Data sources: Claims and chart review

HEDIS Frailty and Advanced Illness Exclusions

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HEDIS Frailty and Advanced Illness Exclusions

Quality measures that were intended for the general adult population may not be appropriate for those with limited life expectancy, advanced illness and/or frailty. As such, NCQA added a selective set of exclusion for members who are most likely not able to benefit from the measured services.

Note: Supplemental and medical record data may not be used for these exclusions.

Measures*	≥ 66 years old with frailty and advanced illness	≥ 81 years old with frailty	≥ 66 years old living long-term in nursing home
Breast cancer screening	Excluded	n/a	Excluded
Colorectal cancer screening	Excluded	n/a	Excluded
Controlling high blood pressure	Excluded	Excluded	Excluded
Osteoporosis management in women who had a fracture	Excluded	Excluded	Excluded
Comprehensive diabetes care	Excluded	n/a	Excluded
Disease-modifying anti-rheumatic drug therapy for rheumatoid arthritis	Excluded	Excluded	Excluded

* Partial measure listing. See the HEDIS technical specifications for the complete list.

HEDIS Frailty and Advanced Illness Criteria

Frailty and advanced illness include, but are not limited to:

Frailty
Age-related cognitive decline
Bed confinement
Durable medical equipment (for example, cane, walker and wheelchair)
Dependence on supplemental oxygen
Falls or history of falling
Gait abnormality (different types)
Home Health/Home Care (different types)
Limitations of activities due to disability
Malaise or fatigue
Muscle weakness or atrophy
Pressure ulcers
Underweight or failure to thrive

Advanced Illness
Cancer (Malignant, of varying types & stages)
Dementia (Alzheimer's, Lewy body dementia or dispensed a dementia medication)
Heart disease (Heart failure [HF] or hypertensive heart disease with HF, Chronic kidney disease [CKD] stage 5 and/or end-stage renal disease [ESRD])
Hepatic (Cirrhosis, hepatitis, fibrosis or sclerosis)
Nervous system (Huntington's disease, Parkinson's disease or Pick's disease)
Renal (CKD stage 5 or ESRD)
Respiratory (Emphysema, pulmonary fibrosis or respiratory failure)

* Partial listing. See the HEDIS technical specifications for the complete list.

Quality Documentation and Coding Tools

Progress Notes

Documentation Considerations & Chart Mechanics

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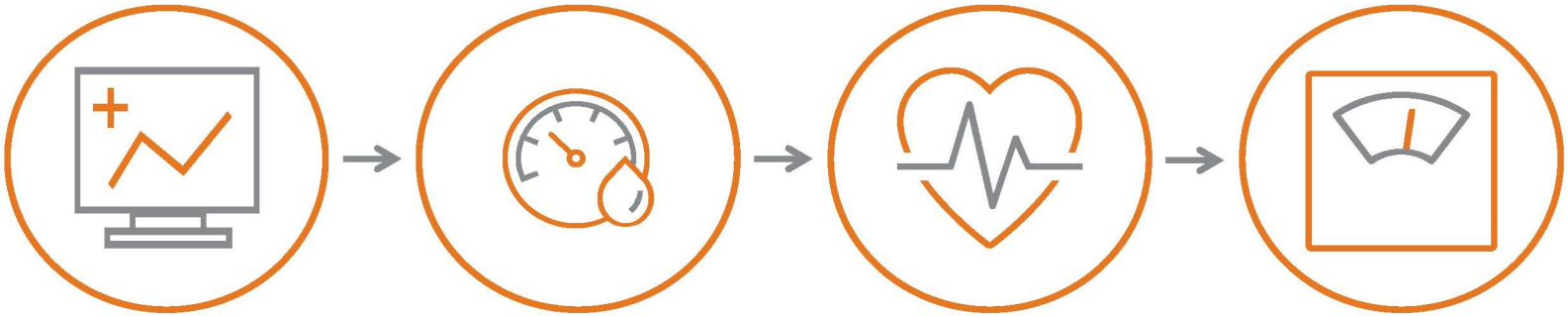
CMS Expectations (Provider Role)

Progress Note Documentation: Overall Requirements

Concise	Reason for the face-to-face visit
Consistent	Services rendered
Complete	Conclusions, screenings and follow-up
Logical	Documentation supporting that the patient is being assessed and treated for the condition(s) with active evaluation, clinical rationale and/or plan of care based on clear (legible) notes
Authenticated	By the servicing provider (signature & professional credentials)
Name & Date	On each page of the progress note

Documentation: The Progress Note (Provider Role)

Clinical conditions:



Document to the highest level of specificity for each diagnosis

Document all known conditions from:

- *Consultant or specialist*
- *Lab values*
- *Radiology results*
- *Discharge summaries*[2]

Document all chronic conditions at least once per year[2]

Document any problem pertinent conditions that affect care, treatment and management of the patient on each date of service[1]

1 DHHS. ICD-10-CM Official Guidelines for Coding and Reporting FY 2020. Centers for Disease Control and Prevention. https://www.cdc.gov/nchs/data/icd/10cmguidelines-FY2020_final.pdf Published October 1, 2019. Accessed November 26, 2019.
2 Centers for Medicare & Medicaid Services. 2008 Risk Adjustment Data Technical Assistance For Medicare Advantage Organizations Participant Guide. Palmetto GBA https://www.csscoperations.com/Internet/Cssc3.Nsf/files/participant-guide-publish_052909.pdf/$File/participant-guide-publish_052909.pdf Published 2008. Accessed November 26, 2019.

Supporting Conditions with M.E.A.T.

In addition to documenting the condition(s), it is recommended to include evaluative documentation such as M.E.A.T. [1]

Monitor *(or)*
Signs & symptoms
Disease progression and/or status

Evaluate *(or)*
Response to treatment(s)
Test results

Assess/Address *(or)*
Counsel and/or discussion
Records review
Refer to specialist

Treat *(or)*
Stop or start medications
Diagnostic and/or therapeutic plan
Patient education and/or follow-up schedule

1. CMS MLN. E&M Services. U.S. Department of Health & Human Services (HHS). https://www.cms.gov/Outreach-and-Education/Medicare-Learning-Network-MLN/MLNProducts/Downloads/eval-mgmt-serv-guide-ICN006764.pdf Published August 2017. Accessed November 19, 2019.

Disclaimer

This guidance is to be used for easy reference; however, the current ICD-10-CM code classification and the Official Guidelines for Coding and Reporting are the authoritative references for accurate and complete coding. The information presented herein is for general informational purposes only. Neither Optum nor its affiliates warrant or represent that the information contained herein is complete, accurate or free from defects. Specific documentation is reflective of the "thought process" of the provider when treating patients. All conditions affecting the care, treatment or management of the patient should be documented with their status and treatment, and coded to the highest level of specificity. Enhanced precision and accuracy in the codes selected is the ultimate goal. This presentation supplies general information regarding HEDIS and the Five-Star Quality Rating System, but NCQA administers HEDIS and CMS administers the Five-Star Quality Rating System and you should consult the NCQA and CMS websites for further information. Lastly, on April 6, 2020, the Centers for Medicare & Medicaid Services (CMS) announced that 2020 dates of service for the 2021 payment year model are based on the Centers for Medicare & Medicaid Services Announcement. **https://www.cms.gov/files/document/2021-announcement.pdf**

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Thank you for your participation!

We hope you have found this presentation informative and useful.

Any questions?

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May 19,2021

Heart Failure and Secondary Hyperaldosteronism

Heart Failure (HF) is a complex clinical syndrome that can result from any structural or functional cardiac disorder that impairs the ability of the heart to provide sufficient output to meet the perfusion and oxygenation requirements of the tissues while maintaining normal filling pressures

- According to the National Health and Nutrition Examination Surveys (NHANES) data, 6.2 million people are estimated to have HF in the United States.
- The prevalence of HF increases with age and African-Americans incidence is reported to be 25 percent higher than in Caucasians.
- HF patients account for approximately 1 million hospital admissions and 58,000 deaths annually.

HF includes two types:

- HF with reduced ejection fraction (**HFrEF or systolic HF**) occurs when the left ventricle loses its ability to contract.
- HF with preserved ejection fraction (**HFpEF or diastolic HF**) occurs when the heart muscle stiffens and there is abnormal cardiac filling or relaxation.

Risk factors for HF include:

- Systolic hypertension with and without left ventricular hypertrophy (LVH)
- Arteriosclerotic heart disease with or without prior myocardial infarction
- Cigarette smoking
- Hypertension
- Obesity
- Diabetes
- Valvular heart disease
- Kidney disease

Diagnosing HF

There are many ways to assess cardiac function. When an echocardiogram is unavailable, a diagnosis of heart failure should be considered when a careful history and physical exam exhibits signs and symptoms consistent with the diagnosis.

Review of systems	Physical exam findings
Use language that the member (noted in italics) understands when asking about symptoms	
Symptoms are generally related to fluid excess	Elevated jugular venous pressure/ distention at 45 degrees elevation
Persistent cough (sputum production)	Crackles (rales), labored breathing
Fatigue (*tiredness and weakness*)	Bradycardia or tachycardia, lateral displaced point of maximal impulse, third heart sounds (gallop or murmur)
Dyspnea at rest or light exertion (*trouble breathing with light activity or lying down*)	
Orthopnea (*needing extra pillows at night to sleep*)	Extremities dependent/pitting edema
Tachycardia (*feelings of heart racing even while resting*)	Skin: cool, pallor, cyanosis
Edema (*swelling in feet, legs, scrotum, belly*)	Ascites (advanced), hepatojugular reflux

Diagnosing Using the Framingham Criteria:

Validated tool as a result of the Framingham Study
- Consists of the identification of major and minor criteria
- Most of the criteria can easily be identified in a home setting
- **The identification of either 2 major criteria or 1 major and 2 minor criteria indicates heart failure**

Major Criteria	Minor Criteria
• Acute pulmonary edema • Cardiomegaly • Hepatojugular reflex • Neck vein distortion • Paroxysmal nocturnal dyspnea or orthopnea • Third heart sound (S3 gallop) • Pulmonary rales • Weight loss >4.5 kg in 5 days in response to treatment	• Ankle edema • Dyspnea on exertion • Hepatomegaly • Nocturnal cough • Pleural effusion • Tachycardia (>120 beats per minute)

Treatment for HF

HF can be effectively treated with medications. At the time of the visit, the member could be compensated or decompensated based on presentation. Even if compensated on medications, the diagnosis of heart failure is active.

Lifestyle Modifications:
- Dietary sodium and fluid restrictions:
  - Limiting patients to 2 g/day of dietary sodium and 2 L/day of fluid
- Monitoring daily weights
- Smoking cessation
- Limit alcohol
- Cardiac rehab and exercise

Pharmacological Treatment:
- Sacubitril/valsartan (Entresto)
- Ivabradine (Corlanor)
- Angiotensin-converting enzyme inhibitors
- Angiotensin receptor blockers
- Beta blockers
- Digoxin
- Diuretics
- Aldosterone antagonists
- Hydralazine and nitrates

Secondary Hyperaldosteronism

Secondary hyperaldosteronism is the **excessive production** of **aldosterone secondary** to stimulation from sources other than the adrenal gland. This is usually **caused by edematous disorders** such as **heart failure class III and IV** and cirrhosis with significant edema or ascites.

Diagnosing Secondary Hyperaldosteronism

Secondary hyperaldosteronism is a **clinical diagnosis** and **does not require an aldosterone level or other labs**. Consideration should be given to secondary hyperaldosteronism when there is a **diagnosis of HF or cirrhosis with either edema or loop diuretics or spironolactone as an active medication**.

Probing questions to ask:
- Is the member at risk for volume expansion?
- Ask the member why they are prescribed diuretics or aldosterone antagonists?

Document any clinical findings like:
- Ascites or edema
- Pulmonary congestion

Pharmacologic treatment for secondary hyperaldosteronism includes:

- Loop diuretics (e.g. furosemide)
- Aldosterone receptor blockers (e.g. spironolactone, eplerenone)

Sample Case Studies

Heart Failure Example 1:

HPI: 78 yo old female being seen for a HouseCalls visit today.

PMH: Heart failure, hypertension, diabetes type II, and hyperlipidemia

MEDS: Carvedilol 25mg bid, Spironolactone 25 mg qd, Lisinopril 10mg qd, Atorvastatin 10mg qhs, and Metformin 1000mg bid

EXAM: B/P 140/88, HR 68 reg, S3 gallop, Lung sounds bilateral rales, LE 2+ edema

ASSESSMENT:
Heart Failure, unspecified (Framingham Criteria= 2 major criteria)
Secondary hyperaldosteronism (heart failure, spironolactone, and significant edema)
DMII with complications hyperlipidemia
Hypertensive heart disease with heart failure

Heart Failure Example 2:

HPI: 78 yo old female being seen for a HouseCalls visit today. SOB and edema improved with her medications.

PMH: MI with reduced heart function, heart failure with reduced EF, Hypertension, and Hyperlipidemia

MEDS: Carvedilol 25mg bid, Spironolactone 25 mg qd, Lisinopril 10mg qd, and Atorvastatin 10mg qhs

EXAM: B/P 140/88, HR 68 reg, Lungs sound clear bilateral, LE no edema

ASSESSMENT:
Heart failure (controlled on therapy)
Secondary hyperaldosteronism (rationale: Heart failure and diuretic)
Hyperlipidemia
Hypertensive heart disease with heart failure
Old myocardial infarction

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March 17, 2020

Diabetic Care Eyes - Stars

Overview:

Diabetic Care Eyes:

All diabetic members (both DM Type I & DM Type II) ages 18-75 should be assessed for diabetic retinopathy by a retinal or dilated eye exam. Screening for diabetic retinopathy is achieved through an eye screening as defined as a retinal or dilated eye exam by an eye care professional (optometrist or ophthalmologist) in the current year or a negative retinal or dilated eye exam (negative for retinopathy) by an eye care professional in the year prior to the calendar year.

Exclusions:

- Hospice
- Membes age 66 and older as of December 31 of the measurement year who are enrolled in an Institutional SNP (I-SNP) any time during the measurement year
- Members age 66 and older as of December 31 of the measurement year who are living long-term in an institution any time during the measurement year.
- Additional exclusions for members with advanced illness and frailty will be applied via claims data

Blindness is not an exclusion for this measure

Retinal Eye Exam: (HEDIS, 2019)

- An eye exam for diabetic retinal disease should be performed in the measurement year for any member who his diabetic regardless of prior results to meet compliance ***OR***
- A retinal or dilated eye exam by an eye care professional in the year prior to the measurement year that was negative for retinopathy

HouseCalls Documentation of Diabetic Retinal Screening:

If practitioner is trained and has a DRE screening device

1. When appropriate, the provider or trained professional will perform the Diabetic Retinal Exam during the HouseCalls Visit as identified prior to the visit.
2. Results of testing are then sent to optometrist for interpretation
3. After interpretation, APC will review results and document findings in eHC, including any additional diagnoses
4. Documentation will be noted in the preventative screenings section on page 6 of eHC as the following demonstrates.

If practitioner is not trained on conducting DRE testing

1. Documentation will be noted in the preventative screenings section on page 6 of eHC based on discussion with the member to include: test done, year, month, results and performing provider
2. If the member is not diabetic, the provider will document "Not Indicated" in the "Test Done" section.

Reference:

Optum Diabetes Measures Tool book. Retrieved on 2.17.19:
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05/24/2021

Protein-Calorie Malnutrition (PCM)

Fast Facts:

- PCM is nutritional status in which reduced availability of nutrients leads to changes in body composition and function
- People with PCM don't get enough protein in their diet
- Prevalence is 30-40% in individuals 70 years and older
- BMI < 18.9 can be an indicator for PCM
- The Healthy eating index (HEI) demonstrated the quality of the diet for older adults to be "poor" between 3-24% and needs for improvement were between 68-75% for the older adult

Note: A member can have PCM at ANY BMI, based on nutritional status.

Risk Factors

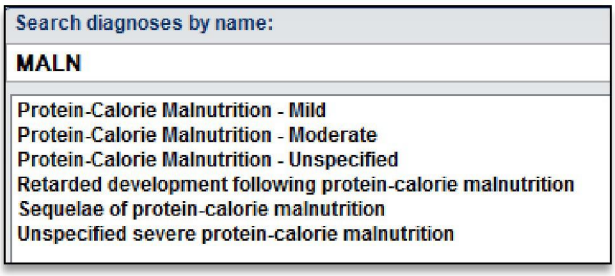
- Recent hospitalization
- Cancer
- Cardiac Disease
- COPD
- Alzheimer's disease
- Alcoholism
- AIDS
- Chronic Kidney Disease (CKD)
- Post bariatric surgery
- Anemia
- Liver Disease
- Depression and other psychiatric disorders
- Weight loss is considered to be clinically significant with the following parameters
  - ≥ 2% decrease of baseline body weight in one month
  - >5% decrease in three months OR
  - ≥ 10% in six months

Factors influencing nutritional inadequacy for the elderly

Physiologic	Pathologic	Sociologic	Psychologic
Decrease in taste	Dentition	Ability to shop for food	Depression
Decreased smell	Dysphagia, swallowing problems	Ability to prepare food	Anxiety
Dysregulation of satiation	Disease: Cancer, CHF, COPD, Diabetes, ESRD, Thyroid	Financial status low socioeconomic	Loneliness

Diagnosing Protein-Calorie Malnutrition

ICD-10-CM separates malnutrition into several specific code categories based on degree or severity gain. Diagnoses in the eHouseCalls for PCM & Malnutrition, see below.



Diagnosing in eHouseCalls:

The APC should utilize information from past medical history, physical exam, and obtain an accurate BMI by weighing member and obtaining height accurately.
Complete the MNA-Nestle tool and consider a PCM diagnosis when patients have any of the following:

- Involuntary weight loss greater than 10% in the previous six months and especially in last few weeks
- BMI < 18.9
- Past medical conditions associated with PCM
- Muscle wasting

Note: Elderly are at increased risk for death if their BMI < 21.

Malnutrition diagnostic criteria

Use the MNA- Nestle tool for clinical parameters, followed by a clinical judgement as to whether the patient has mild, moderate, and significant or no malnutrition.

Coding PCM		
Code Description	**ICD-10 Codes**	**Diagnostic Criteria**
Malnutrition of mild degree	E44.1	(BMI 17-18.49) "First degree" characterized by tissue wasting in an adult, but few or no biochemical changes
Malnutrition of moderate degree	E44.0	(BMI 16-16.99) "Second degree" characterized by superimposed biochemical changes in electrolytes, lipids, blood plasma
Unspecified severe Protein-Calorie Malnutrition	E43	(BMI < 16) Includes nutritional edema without mention of depigmentation of skin and hair
Unspecified Protein-Calorie Malnutrition	E46	Dystrophy due to malnutrition; malnutrition (calorie) NOS

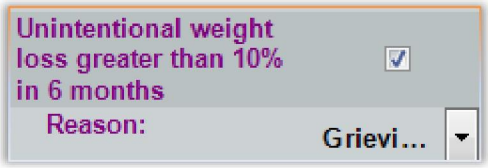
Note: Be specific about malnutrition by inclusion of either mild, moderate or severe

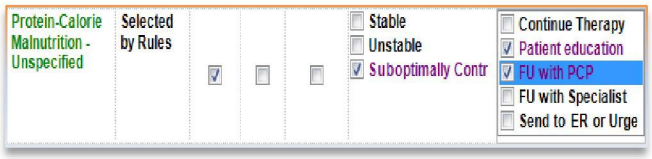
SMART LOGIC

Smart logic is a feature that is based on the clinical findings documented in the encounter and is populated on page 15 for review and confirmation.

- Documentation of unintentional weight loss greater than 10% in 6 months OR wt < 100 lbs OR BMI <

19 OR MNA result of < 17
The APC should use clinical judgement and tools to consider this an **ACTIVE** diagnosis.





If BMI is ≤ 19 in the tablet, the APC will be required to complete the Mini Nutritional Assessment (MNA) Tool. The MNA tool is a validated tool in the assessment of persons >65 to assess for malnutrition. If the screening section is scored at < 11, the complete assessment section is required to be performed.

CASE STUDY # 1:

Example of Protein Calorie Malnutrition:

HPI: 85 year old frail female states she has had 3 months of abdominal pain. She has been losing weight for some reason over the past 6 months. She lives independently in a trailer park. The member's PCP was aware of the pain and advised member to take over the counter pain relief medications and placed member on Carafate and Zantac. The APC arrives and notes the decrease in weight and that the member's refrigerator was noisy. The member states she has been unplugging her refrigerator at night because it keeps her awake.

MEDS: Zantac 150 mg BID, Carafate 1,000 mg BID

EXAM: BMI: 16 MNA: 10 score. Dentures bilateral intact, loose. Alert and oriented. Heart: S1 & S2, RRR auscultated. Lungs clear to auscultation. Abdomen distended, soft, non-tender. Skin turgor: poor > 3 seconds. Gait unsteady with muscle wasting.

LABS: Electrolytes review abnormalities from 2 months ago

ASSESSMENT/PLAN

ICD-10 Code & Description with Plan:	[E44.0] Protein Calorie malnutrition, moderate Referral for assistance with replacement of refrigerator. PCP notified of member's status of PCM Success Story: At next annual visit, member reports increase in appetite and member's weight had increased to WNL.

CASE STUDY # 2:

Example of Protein Calorie Malnutrition:

HPI: 84-year-old frail female states she gets SOB with activity. Her PMH includes PCM, COPD, HTN and heart failure.

MEDS: Anoro Ellipta Inhaler, Plavix, Metoprolol, Losartan,

EXAM: BMI: 17.71 MNA: 22 score. Dentures bilateral intact, loose. Alert and oriented. Heart: S1 & S2, RRR auscultated. Lungs clear to auscultation. Abdomen distended, soft, non-tender. Strength normal.

LABS: albumin 4.8 3 months ago with normal electrolytes

ASSESSMENT

ICD-10 Code & Description with Plan:	[E44.1] Protein Calorie malnutrition, mild [I11.0] Hypertension [I50.9] Heart Failure [J44.9] COPD, unspecified

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MARCH 2016 | SUPPLEMENT TO *CATH LAB DIGEST*

Cath Lab Digest

A Product, News and Clinical Update for the Cardiac Catheterization Laboratory Specialist

Non-Invasive Detection of Vascular Disease in the Arteries of the Lower Extremity; Clinical Evaluation of QuantaFlo™ Compared to Doppler and Definitive Imaging

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Non-Invasive Detection of Vascular Disease in the Arteries of the Lower Extremity; Clinical Evaluation of QuantaFlo™ Compared to Doppler and Definitive Imaging

Authors:
Matthew E. Schaefer, DO; [redacted]

John B. Long, MD; Vascular Specialists of San Francisco, [redacted]

Charles Pollick, MD; Los Angeles Cardiology Associates, [redacted]

Abstract:

Objective: Peripheral artery disease (PAD) affects 8 – 18 million Americans. Under-diagnosis of the disease remains a clinical dilemma. Doppler ankle-brachial index (ABI) with pressure cuffs is the most common initial test performed when suspecting PAD. Since 2011, vascular specialists and primary care physicians have used a PAD testing device such as the FloChec® System and more recently the QuantaFlo™ System, a blood volume wave form visualization and evaluation tool, in their evaluation of lower extremity PAD. This study compared the accuracy of the QuantaFlo™ System to ABI, using primarily duplex ultrasound (Duplex) to confirm the presence or absence of PAD.

Methods: The PAD testing device, Doppler ABI, and Duplex/Angiogram test data were prospectively collected under an Institutional Review Board (IRB)-approved, multi-center, single-arm, post-market study. Test results for each limb and each technology were analyzed and compared by an imaging core lab. The core lab assigned a severity score to each limb upon interpretation. These data were used to design the QuantaFlo™ algorithm to optimize accuracy using a cross-validation trial methodology. QuantaFlo™ was then prospectively validated in a second subject cohort.

Results: A total of 360 limbs from 180 patients were evaluable with PAD testing results, ABI and definitive imaging in the first cohort. Cross-validation trial methodology used test data from 80% of these limbs selected by a random process applied 100 times to create 100 different algorithms. Each algorithm was in turn evaluated on the entire 360 limb database. Mean values from the 100 trials achieved an accuracy of 83.6%, sensitivity of 81.3% and a specificity of 90.0% to detect flow obstruction. Corresponding Doppler ABI results on 360 limbs were 75.6% accuracy, 60.6% sensitivity and 92.8% specificity. Then, the best performing algorithm was incorporated into QuantaFlo™ and a prospective clinical validation on 30 additional limbs from 15 patients demonstrated an accuracy of 89.7%, sensitivity of 89.5% and a specificity of 90.0%.

Conclusion: The QuantaFlo™ method can detect PAD with greater accuracy and sensitivity than Doppler ABI, and can provide a disease severity interpretation. These results suggest clinical utility of QuantaFlo™ in the diagnosis of PAD in the primary care setting.

Key Words
Peripheral artery disease, disease diagnosis, ankle brachial index testing, duplex ultrasound, sensitivity and specificity

Introduction

Peripheral artery disease (PAD) affects 8 – 18 million Americans with an estimated healthcare cost of $290 billion per year [1, 2, 3]. More than half of patients with a diagnosis of PAD also have cardiovascular disease involving the coronary, carotid and aortic arteries [2], and patients with PAD have a 21% combined incidence of death, stroke, myocardial infarction, or death within 1 year [4]. Clinical manifestations range from the 75% of PAD patients who are asymptomatic [5], to the 2 million people affected with Critical Limb Ischemia. Thus identification of PAD is critical to prevent or delay morbidity and mortality in these patients.

Despite the prevalence and severity of PAD, under-diagnosis of the disease remains a problem in the primary care setting [6]. Doppler ankle-brachial index with pressure cuffs (ABI), is the most common initial test performed when PAD is suspected. However, ABI has proven impractical in the primary care setting due to the need for technical expertise, accurate cuff placement and time required to perform the study [7, 9]. As such, many physicians rely upon physical examination, patient history, and risk factor identification to diagnose PAD and then make referrals to vascular laboratories. However, absence of distal pulses alone has a low sensitivity for detection of PAD [9] and approximately 55% of patients referred to a vascular laboratory for ABI are found to not have PAD [8]. These findings highlight the need for a simple, effective screening method for PAD.

A digital volume plethysmography system that produces a blood volume waveform from the posterior tibial and anterior tibial arterial distributions has been used by vascular specialists and primary care physicians since 2011 in their evaluation of lower extremity PAD. A proprietary algorithm calculates a digital ABI, which is analyzed by the physician in order to detect lower extremity flow obstruction.

The data collected in this study was used to develop the QuantaFlo™ System, which is the next generation of PAD testing. A clinical validation was performed to confirm the

presence or absence and the severity of PAD using this enhanced system. The objective of this study was to compare the accuracy of the QuantaFlo™ results to ABI testing, using Duplex/Angiogram to determine the presence or absence of flow obstruction and disease severity in the lower extremities to support the diagnosis of PAD.

Methods

From November 2013 through February 2015, five mixed primary and vascular community-based practices enrolled subjects in a single-arm prospective, post-market study. Two new practices replaced two of the original five practices, and from May 2015 through June 2015, these five mixed primary and vascular community-based practices enrolled additional patients in the study. The study was approved by the New England Institutional Review Board. Subjects were prospectively and consecutively evaluated for the study, and each provided voluntary consent for testing and prospective data collection. Subjects self-completed a 12-question PAD questionnaire that identified risk factors and signs and symptoms. At least one question had to be answered 'Yes' for inclusion into the study. Subjects without a viable digit (e.g. toe) or who had cardiac or vascular intervention within 30 days were excluded from the study. Enrolled subjects were tested bilaterally with the PAD test device, ABI, and Duplex ultrasound or angiography. All tests were completed within 30 days of office visit. The PAD tests were completed by medical assistants or technicians trained on the technology and the ABI tests were performed by registered vascular technologists.

A vascular core laboratory graded each limb as negative or positive for flow obstruction (OBS) and disease severity using the definitive imaging of Duplex/Angiogram. The reviewer was blinded to the results of the tests at the time of grading. The reviewer was an interventional physician with Registered Physician Vascular Interpreter (RPVI) credentials to read both studies.

PAD Testing Measurements

Measurements were performed bilaterally on the lower then upper extremities by placing a sensor on a single digit of each extremity in sequential fashion. During each 15-second measurement, the sensor detects reflected infrared light, which measures the blood volume changes in the brachial, anterior tibial, and posterior tibial arterial distributions. The resulting waveforms were then analyzed by a specially-designed, proprietary algorithm which aggregates and calculates the measurements from the lower versus upper extremities and reports an indexed score for each leg. A PAD testing result of <0.90 was considered positive for OBS.

Doppler ABI with Pressure Cuff Measurements

Systolic pressure at one or both arms was measured, along with systolic pressures bilaterally for both the dorsalis pedis and posterior tibial arteries. ABIs were calculated as the maximum ankle pressure divided by the maximum brachial pressure. An ABI of < 0.90 was graded as positive for OBS, while an ABI between 0.90 and 1.4 was graded as normal. Incompressible arteries were defined as ABI > 1.4, and were considered negative for OBS in the primary analysis.

Flow Obstruction by Duplex Scan

Flow obstruction was diagnosed when any of the following conditions were present on Duplex scans:

- Monophasic waveform that remains reduced distally.

- Peak Systolic Velocity Ratio (PSVR) ≥ 2.0 and reduced waveforms in native vessels, Peak Systolic Velocity (PSV) > 180cm/sec or < 40cm/sec in bypass grafts, PSVR ≥ 2.5 intra-stent, or monophasic waveform with PSV < 50cm/sec in stented tibial arteries.
- 50% or greater focal stenosis in any vessel segment or 40% or greater stenosis if diffuse disease (multi-level disease).

Flow Obstruction by Angiogram

In cases in which contrast angiography was performed instead of Duplex, the following criterion was used to diagnose OBS:

- 50% or greater focal stenosis in any vessel segment; or 40% or greater stenosis if diffuse disease (multi-level disease).

QuantaFlo™ Development

The collected data was used to develop and validate the QuantaFlo™ System. One hundred algorithms were created to maximize results in each of 100 randomized data groups consisting of 80% of the limbs. No two groups or algorithms were the same. Each algorithm was applied to the entire cohort of limbs and the results recorded for sensitivity, specificity and accuracy. A cross-validation trial methodology was used to verify the results for each set of parameters. A testing result of <0.90 was considered positive for OBS.

The resulting QuantaFlo™ was validated in a clinical study with a separate set of subjects, enrolled in the same manner as the original patient cohort. QuantaFlo™ , ABI and Duplex/Angiogram were performed and analyzed in this cohort of subjects as described above.

Statistical Techniques

Categorical variables are summarized as proportions or percentages, and corresponding 95% confidence interval (CI) using the Wilson score interval.

Clinical contingency results for each limb and each technology were categorized as: true positive, true negative, false positive and false negative using the definition of OBS. Sensitivity, specificity, and accuracy were calculated using standard methods.

Generalized estimating equations were utilized to calculate the difference in proportions and corresponding confidence intervals for sensitivity, specificity, and accuracy, based upon least squares means for paired binary data. The difference in means, reported as $q_{\text{PAD testing}} - {}_{\text{ABI}}$, where a positive difference indicates greater performance of PAD testing results, and 95% confidence intervals are presented.

Statistical analyses were conducted in SAS version 9.3 (SAS Institute, Cary, N.C.), and graphics were produced with Microsoft® Excel® 2007.

Results

Initial Cohort

A total of 360 limbs from 180 subjects had results from PAD testing, ABI and definitive imaging tests. Duplex scan was performed with the majority of subjects, with angiogram performed in 18 limbs (10 subjects). All subjects had at least one risk factor for PAD, including hypertension, hyperlipidemia, diabetes mellitus or smoking history.

Figures 1 and 2 summarize the comparative results for PAD testing, QuantaFlo™ and ABI.

The cross-validation trial methodology testing 100 algorithms using the test data from the 360 limbs achieved a mean accuracy of

83.6%, mean sensitivity of 81.3% and mean specificity of 86.2% to detect flow obstruction. Compared with ABI, PAD Testing mean performance exhibited significantly higher sensitivity, 81.3% (95% CI: 75.0, 86.4) vs. 60.6% (95% CI: 53.3, 67.5) for detecting OBS, similar specificity, 86.2% (95% CI: 79.8, 90.0) vs. 92.8% (95% CI 87.5, 96.1) to predict non-OBS, and significantly higher test accuracy despite slightly overlapping confidence intervals, 83.6% (95% CI: 79.3, 87.2) vs. 75.6% (95% CI: 70.7, 79.8) with reference to the definitive imaging comparator.

The best performing algorithm was incorporated into QuantaFlo™ and subsequently clinically validated in a study of 30 limbs (15 subjects). In contrast to the original study cohort of 360 limbs, the 30 limbs had more calcified and distal extremity disease. QuantaFlo™ had an accuracy of 89.7% (95% CI: 71.5, 97.3), sensitivity of 89.5% (95% CI: 65.5, 98.2) and a specificity of 90.0% (95% CI: 54.1, 99.5). Corresponding Doppler ABI results were 62.1% accuracy, 47.4% sensitivity and 90.0% specificity.

Figure 1 – Performance Analysis

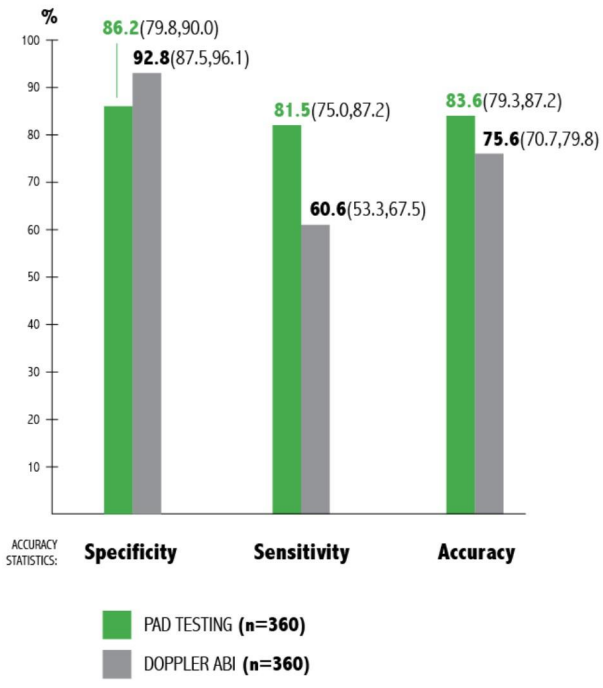
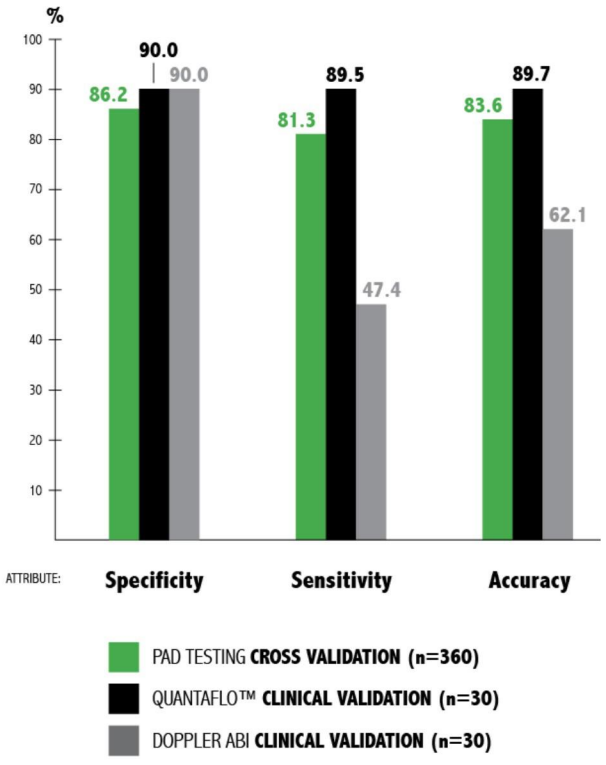


Figure 2 – Validation Results



Discussion

This study compared relative accuracy, sensitivity and specificity of a digital volume plethysmography based ABI system to a Doppler, blood pressure cuff ABI. Accuracy of a noninvasive vascular test is best determined by comparing it to a 'gold standard test. In this study Duplex scans and angiography were used. In the first cohort, the raw data collected with the PAD testing device were utilized to develop an enhanced system, QuantaFlo™ . Using cross validation methodology, 100 separate algorithms were generated, each from a random selection of 80% of the raw data in the first cohort. 100 trials on the entire set of raw data from first cohort solved for sensitivity, specificity and accuracy of each algorithm. The mean results from 100 trials of 100 algorithms showed that the mean accuracy of the PAD testing system is significantly more accurate than ABI in detecting OBS in lower extremities with statistically higher mean sensitivity than ABI test and comparable specificity. The second cohort prospectively studied the best performing of the algorithms, which is incorporated into QuantaFlo™ . This validation study in a cohort of 30 limbs found higher accuracy and sensitivity with similar specificity with this system compared to use of ABI.

This study had a mixed investigator group that included primary care and vascular specialty physicians. This was to assess the device's performance in a varied diseased population (asymptomatic and symptomatic), where the vascular specialties enrolled a higher diseased population than the primary care physician groups. The results from this study suggest that QuantaFlo™ may be used successfully in either setting as an evaluation tool for diagnosis of PAD.

Non-invasive physiologic testing, such as performance of ABI, is one of the considerations employed by a physician to assess a patient for peripheral arterial disease along with physical examination and patient medical history of cardiovascular risk factors and symptoms. All of the Doppler-based and Duplex tests of this study were performed by trained and certified vascular technologists, while the QuantaFlo™ PAD tests were completed in physician offices by medical assistants or certified medical technicians. In the primary care practice, it is usually not practical to have a trained vascular technologist on staff to perform ABIs. Nicolai et al. [7] noted that operation by non-vascular technologists results in a degradation in the accuracy of the ABI test. Conversely, the QuantaFlo™ PAD testing method may be accurately used by an office staff member with minimal training [10]. The system is completely automated and less subject to technique, settings, or manual calculations. Considering the reduced skill requirements, reliable ease of use, and minimal time required, the QuantaFlo™ PAD testing method may be well suited for the primary care office as well as the vascular specialty office than the ABI method for identifying patients at risk
for PAD.

It is expected that some patients will have calcified arteries which are incompressible by blood pressure cuff techniques [11] especially in the elderly or diabetic patients. When this condition occurs in the legs, the ABI testing method might give non-physiologic measurements (>1.4). Vascular specialists consider such results to be indeterminate or inconclusive. The QuantaFlo™ System does not use a pressure cuff so it is able to acquire physiologic measurements of incompressible arteries.

In the second validation cohort, there was a higher frequency of calcified arteries and distal lower extremity disease than in the first cohort, which may explain the lower than usual performance of ABI in the second cohort [12].

Study Limitations

The study enrolled a relatively small patient cohort without strict inclusion and exclusion screening criteria, and data regarding patient recruitment with respect to the number of consecutive patients not enrolled were not formally tracked. A larger cohort size may uncover clinically significant differences in accuracy or sensitivity or specificity, and allow for different population subgroup analyses to further assess clinical utility. The study was acute in nature without serial follow-up to assess any changes to the test findings over time. Additionally, the participating clinical sites were mixed physician practices enrolling a more diseased population that may not be representative of the general population, as in terms of percentage of limbs with flow obstruction (OBS).

Having all patients undergo contrast angiography would be more definitive than the current study which relied predominately on Duplex results as detection for PAD. Duplex scans have been reported to be unreliable to visualize arteries adequately in 20% of cases, predominantly below the knee [13, 14]. However, it was not deemed ethically appropriate unless clinically indicated and medically necessary for patients to have an invasive diagnostic procedure such as contrast angiography.

Conclusions

The PAD testing method (QuantaFlo™) can reliably detect flow obstruction to support PAD diagnosis, with higher accuracy, higher sensitivity and similar specificity compared to ABI. QuantaFlo™ can be performed in a convenient fashion in the primary care office without requiring complex equipment and highly trained personnel. QuantaFlo™'s higher accuracy and sensitivity may facilitate patient identification for peripheral vascular disease when used adjunctively with physical examination and patient medical history.

Abbreviations

(PAD): Peripheral Artery Disease; (ABI): Ankle-Brachial Index; (dABI): digital Ankle-Brachial Index; (CVD): Cardiovascular Disease; (OBS): Flow Obstruction; (RPVI): Registered Physician Vascular Interpreter; (PSVR): Peak Systolic Velocity Ratio; (CI): Confidence Interval; (n): Number Of Observations; (N): Number with Evaluable Data; (ROC): Receiver Operating Characteristic; (AUC): Area Under The Curve.

Competing Interests

Dr. Schaefer was compensated to serve as vascular core laboratory for this study.

Authors' Contributions

MS, JL and CP conceived the idea for the manuscript. MS analyzed the data and drafted the paper. JL and CP contributed additional review commentary.

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