

Modified Patient Intake Process and its Effectiveness in Timely Access to Patient Data in Endocrinology Telemedicine Visits

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Pharmacy



Introduction

- Telemedicine, an already growing aspect of healthcare, saw increased demand during the pandemic. As the use of telemedicine increased, new strategies were designed to improve communication with patients.¹
- In another recent trend throughout healthcare, facilities and their providers have begun to employ checklists as a way of improving patient safety, quality control, and workflow efficiency, to great success.^{2,3,4}
- This study aims to assess the effectiveness of Chart Prep Checklist (CPCL) implementation in providers' timely access to patient glucose data and lab results at an endocrinology specialty clinic.
- The findings of this study can provide insight into feasibility of implementation and effectiveness of such checklists in enhancing data accessibility in telehealth visits.

Specific Aims

- Determine the frequency of timely and accurate completion of the CPCL. See Figure 1.
- Assess the frequency of timely access to insulin pump and/or CGM data and lab results during the telemedicine visits.
- Evaluate the relationship between timely and accurate completion of the CPCL and timely access to data and results.

Methods

Study Design and Setting

- A descriptive, observational, and retrospective cohort study conducted via chart review of clinic visits at the Endocrinology and Diabetes Clinic at Banner - University Medical Center South

Inclusion Criteria

- Telemedicine clinic visits from June 1, 2020 to December 31, 2020, in which patients ≥ 18 years old with diagnosis of diabetes were seen for diabetes management

Outcomes and Definitions

- Timely completion of CPCL: completed by the start of the visit
- Accuracy of completed CPCL: accurately documented insulin pump/CGM usage and/or recent lab draw
- Timely access to glucose data and lab results: insulin pump/CGM data and/or lab results were uploaded in patient's chart by the time of the visit

Statistical Analysis

- Descriptive statistics were used to summarize the results.

Figure 1. Chart Preparation Checklist (CPCL)

Preferred phone number
Preferred language
Patient has a camera on their phone <input type="checkbox"/> Yes <input type="checkbox"/> No
Patient is signed up for the portal <input type="checkbox"/> Yes <input type="checkbox"/> No
Patient is using an insulin pump or CGM (e.g. Dexcom or Freestyle Libre) <input type="checkbox"/> Yes <input type="checkbox"/> No
Patient had recent labs <input type="checkbox"/> Yes <input type="checkbox"/> No
Comments

Results

Figure 2. Study Flowchart

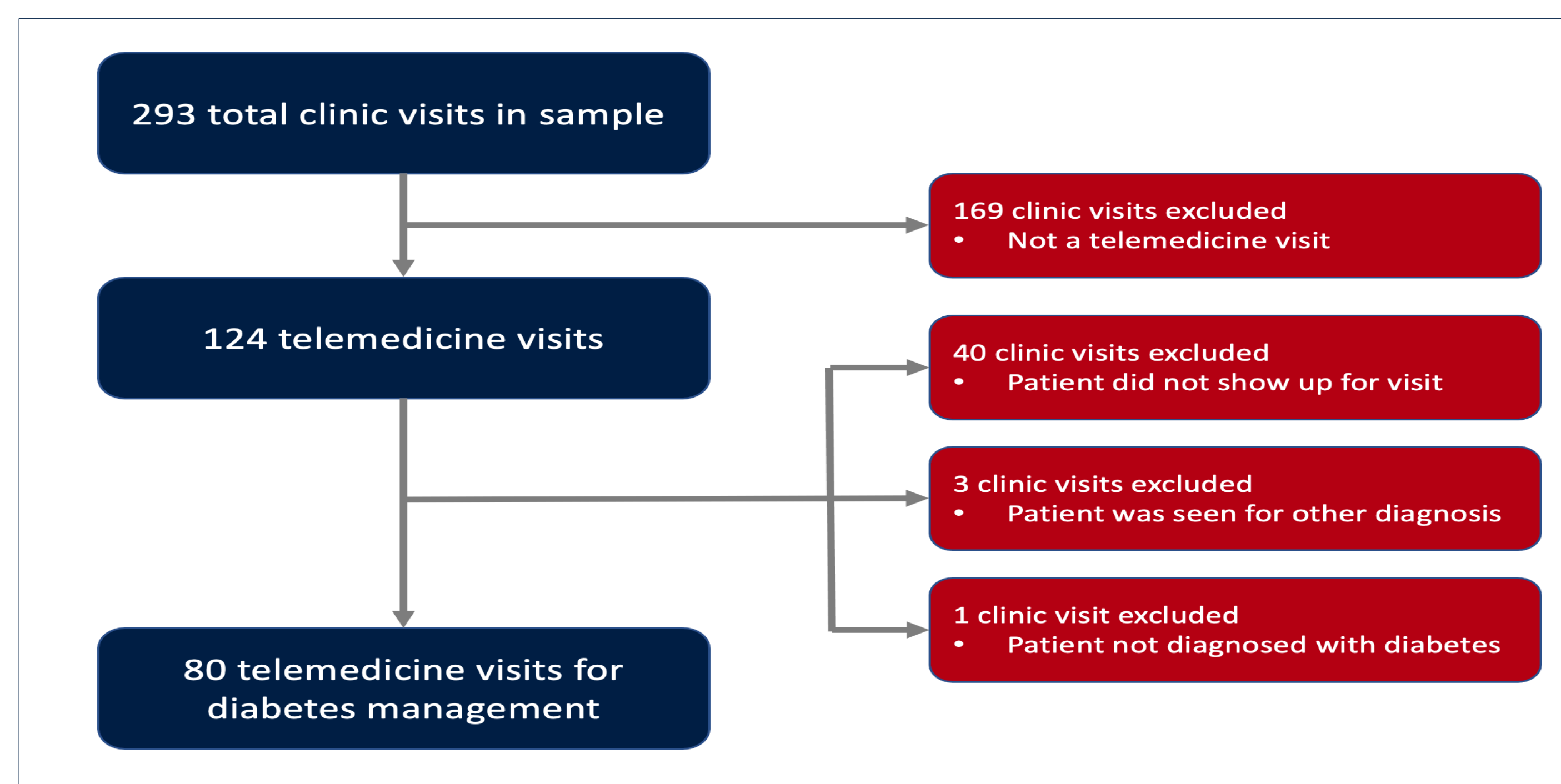


Table 1. Baseline Characteristics

	N = 80
Age (years), median (IQR)	54 (37 to 69)
Female, n (%)	48 (60)
Diabetes Type, n (%)	
• Type 1	35 (43.8)
• Type 2	40 (50)
• Latent Autoimmune Diabetes in Adult (LADA)	1 (1.3)
• Other	4 (5)
Visit Type, n (%)	
• Diabetes Medication Assessment	55 (68.8)
• Insulin Adjustment	7 (8.8)
• Insulin Pump	18 (22.5)
Insulin Pump and/or CGM Device Brand Used, n (%)	
• Medtronic	19 (23.8)
• Omnipod	2 (2.5)
• Freestyle Libre	17 (21.3)
• Dexcom	7 (8.8)
• Medtronic Guardian Connect	3 (3.8)
• Tandem	1 (1.25)

- Among the 80 telemedicine visits, a total of 25 (31.3%) phone calls were made to patients to complete CPCL. Eight of those calls were second attempts.
- Out of the 25 phone calls made, 17 (68%) resulted in CPCL completion.
- None of the 8 second phone call attempts resulted in CPCL completion.

Results Continued

Table 2. CPCL Completion and Data Availability Results

	n(%)	Out of
Overall timely* CPCL completion rate	17 (21.3)	N=80
• CPCL Accuracy Rate		
• Accurate Pump/CGM Usage Documented	16 (94.1)	N=17
• Accurate Recent Labs Draw Documented	17 (100)	N=17
Overall timely data availability rate at clinic visit**		
• Insulin Pump and/or CGM data availability	19 (61.2)	N=31 [^]
• Lab results availability	42 (82.3)	N=51 ^{^^}

*Defined as completed by the start of the visit
 **Defined as uploaded in the chart by the start of the visit
[^]Some visits were found not to have a device per extensive patient chart review (n=49)
^{^^}Some visits were found not to have recent labs ordered (n=29)

Table 3. Insulin Pump/CGM Data Availability With and Without CPCL*

Outcome	With CPCL (N=16)	Without CPCL (N=31)	P Value
• Timely insulin pump and/or CGM data availability**	4 (25)	15 (48.4)	0.217

*Defined as CPCLs completed timely (by the time of the telemedicine visit) and accurately (correctly indicated usage of insulin pump/CGM and/or if recent labs were drawn).
 ** Defined as uploaded in patient's chart by the start of the telemedicine visit.

Discussion

- A total of 49 patients had insulin pump and/or CGM devices. However, only 31 visits with those devices are listed. This discrepancy is likely due to some patients having both pump and CGM.
- The rate of timely CPCL completion was low at 21.3% (n=17) of 80 telemedicine visits. This was mostly due to low rate of attempts at 31.3% (n=25) made. The completed CPCLs had high rate of accuracy.
- Overall, timely availability of insulin pump/CGM data was suboptimal with those not being available for ~40% of visits. The rate of timely availability of lab results was higher and just above 80%.
- Appropriate CPCL utilization (timeliness and accuracy) was not more effective in timely insulin pump/CGM data availability.
- Limitations of this study include, inconsistency with documentation of telemedicine visits and CPCL notes, potential inconsistency/inaccuracy in data collection, low sample size, assessing only one clinic. Therefore, caution should be exercised in referring to the results of this study.

Conclusion

- This study suggests that CPCL utilization does not have added benefit in timely access to insulin pump/CGM data.
- As per very low CPCL utilization and the study limitations, further investigations are needed to assess the effectiveness of CPCL and if the checklist and its use need to be revised.

References

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