

Impact of interprofessional collaboration on diabetes care on the Governor's Wellmobile

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Background:

Involvement of a clinical pharmacist in interdisciplinary team-based care improves patient engagement, completion of standards of care, and clinical outcomes in patients with diabetes^{1,2}.

The Governor's Wellmobile is a nurse-managed mobile primary care clinic that serves a primarily uninsured, immigrant population. A clinical pharmacist joined an interprofessional collaborative practice team formed in 2016 to manage patients requiring additional resources.

Study Aims:

This study aims to compare the patient population referred to the interprofessional collaborative practice team (IPCP) with those receiving standard care across:

1. Baseline characteristics
2. Completion of American Diabetes Association standards of care³
3. Identification of medication-related problems (MRPs) and changes to antidiabetics and antihypertensives

Methods:

- Retrospective chart review of adult patients with a diagnosis of type 2 diabetes and ≥1 clinic visit in 2016
- Demographics, visit, and laboratory data collected for 1 year following enrollment
- Analyses with descriptive statistics, unpaired t-tests for continuous data, and chi-square tests for categorical data
- Study approved by the institutional review board at the University of Maryland

Disclosures:

The authors have no disclosures to report.

Results:

Table 1. Baseline characteristics.[†]

	IPCP (n = 27)	Usual Care (n = 62)
	Mean ± SD, or n (%)	
Age, years	52.3 ± 11.4	48.5 ± 11.4
Female	18 (66.7)	39 (62.9)
Race		
Latino	21 (77.8)	54 (87.1)
Black	6 (22.2)	6 (9.7)
Other	0 (0.0)	2 (3.2)
Requiring interpreter	18 (66.7)	50 (80.6)
Days since start of care	989 ± 1039	632 ± 1001
BMI	33.6 ± 5.9	32.1 ± 6.9
HgA1c	8.4 ± 2.3	8.3 ± 2.3
HgA1c Control		
HgA1c < 7.0%	11 (40.7)	19 (36.5)
7.0% ≤ HgA1c < 8.0%	6 (22.2)	13 (25)
8.0% ≤ HgA1c < 9.0%	1 (3.7)	5 (9.6)
9.0% ≤ HgA1c < 10.0%	2 (7.4)	2 (3.8)
HgA1c ≥ 10.0%	7 (25.9)	13 (25)
No. oral antidiabetics		
1	14 (51.9)	38 (61.3)
2	9 (33.3)	23 (37.1)
On insulin therapy	3 (11.1)	3 (4.8)
Systolic BP	134.4 ± 19.9	131.7 ± 20.0
BP < 140/80 mmHg	20 (74.1)	44 (71.0)
No. antihypertensives		
1	8 (29.6)	17 (27.4)
2	4 (14.8)	9 (14.5)
3+	3 (11.1)	3 (4.8)
Statin (moderate – high)	5 (18.5)	5 (8.1)
81 mg aspirin	4 (14.8)	1 (1.6)

[†] No statistically significant differences seen.

Table 2. Completion of standards of care.

	IPCP	Usual Care	p-value
	Mean ± SD, or n (%)		
No. of clinic visits	130	258	
With fingerstick or SMBG	92 (70.8)	202 (78.3)	0.1049
With BP measurement	124 (95.4)	253 (98.1)	0.1921
With BMI documentation	52 (40.0)	103 (39.9)	1.0000
Per patient, mean ± SD	4.8 ± 1.8	4.2 ± 2.4	0.2101
≥ 2 HgA1c measurements	9 (33.3)	10 (16.1)	0.0921
≥ 1 lipid panel	18 (66.7)	29 (46.8)	0.1076
Statin (moderate – high)	21 (77.8)	7 (11.3)	<0.0001
81 mg aspirin	11 (40.7)	2 (3.23)	<0.0001

Table 3. Medication-related problems (MRPs) and changes.

Type of MRP	Antidiabetics (n)		Antihypertensives (n)	
	IPCP	Usual Care	IPCP	Usual Care
Non-adherence	24	42	19	17
Dose too low	25	19	13	10
Needs additional drug	19	6	10	10
Needs different drug	5	0	2	4
Adverse drug event	6	12	3	4
Dose too high	1	8	0	1
Unnecessary drug	2	1	0	0
Total MRPs	82	88	47	46
Per patient, mean ± SD	3.04 ± 2.2*	1.42 ± 1.7	1.74 ± 2.1*	0.74 ± 1.5
Type of change	IPCP	Usual Care	IPCP	Usual Care
Escalation	28	25	14	18
De-escalation	4	19	2	2
Other	4	0	3	8
Total changes	36	44	19	28
Per patient, mean ± SD	1.33 ± 1.2*	0.71 ± 1.0	0.70 ± 1.0	0.45 ± 0.9

* Statistical significance seen at p < 0.05.

Conclusions

1. Patients referred to interprofessional care management did not differ from the usual care group in:
 - baseline degree of glycemic control
 - baseline degree of blood pressure control
 - number of clinic visits
2. Patients with interprofessional care management may be more likely to:
 - meet standards in laboratory monitoring
 - meet standards in cardiovascular disease risk management
3. Interprofessional care management identified more medication-related problems and implemented more changes to the antidiabetic regimen

Implications

Interprofessional models improve processes of care, which are likely to improve clinical outcomes in patients with diabetes as care teams adapt to new roles.

References

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