Clinical Quality Measure Mapping – HEDIS Guidelines (Diabetes Care Focus)

Description

Led the development of a comprehensive reference framework to support clinical quality performance tracking for diabetic patient populations, based on NCQA's HEDIS (Healthcare Effectiveness Data and Information Set) guidelines. The project involved mapping clinical criteria—including diagnosis, procedures, lab results, and treatment codes—using ICD-10-CM, CPT, CPT II, and LOINC classifications to standardize data interpretation and reporting.

Key components included identifying the eligible population, numerator events (e.g., HbA1c levels, nephropathy care, retinal exams, blood pressure control), and denominator exclusions (e.g., gestational diabetes, ESRD, hospice care). This mapping was critical for enabling accurate extraction and analysis of patient data from electronic health records (EHRs), supporting compliance audits, quality improvement initiatives, and risk stratification efforts in value-based care models.

By simulating real-world population health workflows, this project reinforced my ability to translate clinical guidelines into actionable data specifications, improving the accuracy of reporting and enabling healthcare organizations to monitor and enhance care quality for patients with chronic conditions such as diabetes.

Eligible Population Table

HEDIS Criteria for eligible population	Code Classification	Alpha/numerical Code	Code Description
Diabetes Type I or II	ICD-10-CM	E10.XXXX, E11.XXXX	Used for diagnosis of Type I or II diabetes mellitus.

HbA1c Test	CPT	83036, 83037	HbA1c test for laboratories.
HbA1c test level less than 7.0% (for specific population)	CPT II	3044F	Most recent HbA1C level of less than 7 percent
HbA1c test level < 8.0	CPT II	3051F	HbA1C level of greater than 7 and less than 8 percent
HbA1c test level > 9.0%	CPT II	3046F	HbA1C level of greater than 9
Eye exam (retinal) performed	CPT, CPT II, and ICD	CPT II- 2022F, 2023F, 2024F CPT- 92227, 92229,92250 ICD- E10.31-E10.35	Diabetic Retinal Screening with Eye Care Professional, Eye Exam with Evidence of Retinopathy Retinal Screening Type 1 diabetes mellitus with diabetic retinopathy
BP control (<140/90 mm Hg)	CPT II	3074F, 3075F, 3077F (Systolic) 3078F–3080F (Diastolic)	Specific CPT codes are used to identify the patient with specific blood pressure. It measures the blood pressure control in patient with diabetes during the measurement year. (<140/90)
Medical attention for nephropathy	CPT, CPT II, ICD-10-CM	CPT- - 81000, 81001, 81002, 81003 CPT II- 3066F, 4010F ICD- E08.21, E08.22, E08.29, E09.21, E09.22,	Urinalysis for nephropathy screening or monitoring test or evidence of nephropathy Documentation of treatment of nephropathy, ACE inhibitor/ ARB prescribed or currently being taken

		E09.29, E10.21, E10.22	
18–75 years of age with diabetes (type 1 or type 2) with any of the following in the measurement year: 1. At least two outpatient visits, observation visits, ED or nonacute inpatient encounters on different dates of service with Diagnosis of Type 1 or Tye 2 Diabetes **OR** 2. At least one acute inpatient encounter	CPT	99202- 99205, 99211-99215, 99242-99245 99385, 99386, 99387, 99395, 99396, 99397	Office or Other Outpatient Services The provider performs a well–patient visit for a patient who is above the ages of 18
	CPT	99221-99223, 99231-99233 99234-99236	Initial and subsequent hospital Inpatient or Observation care Hospital Inpatient or Observation Care Services (Including Admission and Discharge Services)
	CPT	99281-99285 99288	Emergency Department Services for new or established patients Other Emergency Services
Exclusion			
Hospice	CPT ICD-10-CM	99377, 99378 Z51.5	Code for care provided to a hospice patient This code is used when patients receive hospice services, including palliative and end-of-life care.
Gestational Diabetes	ICD-10-CM	024.4	Diagnosis code for Gestational diabetes mellitus
Drug or chemical induced diabetes mellitus	ICD-10-CM	E09	Diagnosis code for Drug or chemical induced diabetes mellitus

Denominator Table

Eligible population as mentioned in table 1, Denominator table is mainly focused on the exclusion for HbA1c control <7% who meets the following criteria value set.

Exclusions			
HEDIS Criteria for Denominator	**Code Classification**	**Alpha/numerical Code**	**Code Description**
CABG- Coronary Artery Bypass Graft	CPT, ICD, LOINC	CPT- 33510-33516, 33517-33530, 33533-33536 ICD- Z95.1 LOINC- 88654-9	Coronary artery bypass graft procedure ICD- Presence of aortocoronary bypass graft LOINC- History of Coronary artery bypass graft surgery
PCI- Percutaneous Coronary Interventions	CPT, ICD, LOINC	CPT- 92920-92944 ICD- Z98.61, Z95.5 LOINC- 80727-1	CPT- percutaneous revascularization services performed for occlusive disease of the coronary vessels. ICD- History of percutaneous coronary intervention, Status post coronary artery stent placemen LOINC-Percutaneous coronary intervention performed.
Members who met at least one of the	ICD-10-CM	I20-I25	Diagnosis code for Ischemic Vascular

following criteria during both the measurement year: -At least one outpatient visit with an IVD diagnosis OR -At least one acute inpatient encounter with an IVD diagnosis	CPT CPT	99202- 99205, 99211-99215, 99242-99245 99385, 99386, 99387, 99395, 99396, 99397 99281-99285, 99288	Disease (IVD) disorders Office or Other Outpatient Services Emergency Department Services
Members who met at least one of the following criteria during both the measurement year: - At least one outpatient visit with a diagnosis of thoracic aortic aneurysm OR -At least one acute inpatient encounter with a diagnosis of thoracic aortic aneurysm	ICD, LOINC	ICD- I71.1, I71.2 LOINC- 88941-0	Diagnosis code of Thoracic aortic aneurysm Guidance for repair of aneurysm of Thoracic Aorta
Any of the following, in any setting, any time during the member's history through December 31 of the measurement year: -Chronic Heart Failure	ICD-10-CM ICD-10-CM	I50 I21, I25.2	Diagnosis of Heart Failure Acute myocardial infarction

-MI (Myocardial Infarction) -ESRD- End Stage Renal Disease -Chronic kidney disease (stage 4) -Dementia -Blindness - Amputation of lower extremity	ICD-10-CM ICD-10-CM, LOINC ICD-10-CM ICD-10-CM ICD-10_CM	N18.5, N18.6, Z99.2 N18.4 LOINC- 45678-0 F01, F02, F03 H54.0- H54.1 S88	Diagnosis of End Stage Renal Disease Diagnosis of Stage 4 CKD Diagnosis code for Dementia Diagnosis of Blindness Traumatic amputation of lower leg

Numerators Table

HEDIS Criteria	**Code Classification**	**Alpha/numerical Code**	**Code Description**
HbA1c Test Results	CPT	83036, 83037	Codes to Identify HbA1c Tests
HbA1c test level less than 7.0%	CPT II	3044F	Most recent HbA1C level of less than 7 percent
HbA1c test level ≥ 7.0% and < 8.0 HbA1c test level > 9.0%	CPT II CPT II	3051F 3046F	HbA1C level of greater than 7 and less than 8 percent HbA1C level of greater than 9
Medical Attention for Nephropathy: diabetics who had one of the following during the measurement year Urine Protein Tests	CPT II, LOINC	CPT- 84156, 82570 CPT II - 3060F, 3066F	test to evaluate the level of total protein in a urine specimen Positive microalbuminuria test result documented and reviewed

Nephropathy Treatment: ACE/ARB therapy	Rx Norm	LOINC- 26801-1, 2888-6, 2889-4 1435621, 1806881, 315560, 857165, 316619	Protein [Mass/time] in 12 hour Urine, Protein [Mass/volume] in Urine ACE inhibitor Angiotensin II inhibitors.
ESRD- End Stage Renal Disease	ICD-10-CM	1091644, 393447, 2057149, 359115 N18.5, N18.6, Z99.2	Diagnosis of End Stage Renal Disease
Chronic kidney disease (stage 4)	LOINC, ICD-10_CM	N18.4 LOINC- 45678-0	Diagnosis of Stage 4 CKD
Kidney transplant	LOINC, ICD-10_CM	LOINC- 64321-3, 64384-1 ICD- Z94.0	patients who received at least one kidney transplant Kidney transplant status
BP Control <140/90 mm Hg	CPT II	3074F, 3075F, 3077F (Systolic) 3078F–3080F (Diastolic)	Specific CPT codes are used to identify the patient with specific blood pressure. It measures the blood pressure control in patients with diabetes during the measurement year. (<140/90)

Note: The codes displayed in this project are examples of commonly used codes. There is scope for expanding the code set by including additional relevant and updated codes as needed.