International Diabetes Federation Europe

Delivering Value through **INNOVATION** in Diabetes Care Delivery

EXECUTIVE SUMMARY

INTRODUCTION

Diabetes takes a heavy toll on individuals and societies, which can be mitigated through the at-scale adoption of innovation.

Diabetes imposes a heavy health and economic burden on people living with diabetes (PwD), their families, health systems and national economies, and one which continues to rise. One in 11 European adults live with diabetes (61 million), a figure projected to rise to 67 million by 2030. More than one third of them are undiagnosed and, of those that are diagnosed, up to half do not achieve adequate blood glucose management. In 2021, the total cost of diabetes across the Europe region was estimated at €167.5bn, of which 75% resulted from often-preventable complications.

Many recent innovations, defined for the purpose of this report as "novel behaviours, protocols, technologies and ways of funding and organising care delivery that are not yet delivered at European-wide scale", **have demonstrated their potential to improve the delivery of high-quality care and health outcomes for PwD**. In particular, these innovations help tackle some of the main barriers to high-quality diabetes care including low PwD empowerment, shortages of healthcare professionals, siloed and single-disease treatment approaches and lack of digitalisation, interoperability and IT integration.

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61 million in 2021 projected to rise to **67 million in 2030**

1/3 Undiagnosed

€167.5bn diabetes cost

75% resulted from often-preventable complications

Improving the delivery of high-quality care and health outcomes for PwD through INNOVATION:

- Empowering and engaging PwD
- Redesigning healthcare delivery models
- Enabling innovation: the role of data technology and AI
- Enabling innovation: how to fund healthcare

EMPOWERING AND ENGAGING PWD

Supported by the digitalisation of care, one of the two most impactful areas of innovation in recent years has been patient empowerment, which, as well as improving health outcomes, has also resulted in an enhancement of the relationship between healthcare professionals (HCPs) and PwD.

Patient empowerment has long been recognised as critical to improving engagement and self-management, promoting adherence to treatment, helping people cope with their condition, and ultimately **improving clinical outcomes**.

New approaches in this field concentrate mainly on three aspects:

Improving engagement and motivation through increasing support and access to knowledge and information (including shared decision-making)

Supporting self-management through digital tools and apps

Supporting self-management and providing psychological support through peer-to-peer interactions

The digitalisation of care, including broader use of data, technologies, data analytics and artificial intelligence, has also been a game changer in other aspects of diabetes care delivery. Digitalisation supports improved diabetes prevention and management of diabetes-related complications, more personalised healthcare interventions and remote monitoring; it helps better evaluate healthcare interventions and plan resources; and it improves research and innovation.

The use of broad data sets combined with big data analytics and artificial intelligence has also really started making an impact in primary diabetes prevention.

Beyond education and access to care, optimal diabetes management also requires sustained support for PwD, which is often not easily available through HCPs. In this context, peer support, both in person and digitally, has also emerged as an effective and efficient support mechanism, which ideally would be integrated by all health systems as part of the standard diabetes care.

Supporting these new approaches are a number of tools and technologies such as web portals, telemedicine, digital education services and digital therapeutics as well as full diabetes management platforms. While increasing in prevalence, access to such tools remains very disparate though.

REDESIGNING HEALTHCARE DELIVERY MODELS

The most significant second area of innovation has been centred on the organisation of care itself, with a shift (still somewhat in its infancy) in understanding of what constitutes value, a move towards placing the person at its centre, and increasing use of newer, often virtual, care models.

In recent years, the re-design of healthcare delivery models has focused on innovations that are:

- **PATIENT-CENTRED**
- **INTEGRATED**
- **OUTCOMES-FOCUSED**

All these aspects are absolutely key for people living with diabetes who often live with more than one condition and therefore require a more holistic approach to care to lower the disease burden. In such models, care moves from being disease-focused to person-focused. The main objective is to improve the person's experience, quality of care and cost-effectiveness of healthcare systems.

As with patient empowerment, some of the key enables of integrated care systems are:

TECHNOLOGY and DIGITALISATION

STAKEHOLDER COLLABORATION

ALIGNED FINANCIAL INCENTIVES

Other major trends in new care delivery models includes the evolving role and models of primary care including:

- **Broader use of digital platforms**
- **Risk stratification models**
- **More multi-disciplinary work**
- **Increasing role of community in prevention, diagnosis and care**
- **Move towards virtual care models**

The latter are now also evolving from the simple use of remote consultation to full-scale advanced care platforms collating a wide range of data and information, shared between PwD and their HCPs, and providing additional education and information.

ENABLING INNOVATION: THE ROLE OF DATA, TECHNOLOGY AND AI

Some of the major improvements to existing healthcare delivery and diabetes management include the digitalisation of healthcare systems, increased access to, and use of, much broader data sets including those based on real-world evidence, coupled with the emergence of big data analytics and artificial intelligence.

Data, technology and artificial intelligence hold the potential to lead to improved health outcomes for PwD and more resilient healthcare systems in multiple ways:

- **Ensuring better prevention of diabetes**
- **Personalising healthcare interventions more effectively**
- **Enhancing shared decision-making**
- **Improving remote monitoring and self-management**
- **Evaluating the effectiveness of healthcare interventions more precisely**
- **Supporting the planning of healthcare resources**
- **Improving research and innovation**

Prerequisites to the implementation of innovative care models include having access to a broad range of (comparable) data, at a minimum through patient and diabetes registries as well as patient-reported outcome and experience measures to identify required actions and assess the effectiveness of interventions.

An additional major constraint to this implementation has been the lack of integration of digital tools and platforms into public health systems and reimbursement structures, although some national health systems have started to adopt promising frameworks.

Tech innovation in the way diabetes healthcare is managed and supported has transformed the relationship I have with my diabetes. The ability to have real time data at the tips of my fingers and to analyse for trends, means that within one year I have managed to lower my A1c significantly. More importantly, I feel empowered and confident with my diabetes care, with a new quality of life"

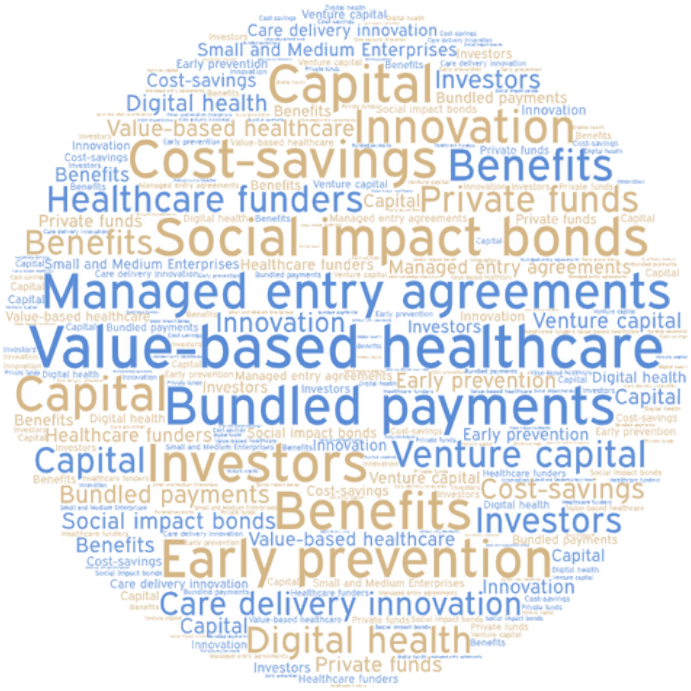
- Cameron Keighron, living with Diabetes, Ireland

ENABLING INNOVATION: HOW TO FUND HEALTHCARE

While funding is also often cited as a barrier to the adoption of innovation, it is in fact possible to make existing funding work harder, and/or catalyse funding from non-traditional sources.

Fee-for-service payment models have often shown themselves to be inefficient, incentivising the wrong activities and not achieving the best outcomes. **One novel financing approach is value-based healthcare**, which helps identify and recognise benefits or cost-savings which can be realised in a different part of the healthcare system from which it was implemented.

This is key for chronic diseases such as diabetes, where innovations which may lower the risk of diabetes and/or diabetes-related complications may, for example, focus on early prevention efforts.



A host of new financing frameworks have also emerged in recent years to support an improvement in the quality of care, of which the most popular have been bundled payments and managed entry agreements.

Mobilising private sector capital and other investors in the form, for example, of social impact bonds (SIBs) **also holds much promise for the financing of care delivery innovation**. Venture capital for digital health has grown by close to half between 2019 and 2020, and key to further investments lies in the ability of healthcare funders to demonstrate their willingness to invest in innovation. SIBs have also shown to be flexible and can broaden market access to Small and Medium Enterprises but require acceptance of the use of private funds into healthcare.

RECOMMENDATIONS BASED ON PwD OUTCOMES

	Tech	Processes	People	
3. Systems with excellent outcomes for PwD	• R&D in early stage and high-risk opportunities	• National evaluation of problems and opportunities to improve diabetes care delivery • Financing of innovation	• Improved PwD management, self-management and empowerment • Self-sustaining innovation • Greater support for people working on early-stage innovation • Greater voice to PwD and HCPs to influence innovation and procurement decisions	Focus
	• AI, biotech, curative and novel therapies	• Country-wide analysis & evaluation of a comprehensive, collaborative, integrated and patient-centred care system (from primary prevention through to end-stage complications management – continuous re-assessment process) • Incentivisation of successful entrepreneurs to re-invest in next wave of innovation	• Automated management platforms with active management, tailored advice and advanced decision support systems for HCPs for population health management and individualised care • Identification and scaling up of existing pockets of innovation • Increased support to scientific/patient research and problems in care system • Participation framework from early research through care evaluation and implementation	Implementation areas
2. Systems with average outcomes for PwD	• Advanced layers of IT and data • Integrated IT and data platforms • Integration of platforms	• Funding frameworks: catalyse private investment for R&D • Healthcare framework – integration of care and patient-centred care • Funding framework	• Expansion of HCP education and training • Improved PwD management, self-management and empowerment • Support of innovation led by PwD and HCPs	Focus
	• Virtual care, data-based risk stratification • Sharing data across different levels of care • Digital therapeutics platforms that support PwD directly into the wider system	• Tax incentives, co-investment, roadmaps for the health system procuring new innovation • Shared access to data systems, procurement models that account for value creation in more than one part of the system • Financial models that enable innovation (e.g., social impact bonds)	• Upskilling of HCPs / task-shifting in action • Deployment of digital therapeutics and diabetes management platforms (e-learning & access to own records; engagement platforms for peer support; platforms accessible to HCPs) • Awards to celebrate innovation achievements	Implementation areas
1. Systems with below average outcomes for PwD	• Foundational layers	• Policy framework • Healthcare framework – re-organisation of care and developing value frameworks • Regulatory environment – piloting innovation	• Integrated peer support mechanisms • Basic diabetes training for HCPs • Training of DSNs • PwD basic health literacy	Focus
	• Diabetes registries / EMR	• National diabetes plan • Adoption of PROMs/PREMs • Developing and strengthening primary care • Definition of "sandbox" environments	• Development of specific HCP curricula • Formal diabetes training at the time of diagnosis and at given milestones throughout the diabetes journey (interactive tools/videos)	Implementation areas

To read the full publication on ***"Delivering Value through Innovation in Diabetes Care Delivery"***, visit:

https://idf.org/our-network/regions-members/europe/publications-and-resources/96-innovation-in-diabetes-care-delivery.html

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The publication was supported by an educational grant from Air Liquide Healthcare.