Temporal Trends in Diabetes Characteristics and Clinical Outcomes: An 11-Year Population-Based Repeated Cross-Sectional Study from the Eastern Mediterranean Region

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Abstract

Objectives: Diabetes mellitus prevalence across the MENA regions continues to escalate, yet longitudinal evidence characterizing glycemic trajectories remains critically limited. We examined 11-year characteristics and trends in diabetes control and cardiometabolic risk status within the main public health system in the United Arab Emirates.

Methods: We conducted a population-based repeated cross-sectional analysis of Dubai Academic Health Corporation electronic health records, including adults (≥18 years) with ICD-10 type 1 or type 2 diabetes who had ≥1 HbA1c recorded during January 2012–December 2016 and January 2017–August 2023. We compared glycaemic and cardiometabolic risk profiles across the two periods and assessed population-level annual trends in HbA1c over 2012–2023.

Results Between 2012–2016 and 2017–2023, the proportion achieving HbA1c <7·0% rose significantly from 37·7% to 56·3% (p<0·001), while mean HbA1c declined from 7·8% to 7·1%. Primary care management independently predicted target achievement, as did UAE nationality and age 20–40 years. Alarmingly, > 24% had an element of chronic kidney disease. Nearly eighty percent of PWD are living with either overweight or obesity.

Conclusions: Dubai's public health system achieved substantial glycemic improvements over the past decade, outpacing regional benchmarks and reflecting successful integration of primary care reforms and novel therapeutics. However, entrenched disparities among younger patients, obesity, or cardiorenal comorbidities demand further policy action.

Introduction

The global prevalence of diabetes mellitus is surging tremendously. According to the International Diabetes Federation (IDF), one out of nine adults is currently living with diabetes, with projections suggesting that this may rise to one out of every eight adults by 2025.[1.] The Eastern Mediterranean region has the highest prevalence of diabetes globally, estimated at 17.6%.[1] In the United Arab Emirates (UAE), type 2 diabetes mellitus (T2DM) affects approximately 20.7% of adults, contributing significantly to the national health, economic, and mortality burden.[1]

Landmark clinical trials have provided robust evidence that intensive glycemic control reduces the progression of microvascular complications.[2,3] In the Diabetes Control and Complications Trial (DCCT), intensive glycaemic control (HbA1c < 7%) significantly improved outcomes and reduced the incidence and progression of

microvascular complications in individuals living with type 1 diabetes.[3] These findings led international societies to adopt an HbA1c target of <7% for most non-pregnant adults, alongside a glycemic time-in-range goal of >70% (70–180 mg/dL).[4] Despite advancements in pharmacologic therapy, including newer hypoglycemic agents, many patients still do not achieve glycemic targets due to multifactorial barriers spanning behavioral, clinical, and health system levels.[5]

While diabetes prevalence continues to rise across the Middle East, regional data evaluating glycemic control trends remain limited.[6-9] In 2019, we published a five-year retrospective analysis showing that only 37.7% of patients in Dubai achieved an HbA1c <7%.[10]

Given the sparse data from the Eastern Mediterranean region, the current study is of paramount importance, as it serves as an extension of earlier work, offering a comprehensive 11-year perspective.[10] It examines glycemic control trends and clinical outcomes among people with diabetes (PWD) who attend one of the main public healthcare providers in the UAE. The primary aim was to evaluate glycemic control from 2017 to 2023, stratified by age, nationality, and care setting (primary vs. tertiary care).

Methods

This retrospective, population-based repeated cross-sectional study was approved by the Dubai Scientific Research Ethics Committee (DSREC-12/2021_10). Informed consent was waived due to anonymized data use

This study is a retrospective, population-based repeated cross-sectional electronic medical records (EMRs) analysis across two time periods: 2012–2016 (previously published)[10] and 2017–August 2023 (current extraction). For each period, we analysed cross-sectional clinical status as captured in routine care for people living with Diabetes (PWD) with an ICD-10 diagnosis of type 1 (T1DM) or type 2 diabetes (T2DM). In addition, we examined population-level annual trends in glycaemic control across the combined 2012–2023 timeframe,

The current cohort recruited all adults (≥18 years) living with diabetes who had at least one HbA1c measurement during the study period. For both cross-sectional comparisons and the annual trend, we used the latest HbA1c record in every year. Which could be a reasonable representation of that particular year, and to avoid over-testing individuals with frequent testing. Individuals with incomplete records or those receiving Care outside DHA facilities were excluded.

Data were extracted from DHA electronic medical records (EMRs), capturing demographics, clinical characteristics, comorbidities, and lab results. The same variable definitions and code lists of the 2012-2016 applied to 2017–2023 and harmonized to the current definitions (ICD-10 codes, laboratory units, and thresholds). In both cases, variable definitions, thresholds, and denominators were aligned prior to pooled trend analyses. Glycemic control was assessed using HbA1c values, categorized into three clinically relevant strata: Controlled (HbA1c <7.0%), Uncontrolled (HbA1c 7.0–9.0%), and poorly controlled (HbA1c >9.0%).

Cardiovascular (CV) risk factors were ascertained using ICD-10 diagnosis codes and contemporaneous measurements from the EMR (latest available within the period for LDL, eGFR, UACR, and BMI), including: age >55 years, active smoking, dyslipidemia (or LDL >70 mg/dL), hypertension, reduced renal function (eGFR <60 mL/min/1.73m²), albuminuria (UACR ≥30 mg/g), smoking, and obesity (BMI ≥30 kg/m²). A high cardiovascular risk profile was defined as having equal to or more than two risk factors. Renal health was evaluated via two measures: adherence to screening guidelines (annual eGFR and UACR testing versus at least one test in five years) and the prevalence of chronic kidney disease (CKD), characterized by an eGFR <60 mL/min/1.73m² and/or albuminuria. Because EMR laboratory availability did not consistently permit confirmation of abnormality persistence ≥3 months for all individuals, the reported CKD prevalence should be interpreted as ‘evidence of CKD markers’ and may overestimate true chronic CKD in a subset. OAO was defined according to World Health Organization standards, where underweight is a BMI <18.5 kg/m², normal weight is a BMI of 18.5-24.9 kg/m², overweight is a BMI of 25.0-29.9 kg/m², obesity class I is a BMI of 30.0-34.9 kg/m², obesity class II is a BMI of 35.0-39.9 kg/m², and obesity class III is a BMI ≥40.0 kg/m².

The primary objective of the study was to evaluate the characteristics of diabetes and the trends of DM control in PWD attending all the public health facilities in the Emirate of Dubai between January 2017 and August 2023. The secondary objective was to build on the previously published data from the same centers between 2012 and 2016.[10]

Statistical analysis was employed using SPSS version 28.0. Continuous variables (e.g., HbA1c) were reported as mean ± standard deviation (SD), while categorical data were presented as frequencies and percentages. Group comparisons utilized Chi-square tests for proportions (e.g., HbA1c categories by nationality), ANOVA with post-hoc Tukey tests for multi-group mean comparisons (e.g., HbA1c across age strata), and temporal trend regression to assess annual changes in HbA1c across 2012–2023 (year as a continuous predictor), reporting slope estimates with 95% confidence intervals to assess longitudinal HbA1c trends from 2012 to 2023. Statistical significance was defined as $p < 0.05$.

Results

The 2017–2023 cohort included 31,513 PWD, with Eastern Mediterranean regions (EMR) and South-East Asia regions nationals constituting a significant majority (80%, n = 25,163 and 17.7%, n = 4608, respectively), with the remaining 2.3% originating from other WHO regions. Type 2 diabetes was predominant (91.3%, n = 28,782), and most patients (70.3%, n = 22,156) received Care in tertiary health centres (Table 1).

Table 1: Basic characteristics of the study population.

Category	Frequency	Percentage
Total Population		
Total	31513	100
Gender		
Male	14730	46.7
Female	16783	53.3
WHO regions		
Not classified	24	0.1
AFR	549	1.7
AMR	69	0.2
SEAR	4608	17.7
EUR	155	0.5
EMR	25163	80
WPR	879	2.8
Health services		
Tertiary care	22156	70.3
Primary care	9357	29.7
Type of Diabetes		
Type 1 Diabetes	2,731	9.7
Type 2 Diabetes	28,782	91.3

AFR: African Region, AMR: Region of the Americas, SEAR: South-East Asia Region, EUR: European Region, EMR: Eastern Mediterranean Region, WPR: Western Pacific Region.

Cardiometabolic comorbidities presented a concerning burden. A striking 76.3% of the cohort harboured ≥2 CV risk factors, placing them at high risk for cardiovascular disease (Figure 1). Hypertension was coded in the diagnosis in 79.4% of patients, while dyslipidemia was41.7% (supplementary table 1). Furthermore, 79.4% of PWD were overweight or obese, with 43.4% meeting the criteria for obesity (Figure 2). Renal health assessments revealed suboptimal screening adherence: while 93.6% underwent eGFR testing and 60.5% had uACR measured at least once within five years (Supplementary Figure 1), reduced eGFR (<60) was observed in 10.3%, 32.4% had albuminuria, and 7.3% had both (Figure 3). Consequently, 24.8% of PWD exhibited evidence of CKD (eGFR < 60 and/or albuminuria), as shown in Figure 3. The detailed proteinuria severity results are summarized in Supplementary Table 2.

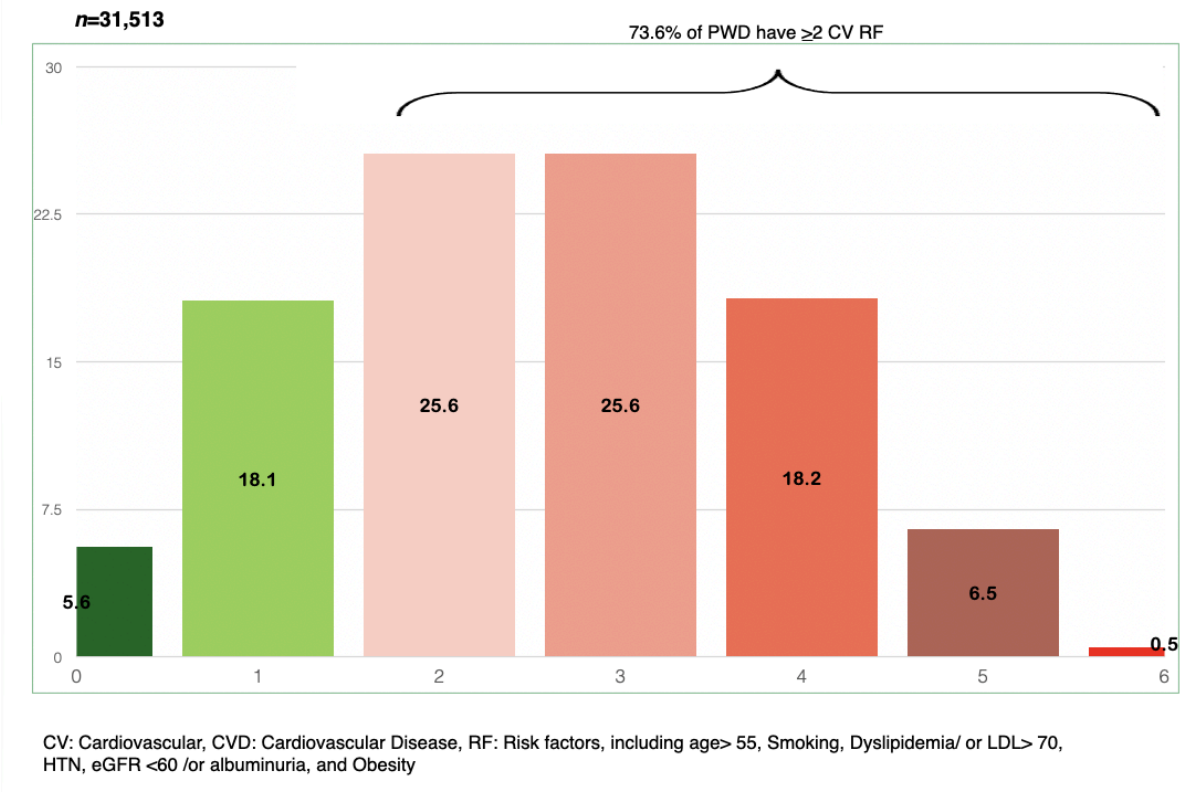

Figure 1: Cardiovascular risk categories in PWD.

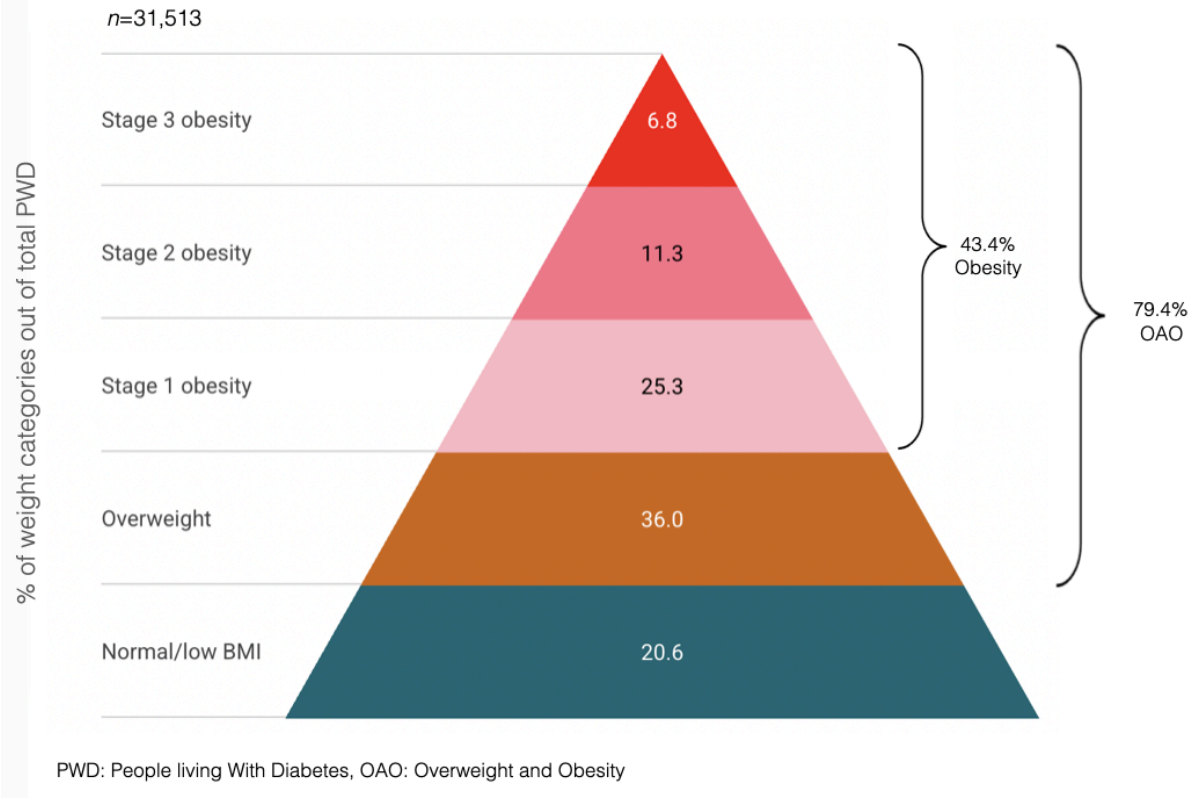

Figure 2: Prevalence of Overweight and/or Obesity in PWD.

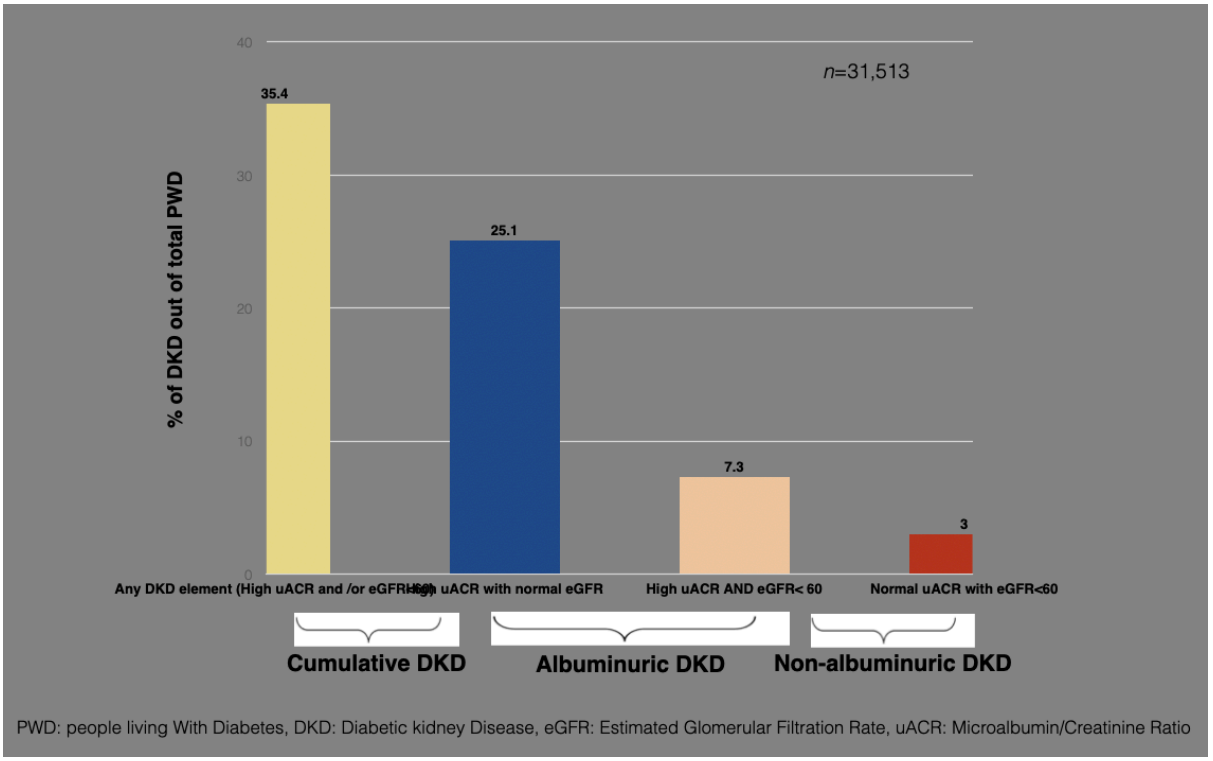

Figure 3: Prevalence of DKD Diabetes (eGFR<60 and/or Albuminuria) in people with Diabetes

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Table 2: Predictors of HbA1c <7% (Multivariate Logistic Regression analysis).

Variable	OR	95% CI	*p*-value	Inference (odds / chances to have HbA1c <7%)	Clinical Implication
Age Group (Ref: <20 yrs)					
20–40 years	3.2	2.8–3.6	<0.001	⬆️ 3.2x higher odds	Target adolescent and young adults support programs
41–65 years	1.1	0.9–1.3	0.18	NS	
>65 years	2.0	1.7–2.4	<0.001	⬆️ 2x higher odds	Optimize older patients' comorbidity management
Nationality (Ref: Non-UAE)					
UAE National	2.1	1.9–2.4	<0.001	⬆️ 2.1x higher odds	
Weight Status (Ref: Normal)					
Overweight	0.9	0.8–1.1	0.21	NS	Prioritize weight-loss pharmacotherapy
Obesity	0.6	0.5–0.7	<0.001	⬇️ 40% lower odds	Prioritize weight-loss pharmacotherapy

CVD Risk (Ref: 0–1 RF)					
CKD Markers (ACR>30 and/or eGFR <60)	0.5	0.4–0.6	<0.001	⬇️ 50% lower odds	Optimize screening for CKD parameters
2 Risk Factors	0.7	0.6–0.8	<0.001	⬇️ 30% lower odds	Implement cardiorenal-protective agents
≥3 Risk Factors	0.4	0.3–0.5	<0.001	⬇️ 60% lower odds	Implement cardiorenal-protective agents
Diabetes Type (Ref: T1DM)					
T2DM	2.8	2.3–3.4	<0.001	⬆️ 2.8x higher odds	
Care Setting (Ref: Tertiary)					
Primary Care	1.3	1.1–1.5	0.002	⬆️ 30% higher odds	

Glycemic control demonstrated significant improvement over the prior cohort. The proportion of PWD achieving the HbA1c target of <7.0% rose significantly to 56.3% compared to 37.7% in 2012–2016 ($p < 0.001$), while the overall mean HbA1c decreased from 7.8% to 7.1%, Figure 4. Analysis of the extended 11-year trend (2012–2023) confirmed a statistically significant acceleration in improvement observed after the year 2015, with a minor dip around the COVID pandemic period (2019-202), Figure 5. Primary health centres attained better glycemic control over the years. However, both primary and tertiary centres achieved a mean of HbA1c of around 7.1% in 2022 and 2023 (Figure 5 and Supplementary Table 3). As in the previous study, patients with T2DM maintained significantly better control than those with T1DM (44.8% vs. 18.9% at target; $p < 0.001$), while no significant gender-based differences were noted ($p = 0.312$). However, significant disparities persisted. UAE nationals exhibited substantially better control, with two-thirds (66.7%) achieving the target, compared to only one-third (33.3%) of non-UAE nationals ($p < 0.001$), as shown in Figure 6. Age stratification revealed that young adults (20–40 years) demonstrated the highest control rates (70.0% at the target), while adolescents (<20 years) lagged considerably ($p < 0.001$), as shown in Figure 7.

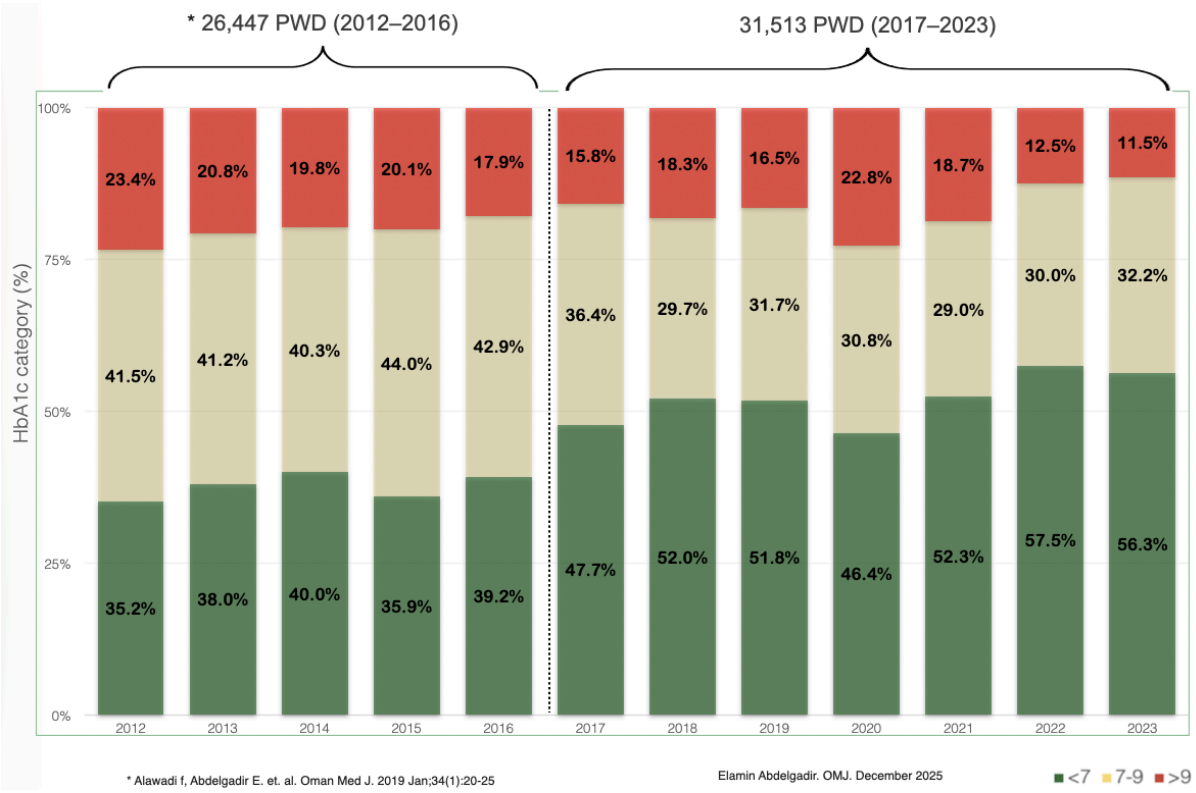


Figure 4: Trend of glycemic categories over 11 years: 2012-2023.

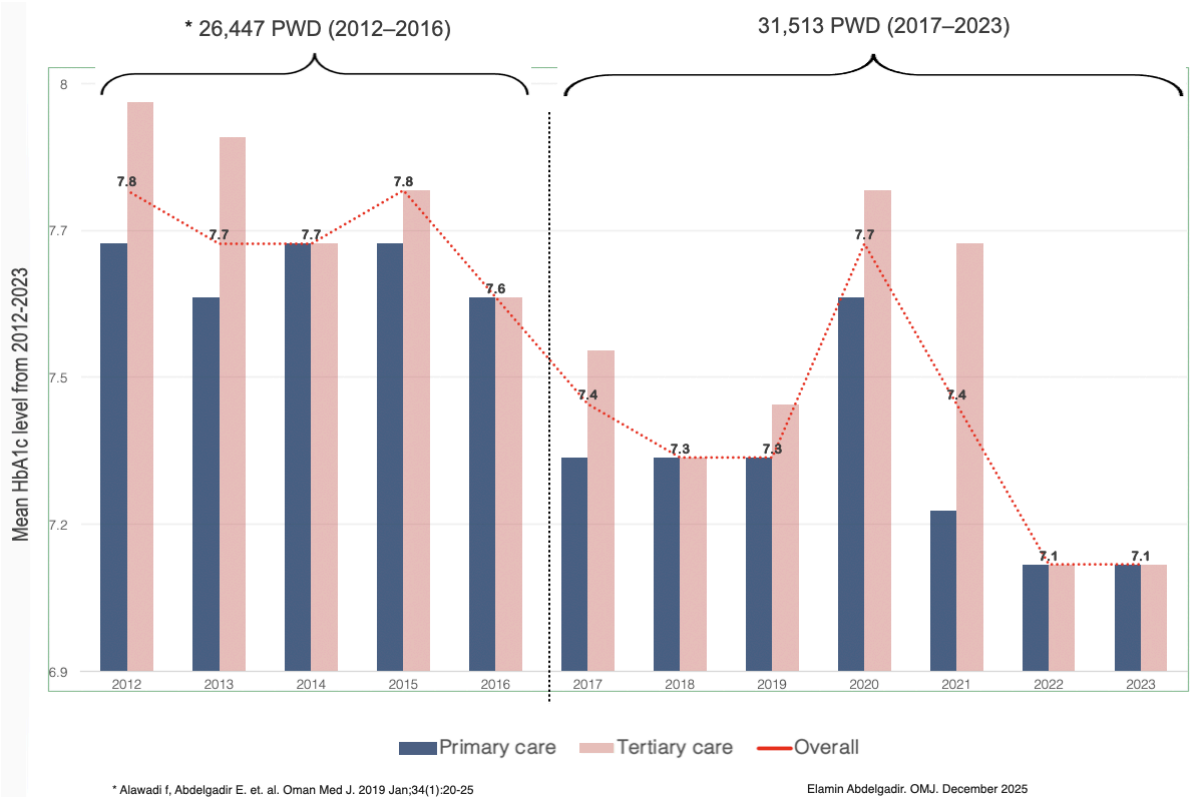
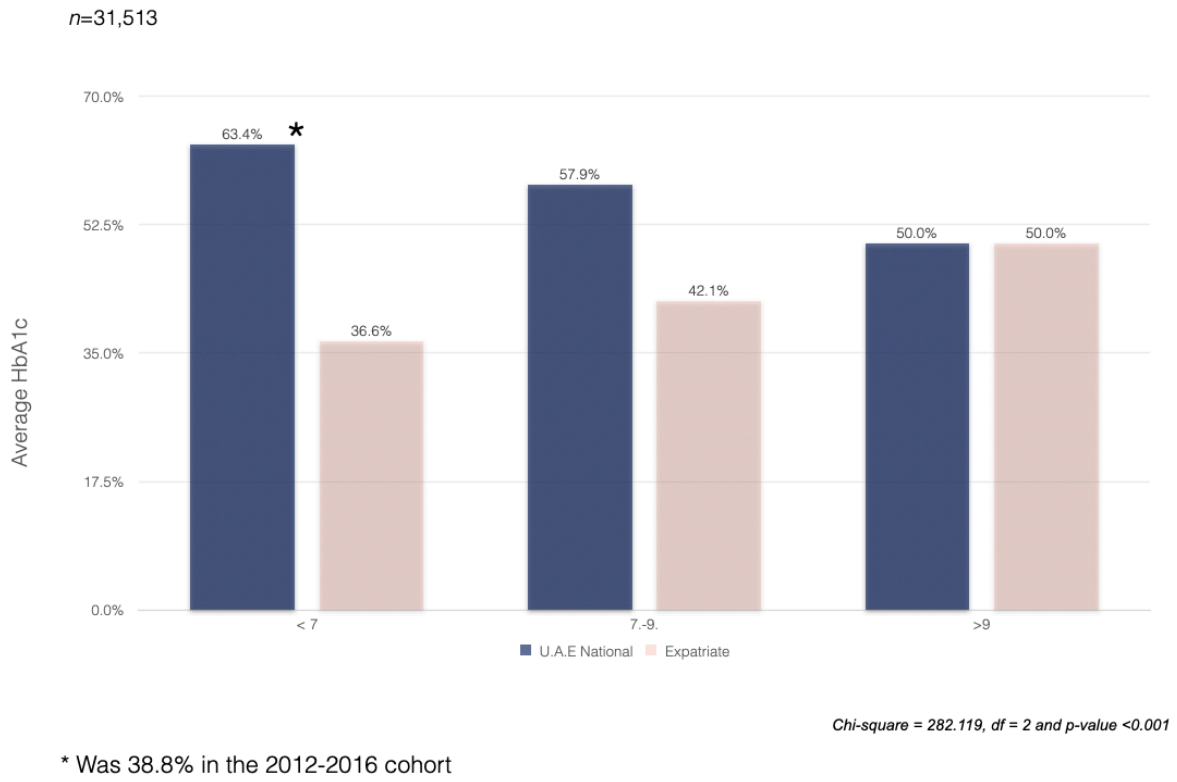


Figure 5: Mean HbA1c control from the year 2012-2023.



* Was 38.8% in the 2012-2016 cohort

Figure 6: HbA1c categories based on Nationality.

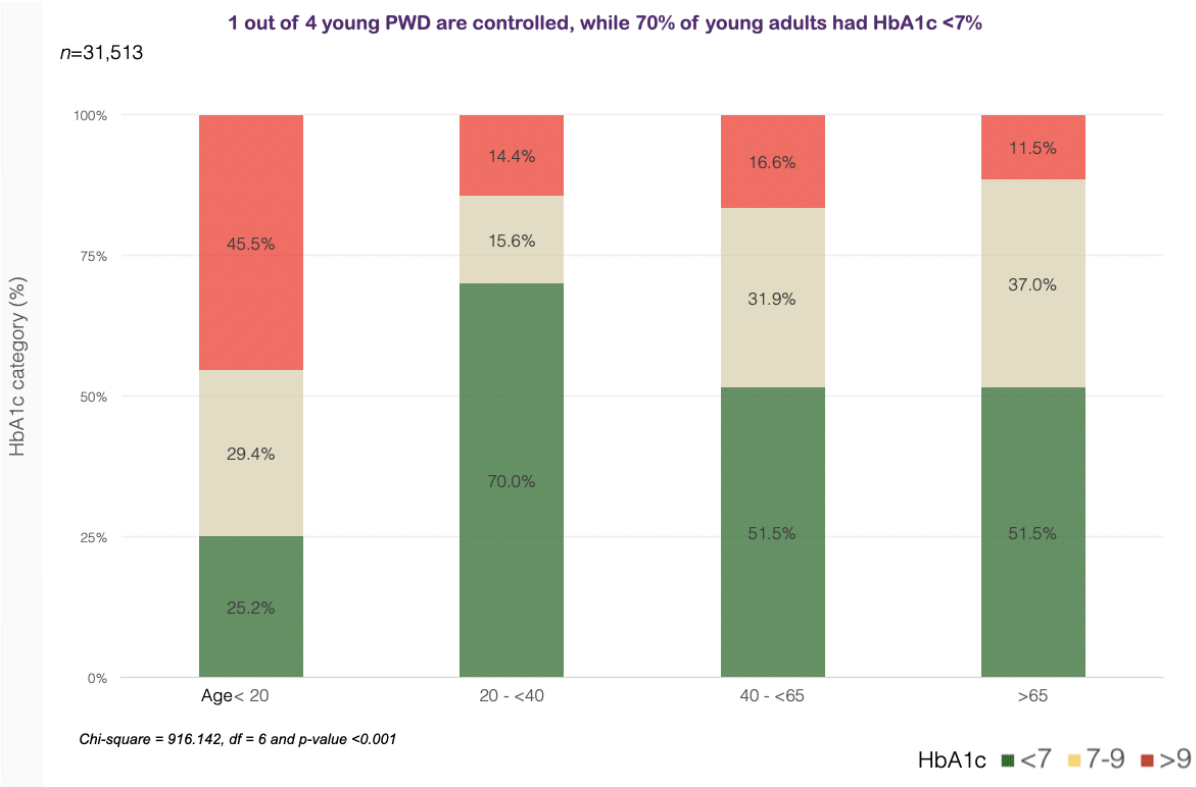


Figure 7: Mean HbA1c levels across the study duration and the percentage of HbA1c according to Age group.

Upon further multivariate logistic regression analysis, we identified key independent predictors of achieving a glycemic target (HbA1c <7%) after adjusting for age and nationality. We may divide the modifier into negative and positive modifiers, where the negative ones includes the age which expressed U-shaped influence, where the young adults (20–40 years) demonstrated 3.2-fold higher odds of control versus adolescents <20 years (95% CI:

2.8–3.6; p<0.001), while older adults (>65 years) had 2.0-fold higher odds (95% CI: 1.7–2.4; p<0.001). Middle-aged patients (41–65 years) showed no significant advantage (OR 1.1; p=0.18), confirming adolescents as the most vulnerable group to have an uncontrolled glycemia. Only 25% of adolescents achieved target control, representing a 68% deficit compared to young adults. On another hand, associated comorbidities were significant predictor for less controlled glycemia, obesity reduced odds of glycemia by 40% (OR 0.6; 95% CI: 0.5–0.7), CKD markers by 50% (OR 0.5; 95% CI: 0.4–0.6), and high CVD risk burden exerted a graded effect (≥3 risk factors: OR 0.4; 95% CI: 0.3–0.5).

On the contrary, the Positive modifiers included the nationality (OR 2.1; 95% CI: 1.9–2.4), type 2 diabetes (vs. T1DM: OR 2.8; 95% CI: 2.3–3.4), and primary care management (OR 1.3; 95% CI: 1.1–1.5)—the latter highlighting a 30% advantage over tertiary centres despite their complex case loads. This model quantified modifiable barriers (obesity, CKD) and systemic facilitators (primary care access, national health initiatives), providing actionable targets for precision interventions.

Discussion

This 11-year population-based study, conducted in the Emirate of Dubai, provides a uniquely robust perspective on the evolution of glycemic control and associated comorbidities among people living with Diabetes (PWD). With an overall cohort exceeding 57,000 individuals across two consecutive periods (2012–2016 and 2017–2023), the present study demonstrates clear improvements in metabolic control. It offers crucial epidemiological insights into risk stratification, age-related glycemic trends, health system performance, and disparities across sociodemographic strata. To our knowledge, this represents the most comprehensive analysis of longitudinal diabetes care trends from the United Arab Emirates (UAE) and the broader Middle East and North Africa (MENA) region.

This longitudinal investigation reveals a clinically consequential improvement in glycemic control between 2012–2016 and 2017–2023. The proportion of diabetes patients achieving the HbA1c target <7% demonstrated a substantial elevation from 37.7% to 56.3% (p<0.001), equivalent to a 60% relative improvement. Concomitantly, mean HbA1c declined by 0.7 percentage points (7.8% to 7.1%), a magnitude clinically associated with reduced microvascular and macrovascular sequelae, consistent with established trial evidence. [12,13] Our data trajectory parallels the evolution of glycemic control in high-income healthcare systems, yet the pace of improvement is more pronounced than in the other datasets. Data from the UK's National Diabetes Audit documented target achievement rising from 54.4% (2013) to 60.2% (2019) before plateauing,[14] and Germany's DPV registry reported mean HbA1c reductions from 7.6% (2005) to 7.1% (2017),[15] Similarly, in the NHANES database from the United States of America, HbA1c target attainment in adults with diabetes improved from 43% in 1999–2002 to over 55% in 2011–2016. [16] Another 15-year analysis of the Scottish Diabetes Survey revealed a reduction in mean HbA1c from 8.1% in 2003 to 7.4% by 2018, with the proportion of patients achieving target control rising steadily during that time.[17] Notably, regional comparator studies reveal that our data progress exceeds the recent Gulf Cooperation Council reports: Qatar (46% at target), [18] Oman (39%),[19] and Saudi Arabia (35.6%) [20] demonstrate comparatively lower control rates during overlapping periods.

This global improvement in glycemic control trends can be attributed to multiple interdependent factors, including the wider use of SGLT2 inhibitors and GLP-1 receptor agonist agents,[21,22,] particularly in high-risk phenotypes. In addition to the healthcare system restructuring, especially after the COVID era, wider adoption of electronic medical records with clinical decision support enables proactive identification of suboptimal control, facilitating treatment intensification. [23] Remarkably, these gains persisted despite disruptions to healthcare during the COVID-19 pandemic (2019-2020). The rapid post-pandemic glycemic recovery suggests adaptive resilience through the adoption of telemedicine and remote monitoring protocols, thereby mitigating care discontinuity observed globally.[24] Although the current 56.3% control rate remains below the WHO Global Diabetes Compact's 80% target for 2030,[25] the demonstrable trajectory indicates achievable progress through sustained public health investment and the scaling of evidence-based interventions.

Notably, our data showed that individuals managed in primary care centers had significantly better glycemic outcomes than those treated in tertiary centers, with 30% higher odds of achieving HbA1c <7% (OR 1.3; 95% CI: 1.1–1.5). This is interesting, considering that tertiary care centers typically manage more complex cases. Similar trends have been seen in integrated care systems in Europe, where structured chronic disease models implemented at the primary care level have resulted in better outcomes than care provided solely in hospitals.[26,27] The success of primary care in our context likely reflects the implementation of standardized clinical pathways, continuity of care, and easier access for follow-up visits. These recommendations align with the WHO's guidance on decentralizing chronic disease management to the primary care level for improved sustainability

and efficiency.[28] Furthermore, our findings agree with a study from Qatar, which showed significantly better diabetes metrics in well-resourced primary care centers compared to tertiary care hospitals.[29]

A critical insight from this study is the disparity in glycemic control across age groups. Adolescents (<20 years) had the poorest control, with only 25% achieving target HbA1c compared to 70% among young adults (20–40 years), resulting in a 3.2-fold difference in odds. Adolescents also had nearly 68% less likelihood of achieving glycemic targets than their adult counterparts. These findings reflect well-documented challenges in managing diabetes among adolescents. Insulin resistance related to puberty, inconsistent eating habits, decreased adherence to insulin regimens, and psychosocial stressors all contribute to poorer control in this group. [30-31] Studies from Sweden and the US confirm that adolescents with diabetes consistently perform worse in glycemic measures compared to adults, despite having access to similar treatments. [32-33] The clinical implication is clear: adolescents need tailored, age-appropriate interventions, including behavioral therapy, family-centered care, and potentially digital tools designed to engage youth.

A significant disparity in glycemic control emerged between UAE nationals and expatriates. Two-thirds (66.7%) of UAE nationals achieved HbA1c <7%, compared to only one-third of non-UAE nationals. This disparity persisted in multivariate models (OR 2.1; 95% CI: 1.9–2.4), underscoring systemic inequities in access to Care, medication coverage, health literacy, and culturally competent counselling. Similar patterns have been observed in multi-ethnic health systems globally. For instance, in the UK's National Diabetes Audit, non-White ethnic minorities exhibited poorer glycemic outcomes and complication rates, often linked to sociocultural and systemic barriers.[34] In many countries, expatriates may have limited access to comprehensive health benefits or face challenges navigating care pathways due to language or cultural barriers.[35] Policy efforts must prioritize equitable access to diabetes care, including culturally tailored education materials, improved insurance coverage, and enhanced care navigation systems for expatriate communities.

The study also revealed an alarming burden of cardiometabolic comorbidities. Over 76% of participants had ≥2 cardiovascular (CV) risk factors, while 43.4% were obese and 24.8% had chronic kidney disease (CKD). Obesity, CKD, and a high CV risk burden independently predicted poorer glycemic control. Obese individuals had a 40% lower chance of achieving HbA1c <7%, while those with CKD had 50% lower odds.

These observations align with global findings on the interlinkages between obesity, kidney disease, and suboptimal glycemic control. Obesity induces insulin resistance, increases inflammatory cytokine activity, and accelerates β-cell dysfunction.[36] CKD exacerbates glucose toxicity through altered insulin metabolism and increased comorbidity burden.[37] The findings highlight an urgent need for integrated metabolic Care targeting weight reduction, early CKD detection, and aggressive CV risk factor management. Strategies such as early initiation of SGLT2i and GLP-1RA, nutritional therapy, and nephroprotective protocols should be prioritized, particularly in high-risk groups.[38]

Despite high levels of eGFR testing (93.6%), uACR screening was only performed in 60.5% of patients during the study period, revealing a significant care gap. This is concerning given that albuminuria often precedes eGFR decline and is an independent predictor of cardiovascular events and mortality in diabetes. [39] Guidelines from KDIGO and ADA recommend annual albuminuria and eGFR testing in all patients with diabetes to identify early CKD.[39] The suboptimal adherence in our cohort signals missed opportunities for early intervention. Health systems must reinforce electronic alerts, provider education, and patient engagement to boost adherence to renal screening recommendations.

Conclusion

This study represents the largest population-based longitudinal trend analysis of glycaemic control reported from the UAE and, to our knowledge, one of the most comprehensive from the East Mediterranean region. It provides compelling evidence of progressive improvement in glycemic control among people living with Diabetes in a multicultural country in the MENA Region over 11 years. The proportion of patients achieving the recommended glycemic target of HbA1c <7% increased markedly from 35.2% in 2012 to 56.3% in 2023. Despite these gains, our study highlights critical areas requiring targeted intervention. Adolescents and expatriate populations remain disproportionately affected by suboptimal glycemic control, while obesity, chronic kidney disease (CKD), and cardiovascular risk burden remain pervasive and detrimental to achieving glycemic targets. Additionally, suboptimal screening for albuminuria signals a missed opportunity for early detection, prevention and management of diabetic kidney disease.

Our results advocate for the implementation of precision public health strategies, including culturally adapted care models, enhanced diabetes support in school-age populations, integration of digital health platforms, and reinforced renal screening protocols.

This is an observational study that relies on retrospectively collected electronic medical records. Potential diagnostic coding inaccuracies in EHR systems may influence estimates of comorbidity prevalence. The interpretation of the disparities in prescribed medications is not incorporated in this data; however, it will be part of our future work. Second, the analysis is repeated cross-sectional rather than a fixed cohort follow-up; therefore, temporal changes reflect population-level trends and may be influenced by changes in case-mix, service utilization, and testing frequency over time. Third, CKD was defined using available eGFR and/or albuminuria values within the EHR; because chronicity could not be confirmed uniformly across all individuals, prevalence estimates may overstate true chronic CKD in a subset.

The study's major strengths lie in its large sample size, population-level coverage across multiple healthcare settings, and extended longitudinal design. The merging of two sequential cohorts allows for unprecedented tracking of temporal trends in diabetes care in the region. Moreover, the analysis employed rigorous statistical methods, including multivariable regression modelling and adjusted comparisons, to provide clinically meaningful and policy-relevant insights.

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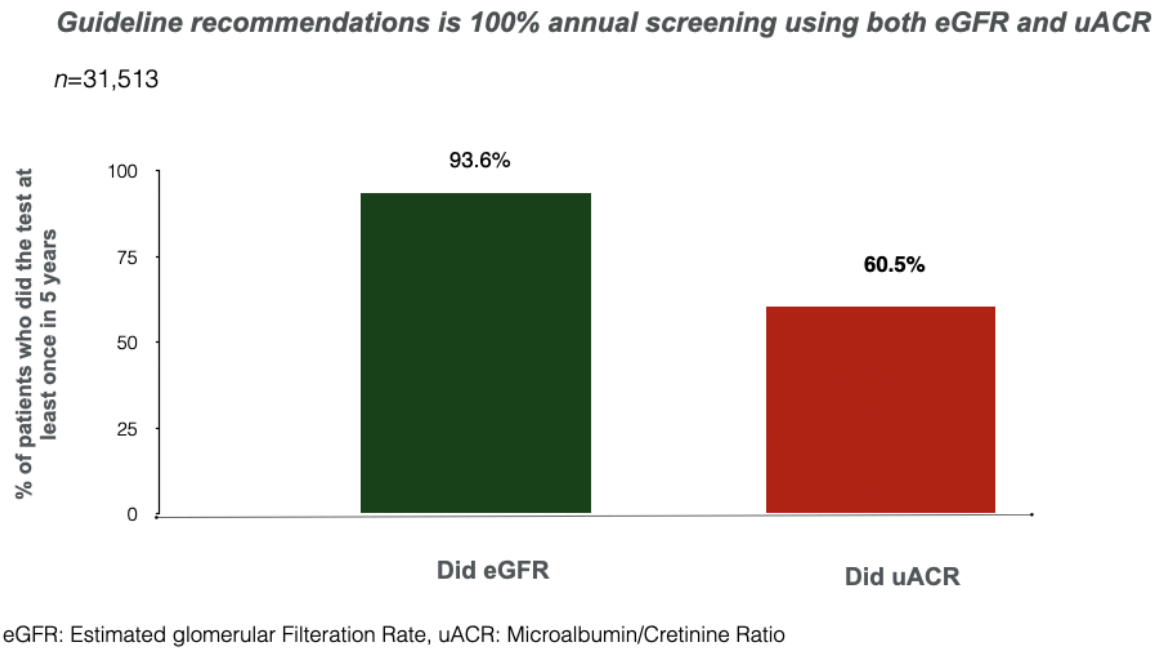
Supplementary Table 1: Prevalence of CV risk factors and the state of control of the modifiable factors.

Comorbidity/Risk factor	**n**	**Percentage**
Diagnosis includes Dyslipidaemia	13136	41.7
Diagnosis includes Fatty liver (per ICD code)	719	2.3
Diagnosis includes Hypertension	25026	79.4
Diagnosis includes OAO	24991	79.3
LDL > 70 mg/dl	19238	71.3
Age > 55 years	17239	54.7
Current or former smoking	3743	11.9
Control of the modifiable risk factors		
SBP <140	23442	74.4
SBP >140	8071	25.6
DBP <90	28756	91.3
DBP >90	2757	8.7
LDL <70	7748	28.7
LDL 70 - 100	8271	30.6
LDL >100	10967	40.6
Non-HDL cholesterol <100	26936	85.5
Non-HDL cholesterol >=100	4577	14.5

ICD: International Classification of Diseases, OAO: Overweight and Obesity.



Supplementary Figure 1: Screening for diabetic kidney disease over the study duration.

Supplementary Table 2: Prevalence of proteinuria in people with diabetes.

Urine microalbumin/creatinine	Number	Percentage
< 30	10909	67.7
30 - 300	3819	23.7
>300	1395	8.7
Total	16123	100.0

Supplementary Table 3: Mean HbA_{1c} levels across the study duration and the percentage of HbA_{1c} according to health services.

Year	Primary care			Tertiary care		
	< 7	7-9	>9	< 7	7-9	>9
2017	208	148	82	290	235	83
	47.50%	33.80%	18.70%	47.70%	38.70%	13.70%
2018	247	116	96	564	346	189
	53.80%	25.30%	20.90%	51.30%	31.50%	17.20%
2019	324	213	126	874	520	256
	48.90%	32.10%	19.00%	53.00%	31.50%	15.50%
2020	425	318	249	814	505	361
	42.80%	32.10%	25.10%	48.50%	30.10%	21.50%
2021	750	491	385	1756	895	509
	46.10%	30.20%	23.70%	55.60%	28.30%	16.10%
2022	1393	733	346	3916	2035	810
	56.40%	29.70%	14.00%	57.90%	30.10%	12.00%
2023	916	484	200	3548	2072	709
	57.30%	30.30%	12.50%	56.10%	32.70%	11.20%

P-value	<0.001	<0.001