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Prediabetes and diabetes cost Delaware an estimated \$1.1 billion each year, including \$818 million in direct medical expenses and \$293 million in lost productivity.

CHAPTER 2: THE FINANCIAL IMPACT OF DIABETES IN DELAWARE

At a Glance

- Prediabetes and diabetes cost Delaware an estimated \$1.1 billion each year. This includes \$818 million in direct medical expenses and \$293 million in lost productivity [3].
 - The cost of treating diabetes increases as the disease progresses. Preventing or delaying the transition of prediabetes to type 2 diabetes yields substantial health care cost savings.
 - Medicaid Managed Care Organizations (MCOs) directly reimbursed providers \$40.7 million for diabetes-related care in FY20, a 9% increase in diabetes-related expenditures compared to the previous fiscal year. In FY20, an additional \$2.0 million was paid to directly to providers from State of Delaware and/or Federal funds via fee-for-service claims for diabetes-related care among Delaware Medicaid clients.
 - Diabetes was the costliest episode disease category among GHIP members in FY20, inclusive of the Medicare population, and accounted for 6% of total spending among active employees and early retirees.
 - Except for preventive visits, GHIP members with diabetes utilize health care services at higher rates than members without diabetes.
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Diabetes Care Costs

In 2017, the total cost of diagnosed diabetes in the U.S. reached \$327 billion, a 26% increase over diabetes costs in 2012 [3]. In Delaware, prediabetes and diabetes cost an estimated \$1.1 billion each year, reflecting \$818 million in direct medical expenses and \$293 million in indirect costs [3]. Diabetes prevention, early diagnosis, and effective management yield substantial cost savings.

- On average, people with diabetes accrue an average of \$16,750 per year in medical costs, of which \$9,600 (57%) is directly attributable to diabetes [3].
- People with diagnosed diabetes have medical expenditures an average of 2.3 times higher than those without diabetes [3].

- 67% of the cost of diabetes care in the U.S. is provided by government insurance (including Medicare, Medicaid, and the military). Private insurance covers 31% of the total cost of diabetes care in the U.S. [3].

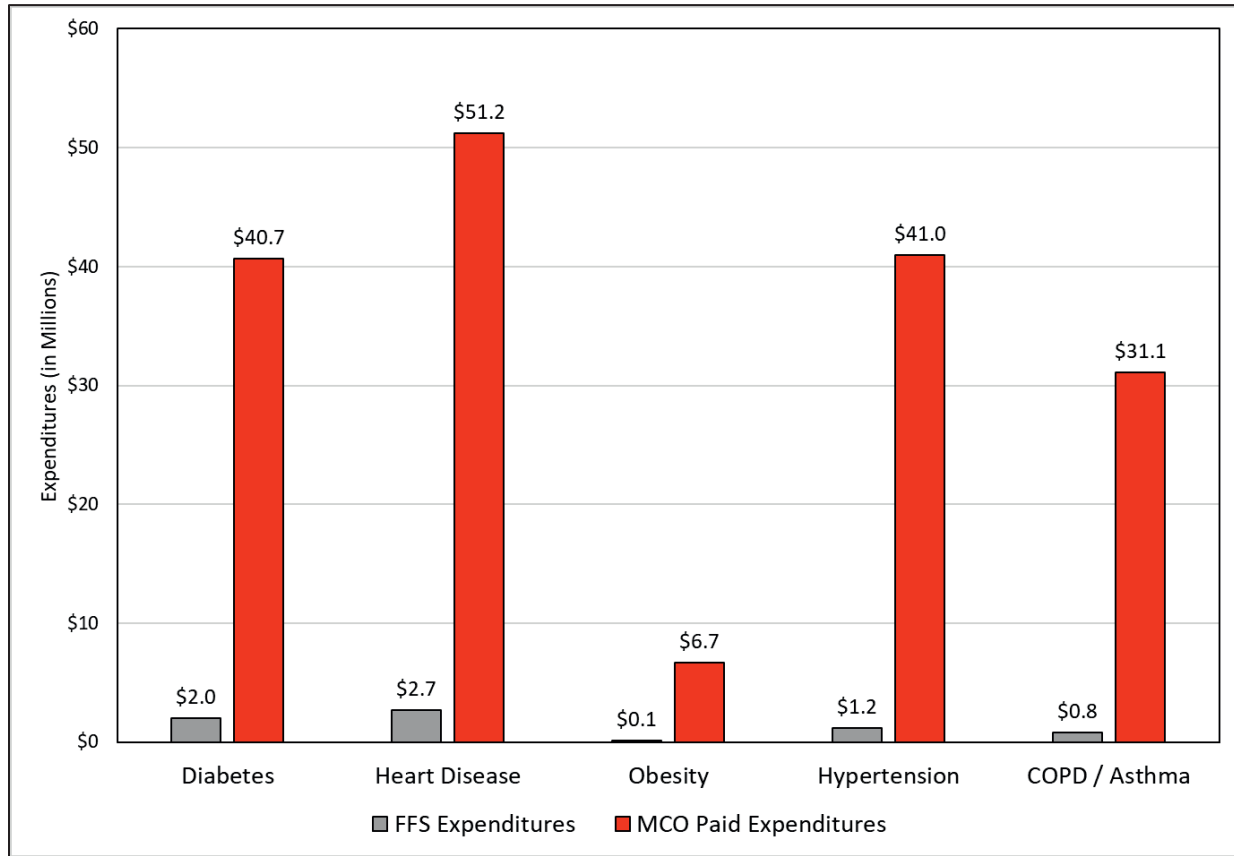
Diabetes Costs among Medicaid Clients

In FY20, Medicaid Managed Care Organizations (MCOs) directly reimbursed providers \$40.7 million in diabetes-related care, a 9% increase in diabetes-related expenditures compared to the previous fiscal year. These payments, referred to as “MCO Paid amounts” are expenditures made by MCOs to service providers and do not reflect direct expenditures from the State or Federal Medicaid funds. Medicaid MCOs are paid a monthly capitation payment for which they accept financial responsibility for most services provided to a client during the month. Actuaries set monthly capitation rates using MCO paid amounts; as MCO paid amounts increase, monthly capitation rates – paid using State and/or Federal Medicaid funds – increase accordingly.

In FY20, an additional \$2.0 million in fee-for-service (FFS) expenditures was paid directly to providers for diabetes-related care among Delaware Medicaid clients. FFS expenditures reflect direct payments from the State of Delaware and/or Federal Medicaid funds.

MCO paid amounts and FFS expenditures related to diabetes rivaled those of other chronic diseases among Delaware Medicaid clients in FY20 (Figure 7).

Figure 7. Medicaid Fee-for-Service (FFS) and Managed Care Organization (MCO) Paid Expenditures in Millions by Chronic Disease, State of Delaware, Fiscal Year 2020.



Source: Delaware Department of Health and Social Services, Division of Medicaid & Medical Assistance, 2021.

In FY20, 703 Medicaid clients with diabetes had at least one inpatient hospital claim related to diabetes. Inpatient costs for diabetes-related care among Delaware Medicaid clients totaled \$8.7 million in FY20.

Diabetes Costs among Group Health Insurance Plan (GHIP) Members

It is important to note that due to the Coronavirus Disease 2019 (COVID-19) pandemic, FY20 data in this report should be interpreted with caution due to the overall reduction in health care utilization among GHIP members.

- In FY20, the GHIP spent \$38 million on medical and drug claims for diabetes episodes of care within the active employee and early retiree populations. The average payment per episode of care was \$6,074. Payments for diabetes episodes accounted for 6% of total spending among active employees and early retirees.
- In FY20, the GHIP spent \$72 million on payments for medical and drug claims for patients with prediabetes in the active employee and early retiree populations, reflecting 11% of total payments made for this population.

Diabetes is the costliest clinical condition by episodes of care among GHIP members, inclusive of the Medicare population (Table 6). The total allowed amount for diabetes, including plan payments and member costs (copays, coinsurance, and deductibles), reached \$76 million in FY20. The total allowed amount for diabetes in FY20 was 83% greater than for osteoarthritis, the second-leading episode category.

Table 6. Total Allowed Amount in Millions for the Five Costliest Episode Disease Categories among Group Health Insurance Plan (GHIP) Members by Fiscal Year, State of Delaware, Fiscal Years 2017-2020.

Episode Disease Category	FY17	FY18	FY19	FY20	Percentage Change: FY17 - FY20
Diabetes	\$57.5	\$64.9	\$69.3	\$75.9	31.9%
Osteoarthritis	\$42.0	\$41.7	\$45.2	\$41.6	-1.0%
Hypertension	\$28.8	\$30.9	\$33.2	\$32.0	11.2%
Coronary Artery Disease	\$29.7	\$29.4	\$31.7	\$29.0	-2.4%
Low Back Pain / Disorders	--	--	\$27.8	\$22.6	--

Note: Includes Active Employee, Early Retiree and Medicare Retiree GHIP Members.

Source: Delaware Department of Human Resources, Delaware Statewide Benefits Office, 2020.

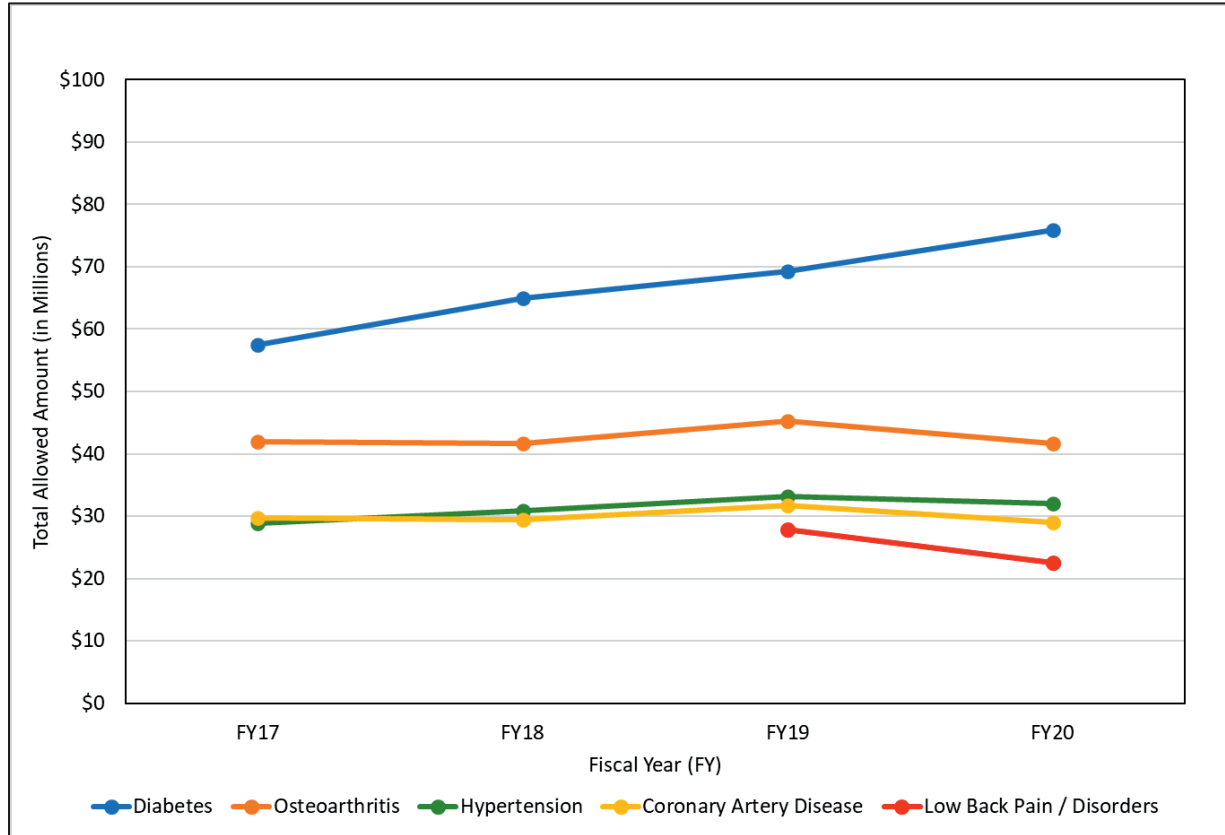
The total allowed amount of diabetes-related care – including plan payments and member costs – is increasing among the GHIP population (Figure 8). From FY17 to FY20, the total allowed amount for diabetes increased 32%, rising from \$58 million to \$76 million. In contrast, total allowed amounts for the remaining four of the top five costliest disease categories

Delaware Department of Health and Social Services, Division of Medicaid & Medical Assistance and Division of Public Health, Diabetes and Heart Disease Prevention and Control Program; and Delaware Department of Human Resources, Delaware Statewide Benefits Office

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(osteoarthritis, hypertension, coronary artery disease, and low back pain/disorders) remained comparatively stable from FY17-FY20.

Figure 8. Total Allowed Amount in Millions for the Five Costliest Episode Disease Categories among Group Health Insurance Plan (GHIP) Members by Fiscal Year, State of Delaware, Fiscal Years 2017-2020.



Includes Active Employee, Early Retiree and Medicare Retiree GHIP Members.

Source: Delaware Department of Human Resources, Delaware Statewide Benefits Office, 2020.

The cost of treating diabetes increases as the disease progresses. The relationship between cost of care and severity of diabetes is shown through episode of care data. Episodes of care – summaries of care (or, claims records) – reflect a combination of inpatient, outpatients, and prescription drug treatment costs. Diabetes episodes of care are assigned to one of three stages according to the level of complexity of care:

- Stage 1 episode: an uncomplicated, asymptomatic diabetes episode or a diabetes episode with minimal complications, such as impaired glucose fasting or impaired glucose tolerance.

- Stage 2 episode: a diabetes episode with some degree of complication, such as vascular disease, neuropathy, or retinopathy.
- Stage 3 episode: the most complicated category of diabetes episodes, including comorbidities such as renal failure, heart attack, or stroke.

In FY20, 2,634 GHIP members had a Stage 1 diabetes episode of care, yielding a Stage 1 diabetes episode rate of 24.4 per 1,000 GHIP members (Table 7). Among GHIP members in FY20, 3,225 had a Stage 2 diabetes episode and 288 had a Stage 3 diabetes episode. FY20 Stage 2 and Stage 3 diabetes episode rates were 29.9 per 1,000 GHIP members and 2.7 per 1,000 GHIP members, respectively.

Among the 288 GHIP members with a Stage 3 diabetes episode in FY20, 157 GHIP members (55%) experienced renal failure and 54 GHIP members (19%) experienced ketoacidosis. Additional comorbidities associated with Stage 3 diabetes episodes among GHIP members in FY20 included hyperosmolar state (characterized by severe hyperglycemia, dehydration, and altered consciousness; 10%), sepsis (8%), acute cerebral vascular accident (7%), hyperosmolar coma (3%), shock (2%), and acute myocardial infarction (1%).

In FY20, GHIP payments for Stage 1, Stage 2, and Stage 3 diabetes episodes were \$9.9 million, \$21.9 million, and \$5.8 million, respectively. Although Stage 3 diabetes episodes accrued the lowest total payments of all three stages, the per-episode payment rate for Stage 3 episodes was \$18,914 – a per-episode cost 405% greater than for Stage 1 and 183% greater than for Stage 2. These data reflect the importance of effective diabetes management strategies.

Table 7. Number, Rates, and Costs of Diabetes Episodes among Active Employees and Early Retirees in the Group Health Insurance Plan (GHIP) by Disease Stage, State of Delaware, Fiscal Year 2020.

GHIP Members with a Diabetes Episode in FY20 (rate per 1,000 members)			
	Stage 1 Episodes	Stage 2 Episodes	Stage 3 Episodes
Active Employees	2,183 (22.4)	2,501 (25.7)	223 (2.3)
Early Retirees	451 (38.9)	724 (62.5)	65 (5.6)
Active Employees and Early Retirees	2,634 (24.4)	3,225 (29.9)	288 (2.7)
Total Payments	\$9,862,442	\$21,882,287	\$5,806,637
Per-Episode Payment	\$3,743	\$6,673	\$18,914

Note: Includes Active Employee and Early Retiree GHIP Members; Medicare retirees excluded due to incomplete medical and prescription costs and utilization captured through available claims.

Source: Delaware Department of Human Resources, Delaware Statewide Benefits Office, 2020.

Delaware Department of Health and Social Services, Division of Medicaid & Medical Assistance and Division of Public Health, Diabetes and Heart Disease Prevention and Control Program; and Delaware Department of Human Resources, Delaware Statewide Benefits Office

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Health care utilization is higher among people with diabetes compared to those without diabetes. From FY17-FY20, among the active employee and early retiree groups, members with diabetes had higher rates of hospital admissions, avoidable admissions (defined as potentially preventable hospitalizations for treating ambulatory care-sensitive conditions), hospital readmissions, ER visits, office visits, and prescriptions relative to the total GHIP population (Table 8). Members with diabetes had lower rates of preventive visits compared to the total GHIP population.

For some utilization categories (e.g., office visits and prescription drug scripts), higher utilization rates among members with diabetes may reflect improved quality of and access to care and self-management efforts. In contrast, higher rates for hospital admissions, avoidable admissions, and readmissions may present opportunities for improvements in diabetes management.

Table 8. Health Care Service Utilization Rates per 1,000 Active Employees and Early Retirees in the Group Health Insurance Plan (GHIP) with a Diabetes Episode Compared to Total Member Population (excluding Medicare Retirees), State of Delaware, Fiscal Years 2016-2020.

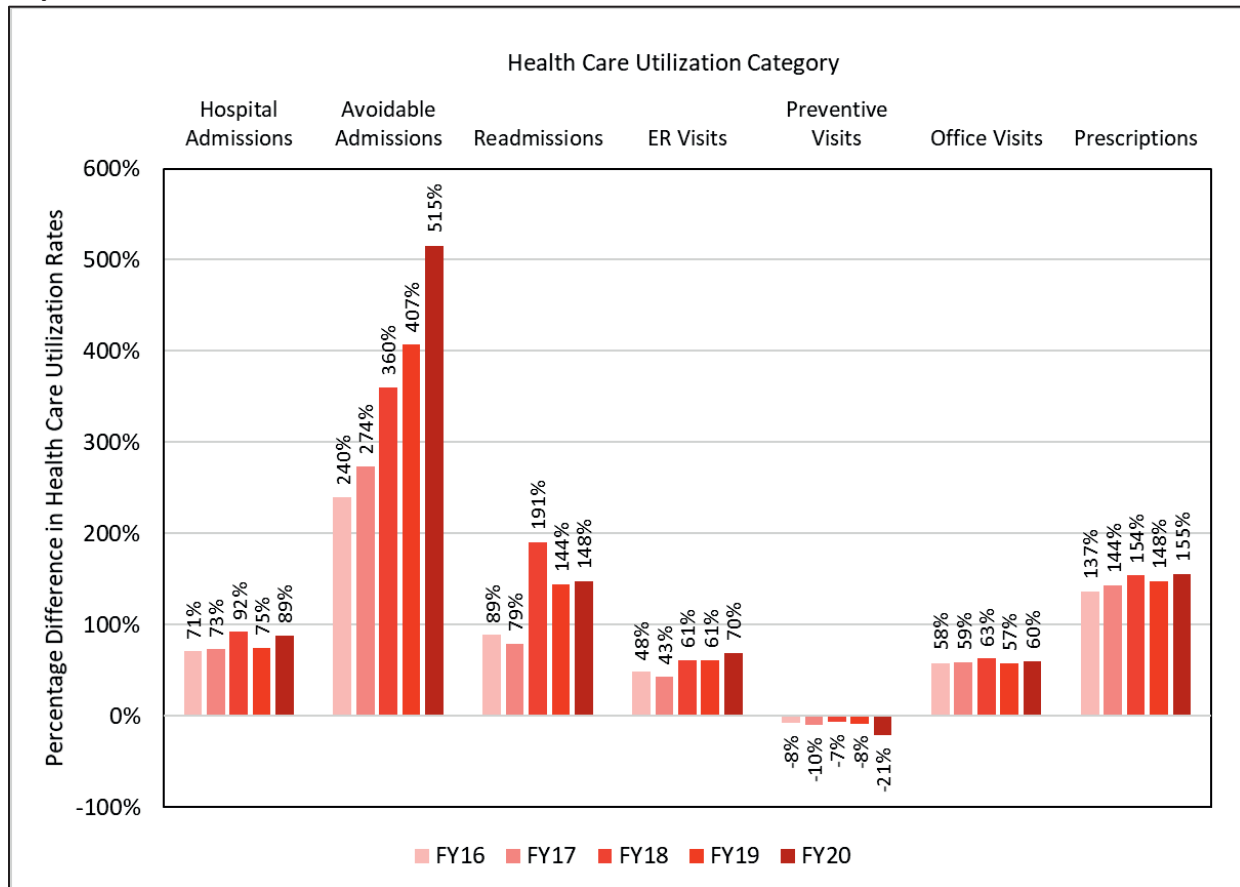
	FY16		FY17		FY18		FY19		FY20	
	Members with Diabetes	All Members	Members with Diabetes	All Members	Members with Diabetes	All Members	Members with Diabetes	All Members	Members with Diabetes	All Members
Hospital Admissions	118.2	69.1	119.2	68.8	121.4	63.2	100.5	57.4	103.9	55.1
Avoidable Admissions	17.0	5.0	15.7	4.2	18.4	4.0	13.7	2.7	16.0	2.6
Readmissions	6.8	3.6	6.1	3.4	9.3	3.2	6.6	2.7	6.2	2.5
ER Visits	401.3	270.7	379.0	264.7	435.3	270.2	444.0	275.6	405.3	239.1
Preventive Visits	395.9	429.5	401.0	443.9	428.4	459.5	447.9	489.5	387.3	489.5
Office Visits	13,416.4	8,498.1	13,441.7	8,472.3	13,434.4	8,248.2	13,581.9	8,628.0	12,654.8	7,890.0
Prescriptions	22,594.1	9,538.8	23,089.5	9,478.4	23,713.1	9,341.9	23,090.5	9,314.7	23,667.3	9,268.9

Note: Includes Active Employee and Early Retiree GHIP Members; Medicare retirees excluded due to incomplete medical and prescription costs and utilization captured through available claims.

Source: Delaware Department of Human Resources, Delaware Statewide Benefits Office, 2020.

Except for preventive visits, from FY16-FY20, members with diabetes had consistently higher health care utilization rates relative to the total GHIP population (Figure 9). The percentage difference in avoidable hospital admissions between members with diabetes and the total GHIP population increased over time. In FY16, members with diabetes experienced avoidable admissions at a rate 240% greater than the total GHIP population (17.0 per 1,000 vs. 5.0 per 1,000). By FY20, the avoidable hospital admission rate for members with diabetes (16.0 per 1,000) was 515% greater than the rate for the total GHIP population (2.6 per 1,000).

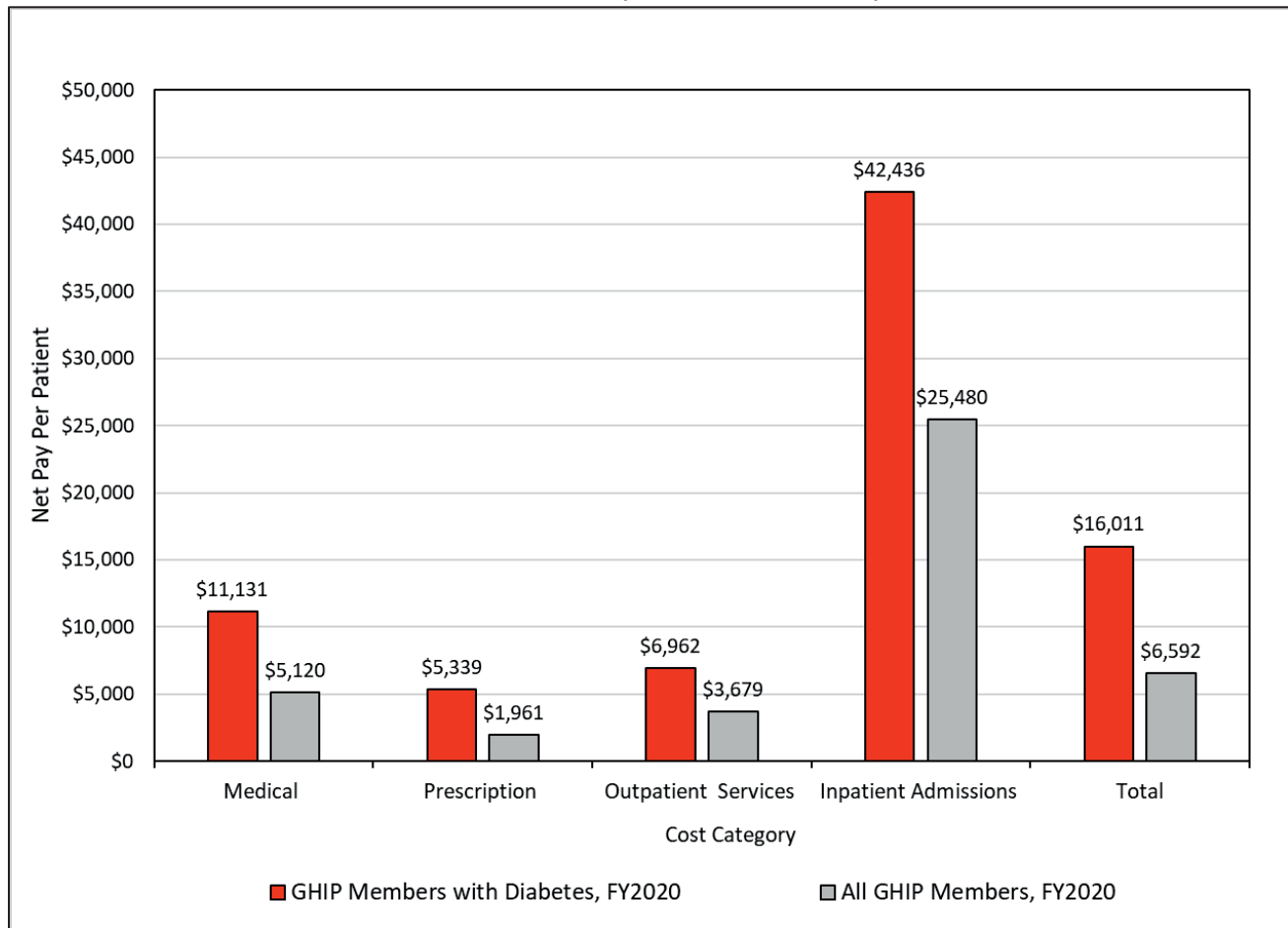
Figure 9. Percentage Difference in Health Care Utilization Rates per 1,000 among Members with Diabetes Compared to the Total Group Health Insurance Plan (GHIP) Member Population, State of Delaware, Fiscal Years 2016-2020.



Note: Includes Active Employee and Early Retiree GHIP Members; Medicare retirees excluded due to incomplete medical and prescription costs and utilization captured through available claims.
 Source: Delaware Department of Human Resources, Delaware Statewide Benefits Office, 2020.

Higher health care utilization rates among members with diabetes produce higher per patient costs. In FY20, net payment per patient (NPPP) was higher for members with diabetes relative to the total GHIP population for the following cost categories: medical, prescription, outpatient services, inpatient admissions, and total net pay per patient (Figure 10). Across metrics, the NPPP among members with diabetes ranged from 67% higher (inpatient admissions) to 172% higher (prescription) than the NPPP among all GHIP members.

Figure 10. Net Pay per Patient by Cost Category, Group Health Insurance Plan (GHIP) Members with Diabetes and All GHIP Members, State of Delaware, Fiscal Year 2020.



Note: Includes Active Employee and Early Retiree GHIP Members; Medicare retirees excluded due to incomplete medical and prescription costs and utilization captured through available claims.

Source: Delaware Department of Human Resources, Delaware Statewide Benefits Office, 2020.

