

Describing the Epidemiology of Microvascular Complications of Diabetes in a Primary Care Patient Population in Canada



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Background & Objective

- Diabetes (DM) & related complications are commonly managed in primary care settings^{1,2}
- There is limited information about the prevalence & epidemiology of diabetes complications in primary care
- Neuropathy, retinopathy & nephropathy** are common microvascular complications of diabetes³⁻⁶

This study **aims** to better understand the epidemiology of microvascular diabetes complications in people visiting primary care clinics across Canada

Results

Study Population Characteristics	Complication(s) n=26,876 (35.4)	No Complications n=48,960 (64.6)
Sex: female, n(%)	12,972 (48.3)	23,323 (47.6)
Age, n(%)		
18-44	923 (3.4)	5,677 (11.6)
45-74	13,768 (51.2)	34,492 (70.4)
75+	12,185 (45.3)	8,791 (18.0)
Location: rural, n(%)	3,963 (14.7)	7,615 (15.6)
Comorbidities ^a , n(%)		
0	871 (3.2)	4,600 (9.4)
1-2	8,961 (33.3)	24,454 (49.9)
3+	17,044 (63.4)	19,906 (40.7)
HbA1C, n(%)		
≤ 6	3,638 (13.5)	7,708 (15.7)
7-9	20,240 (75.3)	34,696 (70.9)
> 9	2,789 (10.4)	4,408 (4.4)
eGFR, n(%)		
<30	2,173 (8.1)	111 (0.2)
30-44.9	4,576 (17.0)	252 (0.5)
45-59.9	8,190 (30.5)	1,685 (3.4)
60+	10,697 (39.8)	40,029 (81.8)
ACR, median (IQR)	3.93 (1.50-15.00)	1.10 (0.60-2.11)
Deceased: yes, n(%)	563 (2.1)	293 (0.6)

a. Comorbidities included adult asthma, cardiovascular disease, cerebrovascular disease, chronic heart failure, cirrhosis, COPD, coronary artery disease, dementia, depression, dyslipidemia, epilepsy, herpes zoster, hypertension, multiple sclerosis, non-vascular atrial fibrillation, osteoarthritis, Parkinson's disease, pediatric asthma & PTSD defined based on CPCSSN case definitions⁸

Approach

- Data Source & Setting:** Diabetes Action Canada National Diabetes Repository (DAC-NDR) with electronic medical records of patients of participating primary care providers in AB, MB, ON, QC & NL
- Study Population:** Adults (18+) diagnosed with DM who had 1+ encounter between 2019-2021
- Microvascular complications**
 - neuropathy⁷:** ICD9 codes 357.2 or 250.6 or free text "neuropathy" or "neuropathie"
 - retinopathy⁷:** ICD9 codes 362.0 or free text "retinopathy" or "retinopathie" or "rétinopathie"
 - Nephropathy^{7,8}:** one ACR >20 mg/mmol or two ACR ≥2 mg/mmol within 3 months or two eGFR <60 ml/min/1.73 m² separated by between 3 months and 18 months, inclusive
- Outcome Measures:**
 - Prevalence of neuropathy, retinopathy & nephropathy
 - sociodemographic & clinical characteristics
 - summary statistics (descriptive analysis)
 - prevalence ratios (logistic regression)

Conclusions

- The prevalence of diabetes complications was high in this primary care population of people living with diabetes
- Having one or more comorbidities significantly increased the prevalence of being diagnosed with a diabetes complication
- Given the high prevalence, it is important to prepare for & develop targeted strategies to manage diabetes complications in primary care to reduce the burden on people living with these conditions & to minimize provider burnout

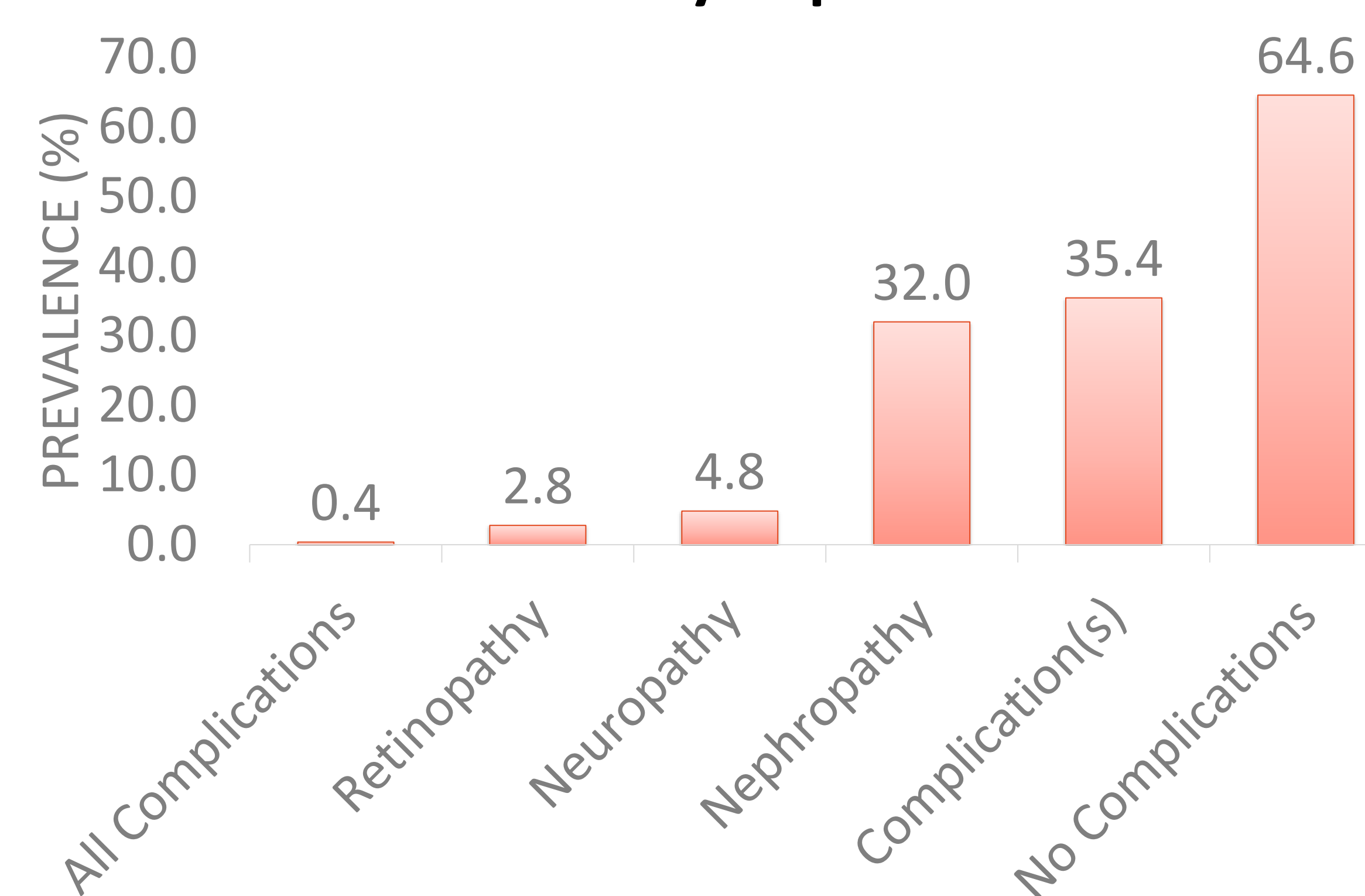
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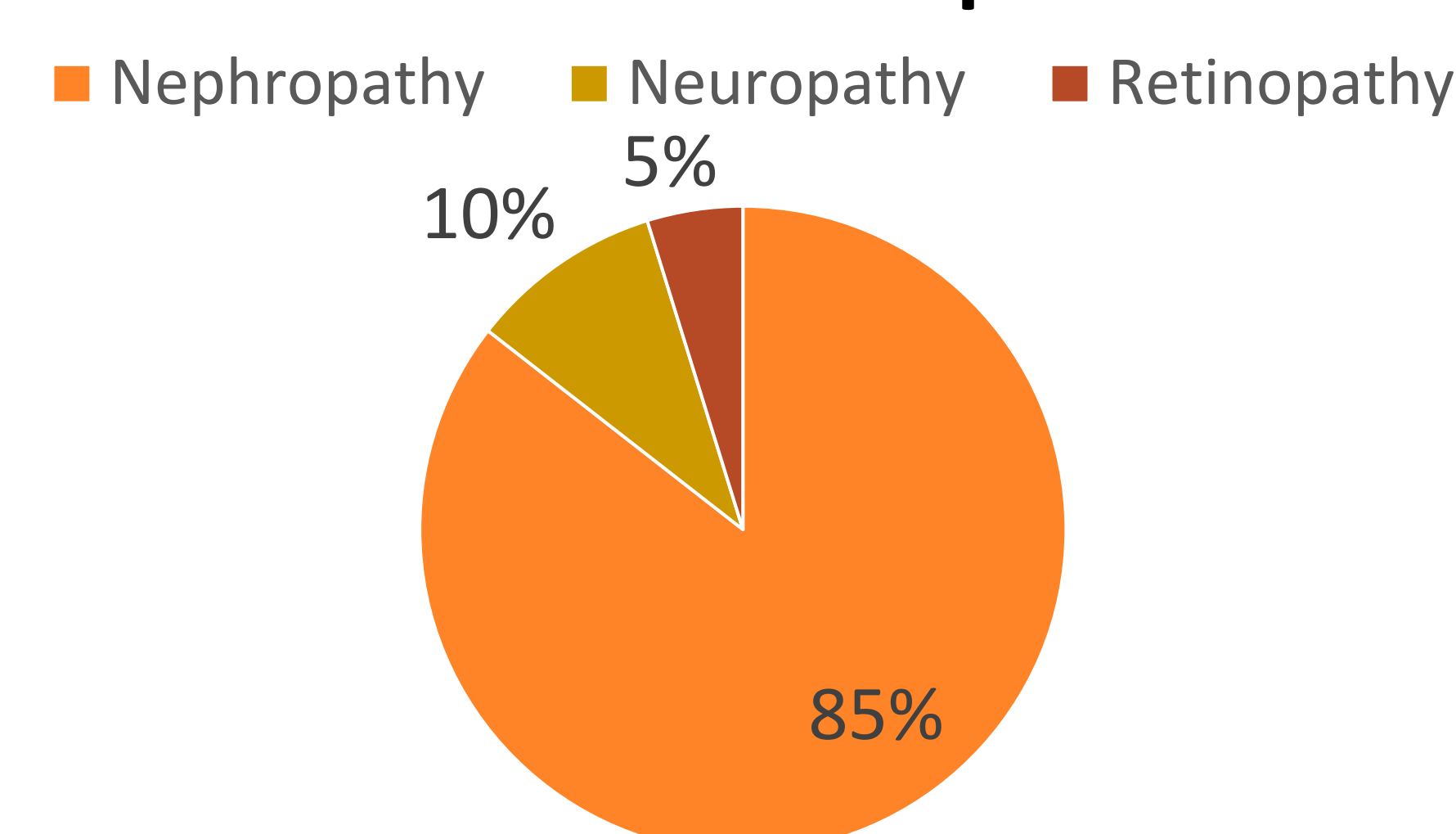
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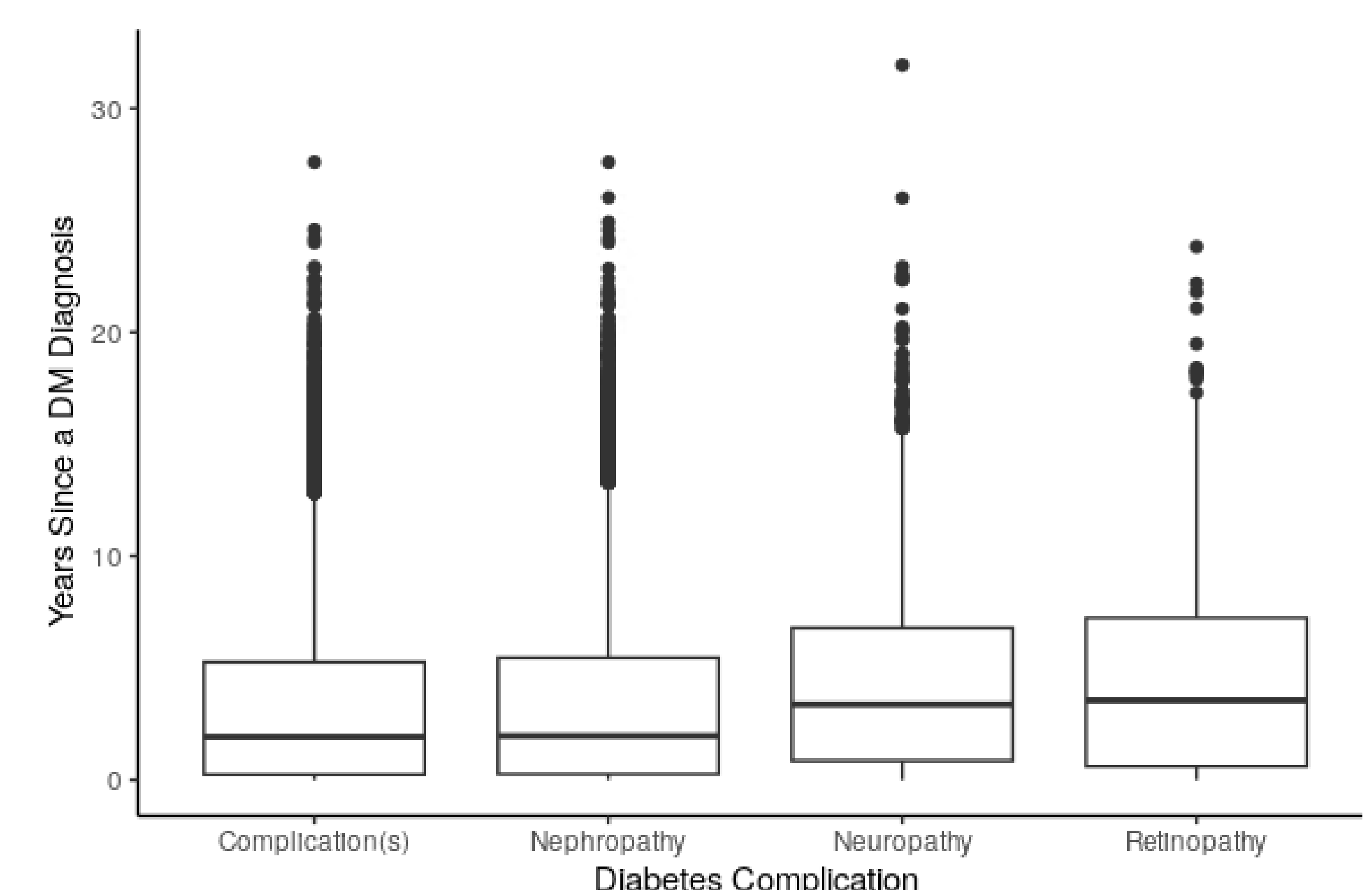
Prevalence of Diabetes Complications in the Study Population



First Recorded Complication



Years from a DM Diagnosis to the Onset of a Complication



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