

# Improved glycaemic and cardiac parameters in T2DM using digital precision care management

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## Background

Approximately 537 million adults are living with diabetes worldwide currently and the numbers are expected to raise to 643 million by 2030.

India has 74.2 million with diabetes and glycaemic control among individuals with diabetes is poor with the last reported mean A1c being  $8.9 \pm 2.1\%$  in 2011.

A team of healthcare specialists remotely monitored and connected with people with T2DM using digital precision care model (DPCM).

## Aim

To assess glycaemic and cardiac parameters in people using digital precision care model

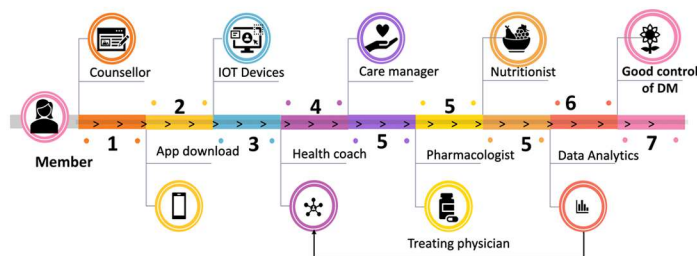
## Methods

The cohort consists of members who enrolled for the diabetes management programme at Credo Health Services Private Limited.

This programme included a group of healthcare professionals monitoring enrolled members progression using continuous glucose monitoring and AI enabled IoT application.

The mean, standard deviation and confidence intervals were analysed using IBM SPSS Statistics 25 (IBM Corporation, Armonk, New York, United States).

Figure 1 – The process flow



## Results

There was a significant improvement in the A1c levels of all the members from  $9.8 \pm 2.1\%$  at baseline to  $7.5 \pm 0.9\%$  in 3 months ( $p < 0.001$ )

The mean FPG improved from  $200 \pm 84$  mg/dl to  $134 \pm 33$  mg/dl ( $p < 0.05$ ).

The BMI of members dropped from  $28.5 \pm 5.0$  to  $26.7 \pm 4.5$  which was significant ( $p < 0.05$ ).

In addition, there was a reduction in prescribed medications with sulfonylureas by 50% and metformin 31%.

Table 1 - The difference in glycaemic and cardiometabolic parameters

Parameters	Baseline Values (n=22)	Three months post digital precision care model (n=22)	p value (2 tailed)
	Mean $\pm$ SD	Mean $\pm$ SD	
FPG (mg/dL)	200 $\pm$ 84	134 $\pm$ 33	<0.05
HbA1c (%)	9.8 $\pm$ 2.1	7.5 $\pm$ 0.9	<0.001
Total Cholesterol (mg/dL)	169 $\pm$ 27	158 $\pm$ 46	0.38
TGL (mg/dL)	213 $\pm$ 103	146 $\pm$ 72	0.06
LDL (mg/dL)	99 $\pm$ 21	88 $\pm$ 41	0.34
HDL (mg/dL)	40 $\pm$ 9	42 $\pm$ 11	0.182
BMI (kg/m <sup>2</sup> )	28.5 $\pm$ 5.0	26.7 $\pm$ 4.5	<0.05
Systolic BP (mmHg)	118 $\pm$ 19	117 $\pm$ 12	0.78
Diastolic BP (mmHg)	80 $\pm$ 9	79 $\pm$ 10	0.53

Table 2 - Reduction in Diabetic medications in 3 months

Medications withdrawn/titrated	End of 3 months Reduction
Sulfonylureas	50%
Biguanides	31%
Gliptins	27%
SGLT - 2i	29%

## Conclusion

AI enabled digital precision diabetes care management improved the glycaemic and cardiometabolic outcomes in three months.

## References

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- [www.diabetesatlas.org](http://www.diabetesatlas.org)
- Mohan V, Shah S. N., Joshi SR, et al. Current status of management, control, complications and psychosocial aspects of patients with diabetes in India: Results from the DiabCare India 2011 Study. Indian J Endocrinol Metab. 2011;18(3):370-378.

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