Diabetes Care: Equipping Patients to Make Lasting Lifestyle Changes

Introduction

Escalating diabetes rates are driving a worldwide health crisis. According to the International Diabetes Federation (IDF), 425 million adults were living with diabetes in 2017.[i] This figure does not include the one in two people with diabetes who are undiagnosed. By 2045, the IDF projects the number of diabetic adults to rise to 629 million. The World Health Organization estimates that diabetes was the seventh leading cause of death in 2016, claiming 1.6 million lives.[ii]

No region of the world is immune to this trend. In 2017, the European Union reported more than 32.7 million people with diabetes, nearly double the number (18.2 million) in 2000.[iii] Sixty per cent of the diabetics in the world live in Asia[iv], including 114 million people in China, or 9.7 per cent of the population.[i] The U.S. has 30 million diabetics, or 10.8 per cent of the population.[i] Brazil ranks fourth in the world with cases of diabetes at 12.4 million, or 8.1 per cent of the population.[i]

The costs to healthcare systems are staggering. The IDF estimates that diabetes generated at least USD 727 billion in health expenditures in 2017. Half of the global diabetes healthcare spending occurs in North America and the Caribbean, while Europe accounts for 25 per cent of the spending.

Country Summary: Estimates 2017

Country	Adults (ages 20-79) with Diabetes in 1000s	Diabetes Age Adjusted (20-79) Comparative prevalence (%)
Brazil	12,465.8	8.1
China	114,394.8	9.7
France	3,276.4	4.8
Germany	7,476.8	8.3
India	74,946.4	10.4
Japan	7,234.2	5.7
United Kingdom	2,747.7	4.3
United States	30,187.5	10.8

Source: International Diabetes Federation Diabetes Atlas 8th Edition 2017

Current Methods Are Not Enough

We won't begin to address the alarming rise in diabetes without making fundamental changes in our approach to managing the disease. To make a real difference in diabetes prevention and management, health systems must expand beyond their current patient support tactics. To date, most diabetes programmes have focused on disease state management through:

- **Coaching** – Educating patients about diabetes basics and, for prediabetic patients, on prevention
- **Devices** – Teaching patients how to use insulin pens and Web- or mobile-enabled glucometers
- **Apps** – Deploying apps for analytics, insight, and automated feedback

These tools are helpful, but insufficient. To address diabetes at scale, we need to be aware of the social determinants that affect each patient and to guide them throughout the long and challenging process of changing behaviour.

Activating Patients to Make Changes

Patients who are diabetic know that they need to eat healthier and often need to lose weight. Organisations traditionally have focused on educational materials to address these areas, with the expectation that patients will absorb what they read and then change their behaviour accordingly. While this type of information is essential, sharing handouts is not enough to effect change.

Patients often feel daunted by the prospect of changing the habits of a lifetime. They need to understand that diabetes is common, that it's manageable, and that they are not alone in their journey to better health. Patients need hope and continuous, tailored assistance at regular touchpoints to support them in making changes. This requires two-way interaction with their healthcare team.

Understanding what motivates people to make lifestyle changes is at the heart of behavioural science. This field explores the cognitive processes that drive human behaviour, which can have a profound effect on one's health. In the U.S., for example, behavioural issues have been shown to contribute to nearly 40 per cent[v] of annual deaths from leading causes. Changing behaviours is critical to reducing premature deaths, improving population health, and trimming healthcare costs. Also, as healthcare systems increasingly focus on reducing unwanted clinical variation, the decisions patients make about their own care and helping them to comply with recommended care are key factors.

Social Determinants and Overcoming Barriers to Change

Beyond awareness of the factors that influence behavioural change, it's important to recognise the unique aspects of a patient's life circumstances that influence those factors and the ability to change. For example, education levels, finances, cultural background, transportation, and access to affordable housing and healthy foods have a direct impact on patient health and healthcare spending. The World Health Organization defines these social determinants for health as "the conditions in which people are born, grow, live, work, and age."

It comes as no surprise that the burden of managing diabetes "increasingly falls on low- and middle-income countries and impacts disproportionately on poorer, disadvantaged and vulnerable groups, including indigenous peoples and minority communities in high-income countries," according to the International Diabetes Federation.

To better support these populations, healthcare systems must become more creative to help patients overcome the obstacles they face. For example, if low income or elderly patients lack transportation, some health systems are working with ridesharing services and public transport systems to ensure patients get to their appointments. If access to healthy food is a problem, a service agency may be able to connect a patient with food assistance programmes. Patients who struggle to pay for prescriptions may be eligible for help from prescription assistance programmes.

Diabetes Risk Factors

For U.S. adults aged 18 years or older with diagnosed diabetes:

88% were overweight

74% had high blood pressure

58% had high cholesterol

41% were physically inactive

16% were current smokers

CDC: National Diabetes Statistics Report, 2017 (Risk factor data for 2011-2014)

Creating Programmes That Get Results

Clearly, prevention and care plans must draw on behaviour change concepts and must be tailored to address the social determinants and risk factors that affect a particular patient.

Such programmes can produce compelling results. For example, in the U.S., the National Diabetes Prevention Program found that study participants in a Lifestyle Change Program lowered their chances of developing type 2 diabetes by 58 per cent[vi]. Programme costs were justified by the benefits of diabetes prevention, improved health, and fewer healthcare costs. In another study[vii] of patients in a hypertension reduction programme, those who had viewed interactive patient engagement programmes and whose blood pressure was controlled were 22 per cent more likely to remained controlled than those who did not take part in programmes. Among patients whose BP was uncontrolled, those who viewed programmes were 15 per cent more likely to become controlled.

In the past, engaging people with diabetes to self-manage their condition has required one-on-one outreach for extended periods of time. Given the volume of prediabetic and diabetic patients being treated today by the typical health system, this simply isn't cost-effective or sustainable. Clinicians don't have the time to meet on a regular basis with all the diabetic patients in their practice, and most healthcare professionals don't have the training required to motivate patients to tackle and sustain serious lifestyle changes. In addition, when being advised in person by a clinician, patients feel judged. They often respond better if they can report their weight or A1C levels via an automated phone call.

Creating effective patient engagement programmes that motivate people to change life-long habits requires a professional, tested approach. It entails appropriate design, ongoing consultation, and experienced insights based on best practices. A well-designed programme makes a patient feel it's been created just for them. Beyond improving patient health, these plans can help optimise clinician and staff time and support outreach to an organisation's patient base at scale. They also can help to reduce costs and achieve better outcomes.

Design

To create programmes that patients want to follow, we must blend behavioural science with easy-to-use technologies that make it simple and even pleasant for patients to follow their treatment plan. Such programmes provide a judgment-free, empathetic voice guiding patients through their healthcare journey.

The Eyes Have It: Ohio Hospital Sees Results with Diabetes Engagement Programme

Summa Health Systems in Akron, Ohio, implemented an interactive call campaign to determine whether diabetic patients had completed an eye exam for diabetic retinopathy. The organisation found that 289 diabetic patients had a "care opportunity." This meant that either they were due for an exam or they'd had an eye exam and they simply needed to submit the results. A six-week call campaign yielded the following results:

- **43 per cent of patients** reached had an eye exam; follow-up calls provided instructions on how the patients could send their results to Summa.
- Of those, **23 per cent** took action and updated their records.
- As a result, the health system improved its Healthcare Effectiveness Data and Information Set (HEDIS) measure percentile ranking by **13 per cent**.

Programmes can address the most critical needs for patients to successfully self-manage their condition, including:

- Taking their medications as prescribed
- Making, keeping, and attending appointments related to their condition
- Checking and documenting their blood glucose
- Discussing mental health issues with clinicians
- Managing stress
- Eating more healthily
- Exercising consistently

Strategies that take advantage of technologies such as interactive voice response (IVR) calls and cloud-based programmes can help patients make changes that are in their best interests and will help organisations achieve their population health goals. Best of all, these technologies can support patients through the ups and downs of a chronic condition. Behaviour change is hard. Patients may make progress for a time and then fall back into bad habits.

An advantage of technology-based solutions is that patient-facing information can be stored in a database to ensure that it will be harmonised across every contact point in the system. That content can also be customised to align with an organisation's protocols and standards. In addition, technology can enable high-touch engagement over extended periods of time, without additional strain to already overburdened staff.

Interactive Voice Response (IVR) calls – Outreach calls make the most of technology that everyone is already familiar with. Thanks to an increasingly sophisticated understanding of voice user interface design, calls have become more conversational in tone. They can be highly personalised and tailored to individual behaviours, even for large patient populations. By implementing rules and algorithms to analyse data, individual behaviours, interaction patterns, and expressed preferences, a variety of conversational elements can be changed, including information, tone, pace, and frequency. The interaction via these calls has become so authentic that patients often report they've assigned a name to their virtual caller!

As a person's needs change, the conversation can self-adjust to deliver more relevant support. Content may be based on a range of variables such as the patient's individual care plan, progress, interests, and time of the year. Data captured during each conversation is reported to the clinical team, helping them to understand how patients are progressing outside of the clinical setting, and identifying patients who might need more dedicated help.

A well-architected wellness phone call confirms the patient's identity and pertinent details, such as weight; may confirm prescriptions and pharmacies on record; provides targeted information and reminders; assesses adherence with tests and screenings; and then drives appropriate

action. At several points in the exchange, a caller's response might signal the need for a conversation with a live person at the healthcare organisation. The caller can immediately transfer to a staffer, so that the patient can reschedule an appointment, resolve outstanding questions, or ask for more information.

For example, medication adherence is a significant issue in diabetes care. Among people with diabetes, hypertension, and hyperlipidaemia, a 2018 OECD study[viii] showed 4 to 31 per cent of patients never filled their first prescription. Of those who did, only 50 to 70 per cent were taking their medications regularly. Follow-up calls by IVR systems can flag these issues, prompting a call from a clinician to educate a patient about the risks of skipping medications or to determine if medication costs are the root issue.

Interactive programmes – Via cloud-based programmes, patients can access information using any internet-connected device, without downloading a specific app, at a time and place of their choosing. This enables them to process information at their own pace, to take notes, and to repeat sections for clarity. These programmes can be accessed on a laptop, desktop, phone, or tablet to accommodate patient preferences.

Programmes that feature engaging spoken narration, animation, and clear medical art simplify complex information and can walk patients through the what, why, and how of disease management. Research[ix] shows this approach works for diverse audiences, regardless of socioeconomic status, education level, or lifestyle. The combination of animation and voiceover is especially helpful for engaging people with low health literacy.

Consultation and Insights

Working with an experienced team to develop holistic plans for different patients can save an organisation considerable time and will result in higher-quality, tested programmes. Different programmes will be needed for a prediabetic patient, a newly diagnosed patient, and a patient under long-term care.

For example, for a newly diagnosed diabetes type 2 patient, the design of such a plan might include:

- An orientation to diabetes that explains the disease and how to check blood sugar levels
- A care plan that addresses nutrition and healthy eating, diabetic foot care, and the importance of a flu vaccine
- A periodic care plan review and update that includes information on carbohydrate tracking, a reminder about eye exams, and monitoring for high blood pressure
- An annual visit

Your vendor should offer expertise with elements such as workflow consultation and integration, and every aspect of onboarding, including launch planning and training. In addition, regular reports should present the utlisation rate and effectiveness of your programmes. These reports can provide actionable insights so that programmes can be fine-tuned to continually improve rates of engagement and outcomes.

To the Patient	To Healthcare Organisations
Learning self-management skills, such as proper use of glucometer	More fully engaged patient
Checks and reports on A1C readings regularly	Clinicians can better monitor patient status
Understands the role of medications	Compliance with medication regimen
Improved nutrition and activity levels	Potential reduction in weight, blood pressure, cholesterol – improved patient health
Motivated by education to take control of their health	Lower healthcare costs

The Bottom Line: Results

The true measure of an effective patient engagement programme is its impact on patient behaviour. One survey[x] showed strong results in increasing engagement and motivation for self-care:

- 71 per cent of patients found the programme useful in providing new information,
- 69 per cent reported it was helpful in addressing unknown risks, and
- 73 per cent said it increased their confidence in asking questions.

Programmes aimed at behaviour change also generate cost savings. A study[xi] of type 2 diabetes patients examined the relationship between a recommended regimen of glucose-lowering agents and three-year patient outcomes and levels of adherence. Just a one per cent increase in adherence among 1,000 patients was associated with an all-cause savings of USD 65,464 over three years.

Since obesity is a major risk factor for diabetes, programmes that motivate both children and adults to control their weight are crucial. An OECD analysis shows that every dollar spent on preventing obesity generates more than a six-fold economic return.[xii]

Gaining ground in the fight against diabetes will require that patients make intensive lifestyle changes and adhere to care plans. Tailored, interactive programmes can support patients through the difficult process of changing their behaviours. Working in conjunction with their healthcare providers and plans, these programmes can engage and motivate patients to take control of their own health.

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[i] IDF Diabetes Atlas 8th Edition Global Fact Sheet. https://www.idf.org/aboutdiabetes/what-is-diabetes/facts-figures.html

[ii] Diabetes, Key Facts. https://www.who.int/news-room/fact-sheets/detail/diabetes

[iii] OECD/EU (2018), "Health at a Glance: Europe 2018: State of Health in the EU Cycle," OECD Publishing, Paris/EU, Brussels. https://doi.org/10.1787/health_glance_eur-2018-en

[iv] https://asiandiabetesprevention.org/what-is-diabetes/facts-and-figures

[v] https://www.cdc.gov/media/releases/2014/p0501-preventable-deaths.html

[vi] The Diabetes Prevention Program (DPP) Research Group. "Description of lifestyle intervention." Diabetes Care 2002 Dec; 25(12): 2165-2171. https://care.diabetesjournals.org/content/25/12/2165.long

[vii] Emmi case study, Centura Health, May 2014-November 2014, n=6,509.

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