

# Screening for Abnormal Glucose Metabolism in Patients at Risk of Developing Diabetes

## American Medical Association

Initial Population:

```
define "Initial Population":
  "Had a Qualifying Outpatient Visit in Measurement Year"
  and "Aged 35 to 70 at Start of Measurement Period"
  and ( "Most Recent BMI Equal to or Greater Than 25 and Is Not Asian"
    or "Most Recent BMI Equal to or Greater Than 23 and Is Asian"
  )
```

SHOW RESULT

Denominator:

```
define "Denominator":
  "Initial Population"
```

SHOW RESULT

Denominator Exclusion:

```
define "Denominator Exclusions":
  exists "Pregnancy During Measurement Period"
  or exists "Advanced Illness or Limited Life Expectancy during Measurement Period"
  or exists "Diabetes Diagnosis During 2-Year Look-Back Period"
  or exists "Prediabetes Diagnosis During 2-Year Look-Back Period"
  or "Glycemic Laboratory Test Performed During 2-Year Look-Back Period"
```

SHOW RESULT

Numerator:

```
define "Numerator":
  exists "Glycemic Laboratory Test Performed During Measurement Period"
```

SHOW RESULT

### Supplemental Data Elements:



```
define "SDE Ethnicity":  
  ["Patient Characteristic Ethnicity": "Ethnicity"]
```

SHOW RESULT

```
define "SDE Payer":  
  ["Patient Characteristic Payer": "Payer"]
```

SHOW RESULT

```
define "SDE Race":  
  ["Patient Characteristic Race": "Race"]
```

SHOW RESULT

```
define "SDE Sex":  
  ["Patient Characteristic Sex": "ONC Administrative Sex"]
```

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## Definitions:

```
define "Advanced Illness or Limited Life Expectancy during Measurement Period":  
  ( ["Diagnosis": "Advanced Illness"]  
    union ["Diagnosis": "Limited Life Expectancy"] ) AdvancedIllness  
  where AdvancedIllness.prevalencePeriod overlaps "Measurement Period"
```

SHOW RESULT

```
define "Preventive Care Outpatient Visits During Measurement Period":  
  ["Encounter, Performed": "Preventative Care Encounter to Screen for Diabetes"]  
  PreventiveCare  
  where PreventiveCare.relevantPeriod during "Measurement Period"
```

SHOW RESULT

```
define "Office Visit During the Measurement Period":  
  ["Encounter, Performed": "Office Visit Encounter to Screen for Diabetes"] OfficeVisit  
  where OfficeVisit.relevantPeriod during "Measurement Period"
```

SHOW RESULT

```
define "Had a Qualifying Outpatient Visit in Measurement Year":  
  exists "Preventive Care Outpatient Visits During Measurement Period"  
  or Count("Office Visit During the Measurement Period") >= 2
```

SHOW RESULT

```
define "Aged 35 to 70 at Start of Measurement Period":  
  AgeInYearsAt(start of "Measurement Period") between 35 and 70
```

SHOW RESULT

```
define "Most Recent BMI Value":  
  { Last(["Physical Exam, Performed": "Body mass index (BMI) [Ratio]"] BMI  
    where BMI.relevantDatetime during "Measurement Period"  
    sort by start of "Measurement Period"  
  ) }
```

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```
define "Most Recent BMI Equal to or Greater Than 25 and Is Not Asian":  
  exists "Most Recent BMI Value" BMI  
  where BMI.result >= 25 'kg/m2'  
  and not exists ["Patient Characteristic Race": "Asian"]
```

SHOW RESULT

```
define "Most Recent BMI Equal to or Greater Than 23 and Is Asian":  
  exists "Most Recent BMI Value" BMI  
    where BMI.result >= 23 'kg/m2'  
    and exists ["Patient Characteristic Race": "Asian"]
```

SHOW RESULT

```
define "Glycemic Laboratory Test Performed During Measurement Period":  
  ( ["Laboratory Test, Performed": "Glycemic Screening Tests"] ) LabTestPerformed  
  where LabTestPerformed.relevantPeriod during "Measurement Period"
```

SHOW RESULT

```
define "Pregnancy During Measurement Period":  
  ["Diagnosis": "Pregnancy"] Pregnancy  
  where Pregnancy.prevalencePeriod overlaps "Measurement Period"
```

SHOW RESULT

```
define "Look-Back Period":  
  Interval[start of "Measurement Period" - 2 years, start of "Measurement Period"]
```

SHOW RESULT

```
define "Prediabetes Diagnosis During 2-Year Look-Back Period":  
  ( ["Diagnosis": "Prediabetes (Borderline Diabetes)"] ) PriorPrediabetes  
  where PriorPrediabetes.prevalencePeriod overlaps "Look-Back Period"
```

SHOW RESULT

```
define "Diabetes Diagnosis During 2-Year Look-Back Period":  
  ( ["Diagnosis": "Diabetes"] ) PriorDiabetes  
  where PriorDiabetes.prevalencePeriod overlaps "Look-Back Period"
```

SHOW RESULT

```
define "Glycemic Laboratory Test Performed During 2-Year Look-Back Period":  
  exists ( ["Laboratory Test, Performed": "Glycemic Screening Tests"] ) TestingPerformed  
  where TestingPerformed.relevantPeriod during "Look-Back Period"
```














SHOW RESULT



## TERMINOLOGY


Advanced Illness	2.16.840.1.113883.3.464.1003.110.12.1082	Draft
Asian	Direct Reference Code	N/A
Body mass index (BMI) [Ratio]	Direct Reference Code	N/A
Diabetes	2.16.840.1.113883.3.464.1003.103.12.1001	Draft
Ethnicity	2.16.840.1.114222.4.11.837	Draft
Glycemic Screening Tests	2.16.840.1.113762.1.4.1160.5	Draft
Limited Life Expectancy	2.16.840.1.113883.3.526.3.1259	Draft
ONC Administrative Sex	2.16.840.1.113762.1.4.1	Draft
Office Visit Encounter to Screen for Diabetes	2.16.840.1.113762.1.4.1160.24	Draft
Payer	2.16.840.1.114222.4.11.3591	Draft
Prediabetes (Borderline Diabetes)	2.16.840.1.113762.1.4.1222.419	Draft
Pregnancy	2.16.840.1.113883.3.526.3.378	Draft
Preventative Care Encounter to Screen for Diabetes	2.16.840.1.113762.1.4.1160.13	Draft
Race	2.16.840.1.114222.4.11.836	Draft


## OVERLAPPING VALUE SETS


<b>Diabetes</b> 2.16.840.1.113883.3.464.1003.103.12.1001	<b>Pregnancy</b> 2.16.840.1.113883.3.526.3.378	16 codes
<b>Pregnancy</b> 2.16.840.1.113883.3.526.3.378	<b>Diabetes</b> 2.16.840.1.113883.3.464.1003.103.12.1001	16 codes







✓ 	1 NUMPass 45, male, white, 2 encounters, BMI>25, test performed during measurement period	PASS >
✓ 	10 DENOM No Lab Test Documented	PASS >
✓ 	11 NUMPass 45 White Asian 1 Preventative Visit BMI 23 Lab Test Documented Diagnosed with Prediabetes during measurement year	PASS >
✓ 	12 NUMPass 45 female Asian 1 preventative visit BMI=23 Lab Test Documented Diabetes dx in 2012	PASS >
✓ 	13 NUMPass 45 female Asian 1 preventative visit BMI=23 Lab Test Documented Diabetes dx in 2012 Payer	PASS >
✓ 	14 IPPFail BMI 24	PASS >
✓ 	15 IPPFail Asian BMI 22	PASS >
✓ 	16 IPPFail 34	PASS >
✓ 	17 IPPFail 72	PASS >
✓ 	18 IPPFail Asian BMI 22 45 Female 1 Preventative Visit BMI 30 Lab Test Documented (1)	PASS >
✓ 	19 NUMFail No Test Performedt performed during measurement period (1)	PASS >
✓ 	2 DENEX Previous Diagnosis of Prediabetes	PASS >
✓ 	3 DENEX Pregnant	PASS >


**TEST PATIENTS**



100

PASS
19 /19



100
% COVERAGE

✓ 	4 DENEX Advanced Illness	PASS >
✓ 	5 DENEX Limited Life Expectancy	PASS >
✓ 	6 DENEX Previous Diagnosis of Diabetes	PASS >
✓ 	7 NUMFail Lab test year prior	PASS >
✓ 	8 NUMPass 45 Female 1 Preventative Visit BMI 30 Lab Test Documented	PASS >
✓ 	9 NUMPass 45 Female 1 Preventative Visit BMI 23 Lab Test Documented	PASS >