



Vital Signs

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Vital Signs



Dear Reader,

Dvara Health Finance's (DHF) mission is to ensure that spending on health translates into better financial and health outcomes for all Indians. We aim to offer at-scale, tailored financing and information services that will enable lower out-of-pocket expenditure for the individual at the point-of-care. Our first product, the Health Savings Account, combines automatic savings, top-up insurance and out-patient care coordination.

Our bi-monthly newsletter, 'Vital Signs', is an effort to build a community of practice for health sector innovators and practitioners in India. We aim to share learnings from new healthcare models and build a vibrant community that helps improve the value equation for household spending on health.

In our second issue, we introduce DHF's Electronic Data Capture System (EDC), a key enabler for primary care provider teams at our partner clinics. We also share evidence on the impact of diabetes self-management education (DSME) on glycated haemoglobin (HbA1C) levels, a critical clinical outcome for diabetics. Further, centring patient experience, we share learnings from the field through a case study of a Health Savings Account customer to understand the key role of counselling in driving desirable patient behaviours towards effective chronic disease management.

We would love to get your thoughts on this issue. In future issues, we will share insights from our partners & advisors as well as learnings from ongoing pilots. Please send your suggestions on what you would like to see in future issues or anything health financing-related at communications.health@dvara.com. You can also subscribe to the newsletter by signing up [here](#).

Happy reading and wishing you good health!

Bindu Ananth
Founder & CEO - Dvara Health Finance

Section 1: Product Spotlight - A Look at DHF's New Electronic Data Capture System



DHF's 'Electronic Data Capture' (EDC) system aims to simplify patient management for primary care teams at our partner clinics

Electronic data capture (EDC) systems are increasingly being used to support clinical care in low-and middle-income healthcare settings. DHF recently launched the EDC, a web-based electronic patient data collection tool that enables the primary care provider teams to access patient information and manage patients efficiently.

Electronic data capture (EDC) systems for patient data collection have [several advantages for both providers](#) and patients and add tremendous value over paper-based systems. They provide complete, accurate and up-to-date information about patients at the point of care. Further, they streamline care coordination among the healthcare team by obviating reliance on provider memory and improve patient experience by allowing more time for patient interaction. By serving as a single repository of patient history, they enable care teams to monitor disease progression, treatment changes and clinical outcomes over time from anywhere with a computer and internet connection. They also reduce health system costs through decreased paperwork, improved safety, reduced duplication of testing, and improved health. Overall, evidence shows that they likely [improve provider productivity, especially during visits for a new problem and routine chronic care](#).

To this end, Dvara Health Finance recently rolled out a beta version of the EDC system, a web-based data capture and process flow tool, to all participating providers. The EDC is a one-stop resource which connects all associated physician providers with the DHF ecosystem, avoiding the constraints often associated with dedicated software applications. In the five-step clinic workflow indicated below, the EDC works at process steps 1-4 to help delineate the responsibility areas for each member of the clinic's primary care team.

1. Patient registration at the front desk;
2. Vitals measurement by a clinic nurse;
3. Protocol-based screening for cardiovascular disease (incl. hypertension), type 2 diabetes mellitus (T2DM), obesity, breast cancer, osteoporosis, oral cancer & lesions, and colorectal cancer by the primary care physician (see figure 1)
4. Health status report based on screening results, and associated treatment prescription (Rx) provided by the primary care physician; and
5. Personalised counselling, next steps and chronic care engagement planning, by the health coach.

As a process flow aide for clinical care providers, the EDC automates patient risk stratification, reduces dependence on provider familiarity with screening protocols, and provides support for medical decision-making. The EDC not only captures patient information, but also allows for easy MIS reporting as well as reporting of changes in patient outcomes.

In designing the EDC, DHF adopted a consultative and iterative human-centred design approach. Integrating

feedback from clinical care teams, the EDC has undergone updates and improvements to provide greater flexibility to users, accounting for the heterogeneous composition of care teams across the Indian primary care landscape.

To encourage provider uptake and acceptance, the EDC is free to use for our partner providers and DHF provides user training support via product demonstrations.



When we conceptualised the EDC, we had two primary goals: preventive care workflow automation, and standardised data collection.

We see the EDC as becoming the next mainstay of the primary healthcare landscape - where it can be used across care settings, independent of constraints such as the type of health centre, clinical staff team sizes and the level of healthcare expertise at hand.

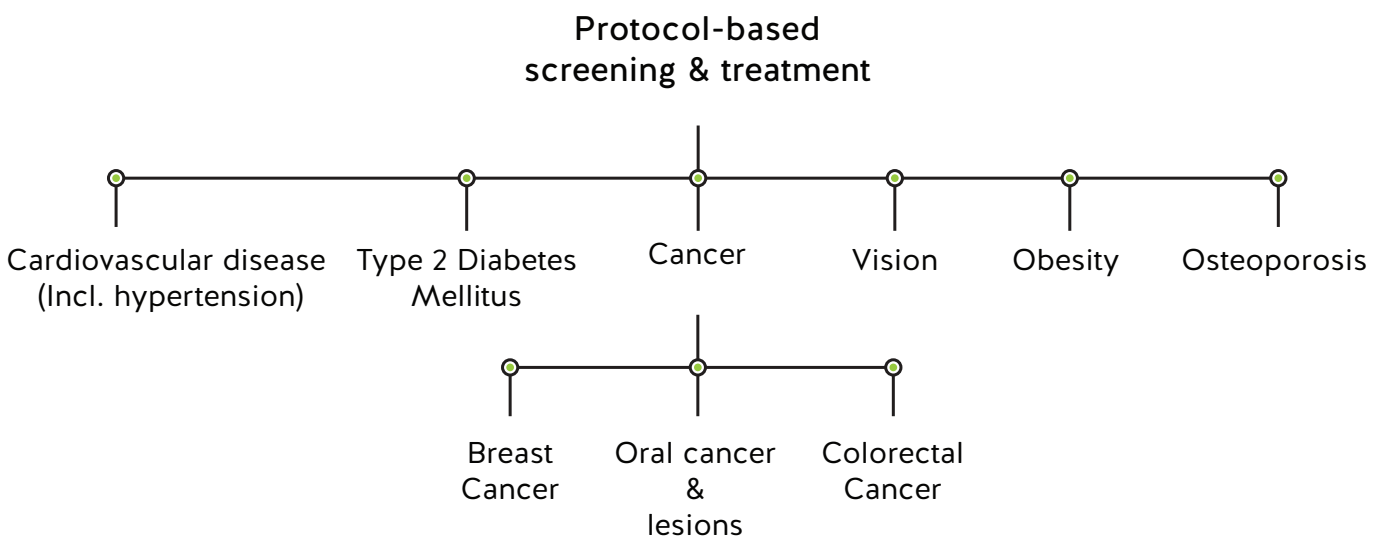
Through this beta-rollout, we look forward to partnering with clinics and hospitals that are looking to standardise their patients' preventive health journeys. And in the process, identify the setting-specific needs and customisations which will move the EDC a step closer to becoming a truly horizontal healthcare platform.

Dr Viraj Ambalam

Lead – Clinical Outcomes, Dvara Health Finance



Screened Disease Conditions in the EDC



(Figure 1)

Following the registration of any given patient, care teams can opt to use the EDC for either (or both) of the below workflow pathways: (i) preventive screening: culminating in a summary report and planned next steps, and (ii) outpatient clinic visit record documentation: which can not only be printed for the patient’s reference, but can also be accessed subsequently, should any need to do so arise (See Figure 2 below. *Note: Details for representational purposes, not of a real patient.*)

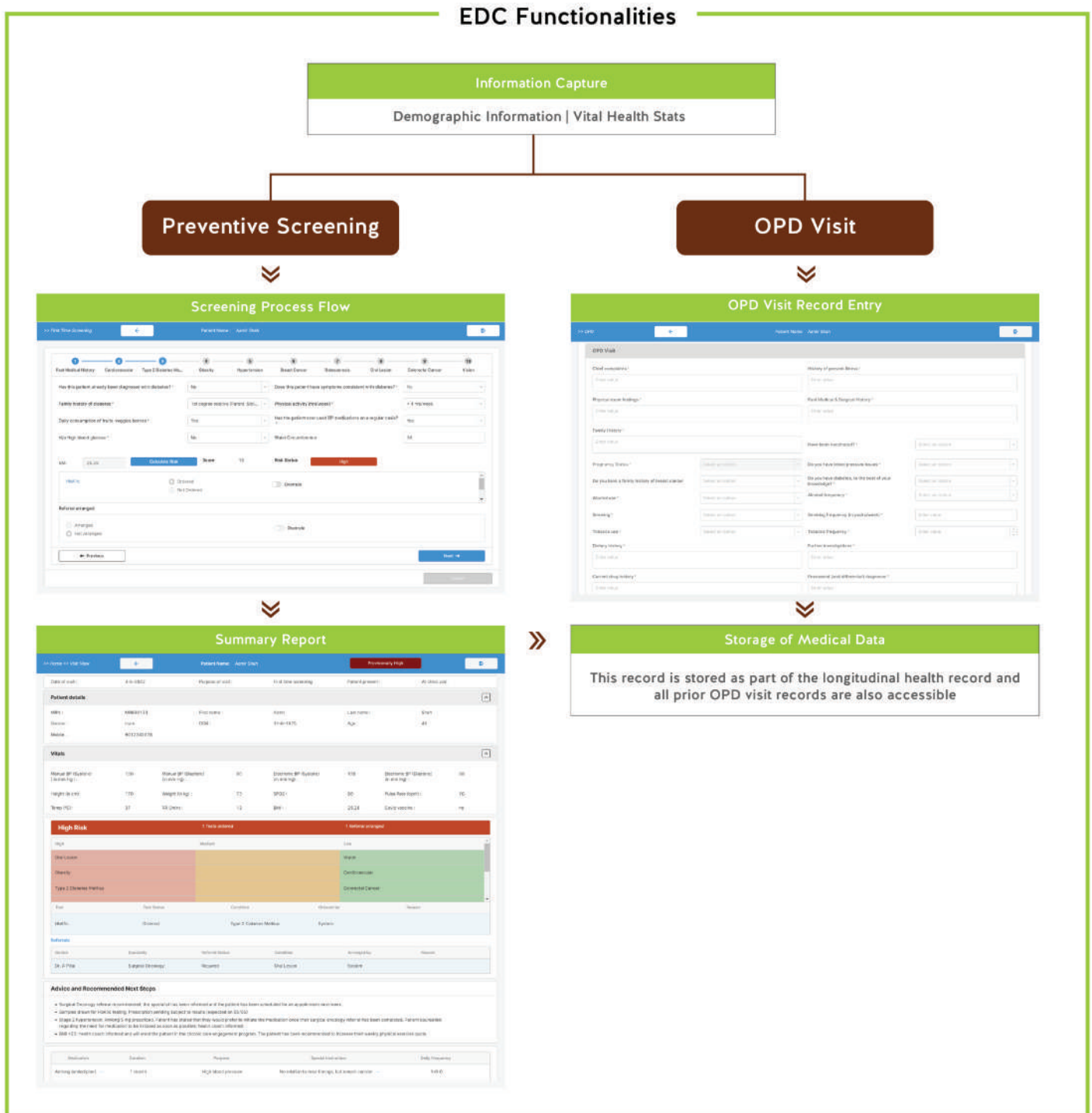
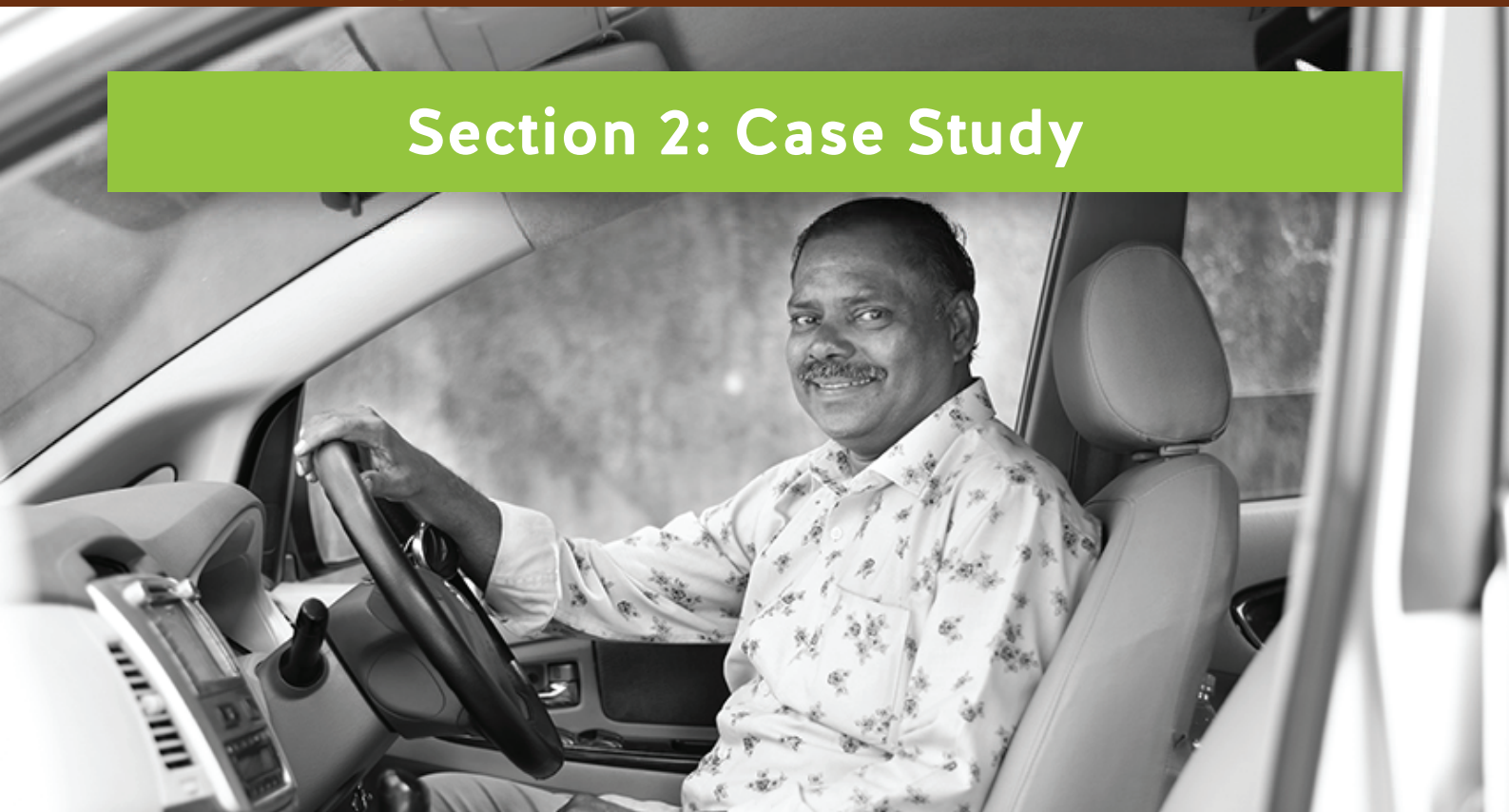


Figure 2 (Please click on the image to enlarge)

Section 2: Case Study



Comprehensive, bespoke counselling for comorbidities drives desirable health behaviours

This case study tracks the journey of an elderly patient with co-morbidities (longstanding diabetes and newly diagnosed hypertension) from an initial reticence in accepting his hypertension diagnosis to marked improvements in clinical outcomes such as notable reduction in Body Mass Index (BMI), diastolic blood pressure and glycated haemoglobin (HbA1C) level in a span of three months from his initial visit. This was achieved through sustained counselling and diabetes self-management education (DSME) by the health coach, which empowered the patient to initiate treatment for hypertension and translated in healthy lifestyle and behavioural changes such as more physical exercise, appropriate diabetes-relevant dietary shifts, and adherence to medications.

It also underlines the need for providers to adopt differential patient engagement strategies for new and old diagnoses of metabolic conditions, as patients are more likely to resist treatment for newly discovered metabolic conditions/health risks. Further, patients' perception of individual metabolic conditions/risks can vary significantly resulting in reticence in seeking care for those that are deemed 'not severe'. This calls for providers to handhold patients in their journey to accept their diagnosis and eventually empower them to make informed decisions to secure their wellbeing.

We reached out to Yashwant (name changed to protect identity), a policyholder with our partner insurer, and convinced him to visit our partner clinic for a free family health check-up. Yashwant is a recently retired, 60-year-old male with a long-standing history of diabetes.

At his initial clinic visit, he was not only confirmed to be diabetic, but also diagnosed with hypertension and obesity. Yashwant's perception of the severity of his individual diagnoses differed. He considered his diabetes severe and in need of course correction. He was also concerned about his obesity significantly and understood that weight loss was necessary. However, he did not consider his hypertension diagnosis significant, instead believing that he would be able to address his hypertension without medication. The patient refused to initiate treatment for hypertension, although he was compliant with his diabetes medications and other lifestyle advice.

Over the course of the following three months, Yashwant was engaged repeatedly through weekly-to-fortnightly counselling sessions with the health coach (over a tele-platform), 1 tele-visit with the PCP, and three in-person clinic visits. Further, he shared his self-measured blood pressure readings as well as glucometer readings, on a

weekly basis with the health coach. By the beginning of the third month, following intense counselling with the health coach and his own gradual acceptance of his hypertension diagnosis, Yashwant agreed to initiate anti-hypertensives.

The health coach's counselling interventions resulted in a marked uptick in physical exercise, and successful dietary shifts which improved the odds of getting his diabetes under control.

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We helped Yashwant better understand his diabetes diagnosis, its likely progression, and what he needed to do to better manage his diabetes day-to-day. However, counselling efforts were relatively unsuccessful in terms of dietary shifts relevant to his hypertension; specifically, getting Yashwant to reduce his salt intake.

By Yashwant's three-month check-in, he showed a 10 mm Hg increase in systolic blood pressure, a 10 mm Hg decrease in diastolic blood pressure, a 0.4 unit decrease in his BMI and a 2.6 unit decrease in his HbA1c levels.

Dr Adithya Hande

Health Consultant, Dvara Health Finance

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This case study tracks the journey of an elderly patient with comorbidities (long standing diabetes and newly diagnosed hypertension) from an initial reticence in accepting his hypertension diagnosis to marked improvements in clinical outcomes such as notable reduction in Body Mass Index (BMI), diastolic blood pressure and glycated haemoglobin (HbA1C) level in a span of three months from his initial visit. This was achieved through sustained counselling and diabetes self-management education (DSME) by the health coach, which empowered the patient to initiate treatment for hypertension and translated into healthy lifestyle and behavioural changes such as more physical exercise, appropriate diabetes-relevant dietary shifts, and adherence to medications.

It also underlines the need for providers to adopt differential patient engagement strategies for new and old diagnoses of metabolic conditions, as patients are more likely to resist

treatment for newly discovered metabolic conditions/health risks. Further, patients' perception of individual metabolic conditions and risks can vary significantly resulting in reticence in seeking care for those that are deemed 'not severe'. This calls for providers to handhold patients in their journey to accept their diagnosis and eventually empower them to make an informed decision to initiate treatment.

Finally, since metabolic risks and conditions tend to co-occur and are often co-dependent in terms of ramifications on disease progression, e.g., [hypertension and obesity is often associated with poor glycaemic control](#), an integrated and comprehensive counselling approach to chronic disease management can have multiplicative effects on patients' health outcomes.



Section 3: What we are reading



Diabetes Self-Management Education (DSME) strategies should be integral to quality diabetes care

The prevalence of diabetes has steadily increased in India and around the world over the last three decades. According to the International Diabetes Federation (IDF), India ranked next only to China in the global burden of diabetes, accounting for 0.6 million deaths and 1 in 7 adults living with diabetes worldwide in 2021. Despite the high diabetes prevalence in India, a recent study showed that glycaemic control was achieved in just 23.4% of persons receiving pharmacotherapy for type 2 diabetes mellitus (T2DM). This makes it vitally important for practitioners to better understand the evidence on additional pathways to manage diabetes effectively.

Evidence shows that glycaemic control, clinically measured by glycated haemoglobin (HbA1C) levels, is a significant predictor of T2DM disease progression and development of vascular complications. This systematic review of published, randomized controlled trials shows that DSME is effective in reducing HbA1C levels in adults diagnosed with T2DM compared with usual care or a minimal educational intervention. Ergo, DSME should be integral to quality diabetes care.

The prevalence of diabetes has gradually increased in India and around the world over the last three decades. A study reports that the [prevalence of diabetes in India increased by a staggering 80% between 1990 to 2016](#). Further, according to the International Diabetes Federation (IDF), India ranked next only to China in the global burden of diabetes, accounting for 0.6 million deaths and 1 in 7 adults living with diabetes worldwide in 2021. IDF estimates that by the year 2045, India will be home to nearly 124.9 million diabetic individuals aged 20-79 years, up from 74.2 million in 2021, representing a 68% increase. The comparative population prevalence of diabetes in India is slated at 9.6% as per IDF estimates. Despite the high diabetes prevalence in India, a [recent study](#) showed that glycaemic control was achieved in just 23.4% of persons receiving pharmacotherapy for type 2 diabetes mellitus (T2DM). This makes it vitally important for practitioners to better understand the evidence on what works to manage diabetes cost-effectively.

In this [systematic review of randomized controlled trials \(RCTs\) comparing the impact of DSME](#) with usual care or a minimal educational intervention on glycated haemoglobin (HbA1C) levels in adults diagnosed with type 2 Diabetes Mellitus (T2DM), Chrvla and colleagues argue that DSME is effective in improving glycaemic control, a key marker for disease progression in persons living with T2DM.

DSME is a heterogeneous intervention even within the context of the RCTs. For the purpose of assessing efficacy of DSME, the studies in this review were broadly categorised by:

- Mode of delivery
 - individual education,
 - group education,
 - a combination of individual and group education, and
 - remote education with DSME delivered online or telephonically
- Provider type (individual or team); and
- Contact duration (<= 10 hours or > 10 hours)

The authors conclude that engagement in DSME results in significant improvement in glycaemic control whether delivered by a solo provider or a team of providers, measured as a 0.57-point greater reduction in HbA1C levels with DSME compared with the control group which got usual care. Further, combination DSME (individual + group) was associated with the greatest change in HbA1C compared with group, individual, and remote interventions. In addition, DSME intervention hours that exceeded 10 were associated with a slightly higher overall average reduction in HbA1C levels. The key results are summarised in the infographic below. Notably, the review concluded that DSME benefitted all participants regardless of their baseline HbA1C level.

Differential Impact of DSME Intervention on HbA1C Levels in T2DM patients

	Absolute difference in HbA1C with the addition of DSME	
All Studies (Total)	0.57	
Mode	Combination	0.88
	Group	0.52
	Individual	0.50
	Remote	0.33
Provider	Single	0.57
	Team	0.56
Contact Hours	≤ 10	0.46
	> 10	0.69

Ergo, DSME should be integral to high-quality diabetes care as evidence suggests that it markedly improves glycaemic control compared to usual care. The authors suggest that effective DSME should integrate practical educational interventions that can be implemented in diverse settings; it also needs to be cost-effective and engender patient satisfaction. To maximise the potential impact of DSME, the authors recommend that the best time to engage individuals is when they are receptive to diabetes self-management strategies. Further, since DSME is a heterogeneous intervention, its ability to generate clinically significant changes in long-term physiological outcomes, behavioural

endpoints and patient-reported outcomes needs to be evaluated and assessed.

In the ongoing pilot, Dvara Health Finance's partner clinics incorporate DSME in their diabetes care continuum, delivering it individually to patients through a health coach. This person-centred approach also enables the health coach to judge the patient's receptivity and determine the right time to deliver DSME. Our case study above corroborates that DSME was integral to the intervention set that helped the patient achieve a 2.6-point reduction in their HbA1C levels over a three-month period.