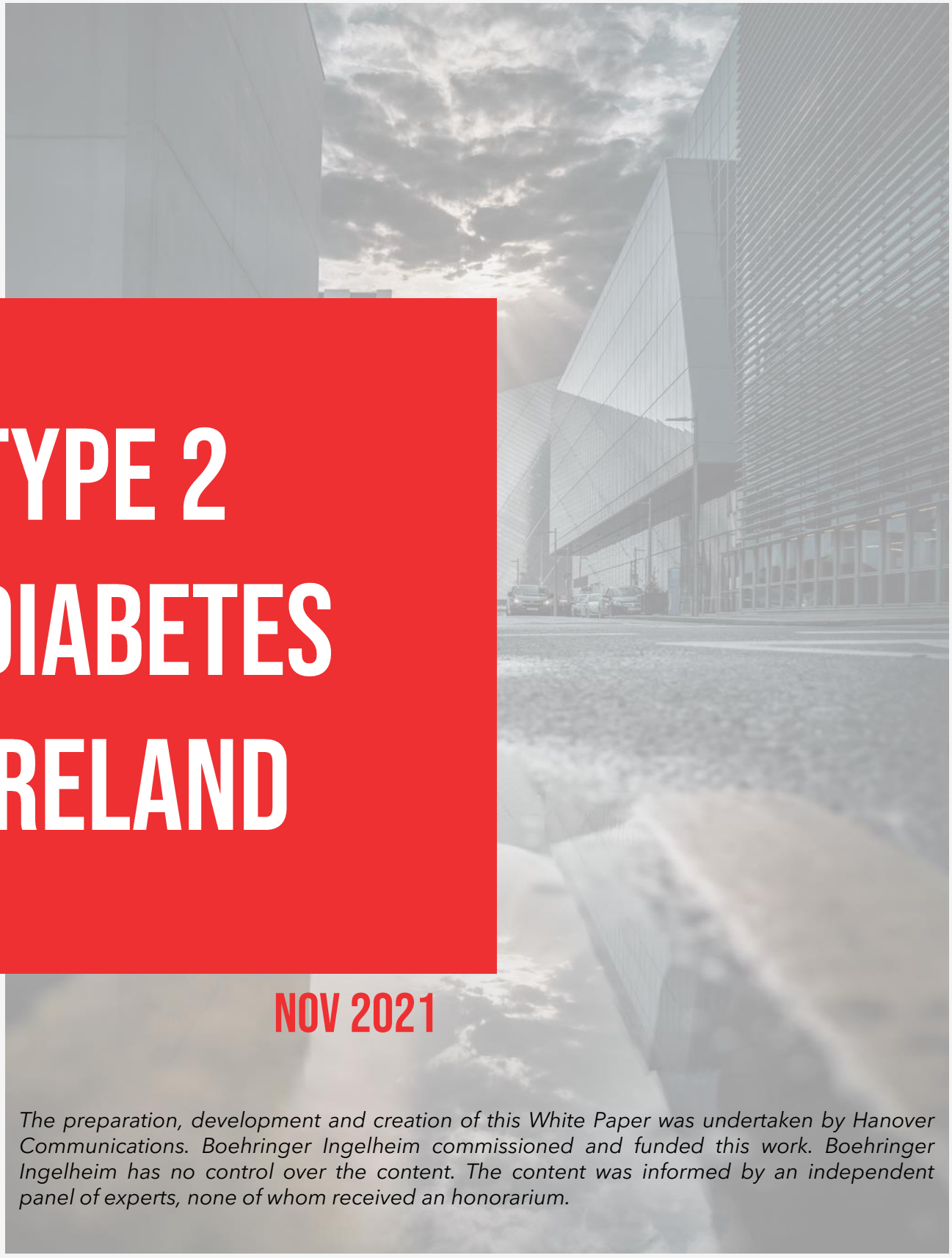

TYPE 2 DIABETES IRELAND

NOV 2021

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CONTENTS

METHODOLOGY

This White Paper is based on one-on-one interviews with researchers, academics, and patient advocates relevant to Type 2 Diabetes Mellitus and its complications. Patient insight was sought through a patient survey, as outlined throughout this document. The themes outlined in this paper emerged from this research and formed the basis for an expert roundtable that delved into these themes in more detail. This White Paper is the outcome of this research. The content of this paper does not represent the views of group members affiliates and organisations. The paper was the result of majority views and may not represent a unanimous consensus among all contributors.

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This paper was further informed by one-on-one meetings with a range of additional experts in disciplines relevant to Type 2 Diabetes Mellitus care.

INTRODUCTION

Type 2 Diabetes Mellitus (T2DM) is a chronic condition characterised by high glucose levels due to insulin resistance (the body does not fully respond to insulin) or abnormal insulin production levels. As insulin fails to work effectively, blood glucose levels continue to rise in turn leading to the release of even more insulin.[1] It is estimated that there are currently over 200,000 people living with T2DM in Ireland, with this figure projected to increase by 60% during the next 10-15 years. Diabetes Ireland estimates that 30,000 people in Ireland living with T2DM are currently undiagnosed.[2]

T2DM usually develops slowly in adulthood. It is progressive and can sometimes be managed with diet and exercise but often requires antidiabetic medicines and/or insulin injections. There are several life-altering complications which can arise from T2DM, particularly if not properly managed, including cardiovascular disease, kidney, eye and foot damage. For some people with T2DM the pancreas can become exhausted, resulting in the body producing less and less insulin, causing even higher blood sugar levels (hyperglycaemia).[3]

While acknowledging difficulties in estimating the cost of diabetes-related illnesses to the Irish health service, the HSE has said it could be approximately €1.7 billion every year.[4] This equates to c.10-14% of the annual health budget. In Ireland and worldwide, there is a lack of comprehensive and comparable estimates of costs attributable to diabetes or its complications.

The Committee on the Future of Healthcare Sláintecare Report (2017) notes that a new model of integrated care is needed to address the growing prevalence of chronic and disabling conditions, such as T2DM. Integrated care is a response to the changing health profile of national populations, changes in health technology and organisation, and the inadequacy of current delivery models in responding to these shifts.[5]

Type 1 Diabetes also affects an estimated 20,000 adults in Ireland. However, the scope of this paper is limited to T2DM and how outcomes can be improved for Irish patients with T2DM.

[1]International Diabetes Federation, 'Type 2 diabetes' https://www.idf.org/aboutdiabetes/type-2-diabetes.html
[2]Diabetes Ireland https://www.diabetes.ie/risk/
[3]International Diabetes Federation, 'Type 2 diabetes' https://www.idf.org/aboutdiabetes/type-2-diabetes.html
[4]HSE in response to PQ 21349/20, 22nd September 2020
[5]Committee on the Future of Healthcare Sláintecare Report (2017) https://assets.gov.ie/22609/e68786c13e1b4d7daca89b495c506bb8.pdf

INTRODUCTION

The National Model of Integrated Care aims to reduce the proportion of diabetes-related mortality by 10% and to reduce the prevalence of diabetes related co-morbidities, such as blindness and lower limb amputations. This approach guides the implementation of Sláintecare and the Chronic Disease Management Programme.

The Sláintecare Implementation Strategy notes an over-reliance on acute hospitals to provide services for chronic conditions.[6] The strategy also states that community settings are ideally suited for the management of many aspects of care for chronic conditions, including T2DM. Diagnostic services and minor surgery can also be delivered at a community setting. This approach is reflected in the HSE Winter Plan 2021-22.

The economic and social impact of diabetes is forecast to grow globally in the coming years, driven by increasing T2DM prevalence, younger patient populations, high incidence of childhood obesity and rising medical expenditure. Moreover, as a condition that requires regular management and timely diagnosis, there is real concern that COVID-19 will significantly adversely impact the diagnosis and management of T2DM, owing to patients' reluctance to enter healthcare settings or seek advice during the pandemic. The urgency of healthcare reform for T2DM in Ireland is clear.

There is, however, some optimism that recent reforms and innovation in healthcare, coupled with promising emerging research and a renewed emphasis on proactive, preventative care present opportunities to improve T2DM care and management of its complications.

In order to identify such trends and opportunities for improving the standard of care for T2DM in Ireland, a group of experts spanning medical practice, patient advocacy, industry, research, and academia were consulted. This White Paper captures the views and insights expressed by consulted experts and is informed by T2DM diabetes patient voices captured via an anonymous survey.

It is hoped that this White Paper can serve to support and inform health officials and policymakers in recognising and acting on the need for cost-effective reform of T2DM care to positively impact patient outcomes

[6]Sláintecare Implementation Strategy https://assets.gov.ie/22607/31c6f981a4b847219d3d6615fc3e4163.pdf

EXECUTIVE SUMMARY

With the number of people living with T2DM in Ireland set to continue to increase, it is important that a robust strategy is put in place to ensure that patients are receiving the optimum care, in the correct setting, while utilising available resources in an effective and efficient manner.

It was evident that there is no homogenous diabetes experience, with patient and clinician experiences varying across Ireland, dependent on location and access to relevant services. This points to the need for an increased emphasis on personalised care (particularly for complicated cases in a hospital setting), self-management and education.

As a complex and chronic disease, diabetes requires regular engagement from both patient and Healthcare Professionals (HCPs) with appropriate treatment, monitoring and management. Challenges in diagnosis and disease management can lead to acute life-altering complications.

Key findings include:

Complexity of Disease

- Patients are now being diagnosed at a younger age and earlier in their diabetes journey; Therefore, patients are living with T2DM for longer and an increased focus on long-term management is required;
- The presentation of T2DM is changing and can vary significantly between patients, therefore, a more personalised view of the condition is needed; and
- Patients may not understand or appreciate the seriousness of a diabetes or pre-diabetes diagnosis, leading to a misalignment in the self-management of the condition.

Education

- Education is paramount to empowering the patient to improve their self-management and to allow HCPs to make the most appropriate decisions for their patients' individual care;
- Patient education should be offered in a more structured and regular manner, made accessible to all and tailored to individual patient journeys, and;
- New research and promising pilots are underway in Ireland and across Europe. There is a need to adapt these into HCP training relatively quickly, to best capture innovation within treatment pathways.

Care Pathway

- The optimum care pathway identified forms a three-tier approach with uncomplicated T2DM cases remaining within a primary care setting where feasible;
- Communication between HCPs can often be fragmented, particularly between primary and secondary settings but also within a hospital setting between different members of multidisciplinary teams; and
- A number of potential solutions, including the role of telemedicine, development of more Diabetes Advanced Nurse Practitioner posts and/or enhanced utilisation of diabetic consultants in community settings and the expansion of age cohorts included in the Chronic Disease Management plan, should be assessed to optimise care pathways.

EXECUTIVE SUMMARY

Complications

- T2DM complications can present in many different specialty areas and can develop into having life altering impacts on patients;
- Early intervention remains the key component in reducing the risk of the development of complications in the first instance and in subsequent efforts to slow the progression of complications that may have already begun;
- Investment in early intervention is highly cost-effective, serving to prevent more significant costs in managing more severe complications as they develop; and
- Effective early intervention should be supported by a multidisciplinary approach by HCP teams managing T2DM (and potential T2DM) patients.

Prevention

- Many instances of T2DM can be prevented or stalled, which should be reflected in national policy priorities; and
- While lifestyle aspects of T2DM prevention are included in initiatives such as Healthy Ireland, a targeted National Diabetes Prevention Strategy is needed to encapsulate all features of preventative intervention and to benchmark progress.

Data

- There is a significant gap between research and the frontline delivery of services. Improved utilisation of patient data is central to harmonising this and facilitating data-driven rollout of enhanced services;
- A National Diabetes Registry is needed to fully understand the prevalence of T2DM in Ireland and to inform policy on the condition;
- Effective patient data systems are required to support the adoption of innovations in T2DM treatment and to support the efficient and effective allocation of resources within the State's budgetary constraints.

ACKNOWLEDGMENTS

This paper would like to acknowledge and express sincere appreciation to all who contributed to its development, for their time, considerable expertise and personal experiences shared with us throughout the consultation process.

A special acknowledgement must be extended to Diabetes Ireland and their extensive network of supportive patients, for their support throughout the process of writing this paper. It was their assistance that facilitated outreach via the survey to people with Type 2 Diabetes Mellitus in Ireland.

THEME I: COMPLEXITY OF THE DISEASE

Historically, T2DM has been considered a generally straightforward disease to both diagnose and to manage. Such assumptions informed education around the disease and are reflected in the perceived low priority associated with tackling T2DM in national policy.

The onset of T2DM is subtle, and complications can develop as a result of delayed diagnosis and management.[7] Patients are developing the disease earlier and living longer following diagnosis. The T2DM patient profile is likely to change as a result.

A nuanced approach to disease management is, therefore, required for T2DM. Emerging evidence and research suggests there may be even broader subsets of the disease, potentially each with its own optimal treatment pathway. This further emphasises the need for greater personalisation of T2DM care and treatment.

A one-size-fits-all approach is not suitable for the treatment of T2DM patients. Owing to the complexity of the disease, patients will respond differently to different approaches at different points along their patient journey.

Disease Awareness

Patients' attitudes towards T2DM do not always align with the importance of its ongoing management. Such misunderstanding is likely a result of the disease's complexity. An underappreciation, amongst some patients, of the importance of disease management and associated behavioural changes required are often contributing factors in the worsening of the disease and the onset of complications.

Patients can be under the misconception that a T2DM diagnosis is not serious if they are not required to administer insulin. Similarly, pre-diabetes diagnoses are not always taken as seriously as is warranted. More effective early intervention and management could have a significant impact in mitigating complications, improving patient outcomes and reducing long-term healthcare costs. Some experts reported a high rate of missed appointments at specialty clinics. This possibly indicates a low prioritisation of their condition by some T2DM patients, resulting in missed opportunities to identify and tackle emerging issues.

A fragmented level of education and misunderstanding of the disease distort perceptions of T2DM, amongst both non-specialist clinicians and patients. For example, there is currently a blurring of perceived lines between Type 1 and Type 2 Diabetes, most notably for younger patients.

With the onset of COVID-19, a reluctance from patients in seeking appropriate care in a healthcare setting has the potential to exacerbate an already growing crisis in incidence of T2DM and its complications.

[7]Tracey ML, Gilmartin M, O'Neill K, Fitzgerald AP, McHugh SM, Buckley CM, et al. Epidemiology of diabetes and complications among adults in the Republic of Ireland 1998-2015: a systematic review and meta-analysis. BMC Public Health. 2015 Dec;16(1):132.

THEME II: IMPROVED EDUCATION

A central theme underpinning the challenges and opportunities facing the management and treatment of T2DM is education. Education empowers patients in the self-management of their disease (interventions that help patients to manage their own condition), increasing patients' knowledge, skills and confidence in managing their diabetes. This is an integral part of their care. Education is vital in effectively communicating the importance of diligent self-management of the disease by patients.

A change is needed in the patient-HCP relationship, to shift from the traditional caregiver-patient mindset to a partnership where the patient is an active participant in their own care.

An expanded focus on education is required across all areas and groups in the diabetes community. A fragmented level of education and broader lack of coordination leads to later diagnoses and poor disease management. This significantly impacts long-term patient health outcomes.

Education is crucial to unlocking change, important for patients and HCPs alike. Of particular concern is patient understanding of the necessity of disease management to prevent the development of complications or in cases of pre-diabetes, preventing the emergence of T2DM itself.

Patients

Structured Patient Education (SPE) is a key component in the self-management of T2DM. A Health Technology Assessment of Chronic Disease Self-management Support Interventions showed that there is strong supporting evidence that SPE can improve blood glucose control in T2DM patients. It also suggests that diabetes self-management education programmes are cost-effective relative to usual care.[8] Currently, in Ireland, there are three programmes for people with T2DM that aim to embed SPE in T2DM care:[9]

1. **DISCOVER DIABETES** – a dietetic structured education programme provided by the HSE
2. **CODE** – Community Orientated Diabetic Education
3. **DESMOND** – Diabetes Education and Self-Management for On-going and Newly Diagnosed diabetes

42% **T2DM Patients are not directed to further information about living with T2DM** [10]

51% **T2DM Patients are not offered structured education** [10]

[8]Dr Velma Harkin, A Practical Guide to Integrated Type 2 Diabetes Care, ICGP https://www.hse.ie/eng/services/list/2/primarycare/east-coast-diabetes-service/management-of-type-2-diabetes/diabetes-and-pregnancy/icgp-guide-to-integrated-type-2.pdf
[9]HSE, National Clinical Programme for Diabetes Working Group, 2018. Model of Integrated Care for Patients with Type 2 Diabetes A Guide for Health Care Professionals (Clinical Management Guidelines). https://www.hse.ie/eng/about/who/cspd/ncps/diabetes/moc/
[10]Patient Survey Responses

THEME II: IMPROVED EDUCATION

50.98% of respondents to the patient survey noted that they had not been offered access to structured education programmes. While some patients may have received informal education on T2DM, it is concerning that many who could have benefitted from a structured programme were not offered the opportunity to do so. Patients often do not understand the implications of their disease and thus how best to manage it.

Patients should be offered the same opportunity as HCPs in accessing education in a range of ways to suit their lifestyle and learning preference. Patients will not uniformly respond the same to training. While a flexible approach to education is needed, all patients should commence this education journey as soon as possible post-diagnosis.

Clinicians are given a broad remit to develop their education on a needs basis, largely deciding on modules to subscribe to themselves. Applying this principle to patients and their own education would empower them to actively seek out modules within a structured programme. This mirrors the findings of McSharry et al. (2019) that promotion of structured education by HCPs may be required to better embed such programmes within the diabetes care pathway.[11] At present, several issues persist in effectively engaging patients. For example, owing to the stigma associated with T2DM, patients may not engage in group discussions. While owing to the pandemic it is not currently feasible to propose in-person engagement, education sessions could be trialled via online platforms. The COVID-19 landscape offers an opportunity to trial virtual patient education, lessening travelling time for patients. Diabetes Ireland launched a pilot online version of their CODE structured education in Autumn 2020.

While acknowledging barriers to older patients adopting online supports, the use of technology in education should be increased and encouraged in the provision of T2DM patient education.

[11]McSharry et al. (2019) Barriers and facilitators to attendance at Type 2 diabetes structured education programmes: a qualitative study of educators and attendees:https://onlinelibrary.wiley.com/doi/abs/10.1111/dme.13805

THEME II: IMPROVED EDUCATION

Immediately post-diagnosis or shortly thereafter are the optimum times to engage patients and to impactfully communicate the importance of effective disease management. However, issues persist with a lack of patient awareness of available programmes and in the fragmented nature of available education.

Healthcare Practitioners

Irish healthcare practitioners tend to be innovative early adopters, with positive attitudes to adapting to new therapies. Structured education programmes need to be flexible and updated as new information emerges. Improved HCP education will further support the ongoing development of care pathways and efforts to reduce under/late diagnoses. HCP education should also support improved coordination between primary and secondary care levels as well as between different specialists within multidisciplinary teams within primary settings.

Now is an opportune time to reassess T2DM education such as Sláintecare and the Chronic Disease Management programme refocus care provision at a community setting. Education is central to earlier and more effective intervention, to combatting treatment hesitancy and to effectively communicating the often-underappreciated risks associated with complications.

New research and promising pilots are in development in Ireland and across Europe. However, new innovations often fail to be swiftly integrated into patient care at scale. Structured education could facilitate the more effective unlocking of potential patient benefits from emerging research and pilots.

THEME III:
OPTIMISING THE CARE PATHWAY

The HSE Model of Integrated Care for Patients with T2DM outlines an effective three-tier approach to integrating primary and secondary care:[12]

1. **Uncomplicated patients with no issues should be managed at a GP level**
2. **If complications develop patients should be referred to secondary level**
3. **Patients should then be reverted to GP once complications are dealt with, with complex cases remaining at acute level**

While the HSE's T2DM Cycle of Care outlines a positive approach to T2DM care, ensuring its effective implementation in practice required buy-in from HCPs, patients and other key stakeholders.

T2DM care is an interdependent system. Insufficient integration of care disincentivises patient appointment attendance (an ongoing issue) and undermines screening programmes.

The successful implementation of the Integrated Care model faces a number of significant hurdles. These include:

- Patients incorrectly being referred to acute settings (this in turn results in too many cases at acute level, driving delays in securing an appointment);
- Poor communication between primary and secondary practitioners, combined with a lack of adequate resourcing;
- A lack of electronic patient records or integrated data management system severely hinders HCP communication between primary and secondary care settings intervening at different points in a T2DM patient's treatment journey; and
- Private patients' inability to easily shift between a primary and secondary setting in line with the three-stage pathway as they are often attending private consultants for specific and individual issues or concerns.

[12]HSE Model of Integrated Care for Patients with Type 2 Diabetes https://www.hse.ie/eng/services/list/2/primarycare/east-coast-diabetes-service/management-of-type-2-diabetes/model-of-integrated-care-for-patients-with-type-2-diabetes-%E2%80%93-a-guide-for-health-care-professionals.pdf

THEME III:
OPTIMISING THE CARE PATHWAY

The availability of and access to integrated care remains a cause for concern in the treatment pathway for T2DM in Ireland. As a complex chronic disease, the fact that it can be managed across all levels is a significant source of optimism. Progress in the resourcing of the Chronic Disease Model of Care, including the establishment of dedicated hubs should be acknowledged as positive steps in improved, integrated prevention and management of chronic diseases including T2DM.

RECOMMENDED FURTHER ACTIONS TO OPTIMISE THE CARE PATHWAY INCLUDE:

Better resourcing at community level to handle larger patient numbers
Urgently adding personnel at a secondary level (a particular need for endocrinologists was cited, referencing a 2018 HSE Survey that estimated a shortfall of 72% to meet minimum care levels)[13]

Expanding the Chronic Disease Management Programme as soon as possible to include all patients with diabetes

Establishing an intermediary approach between primary and secondary settings
This could involve increasing and enhancing the role of the clinical nurse specialists to triage patients / directly engage

Consideration of the role of telemedicine for Diabetes
While it has its limitations in managing complications, there is an opportunity in overcoming distance-based barriers

Development of more holistic approach to patient management in secondary care setting
This could facilitate cooperation across multi-disciplinary HCP teams

[13] HSE Survey of Diabetes Care Delivery in Acute Hospitals 2018: https://www.hse.ie/eng/about/who/cspd/ncps/diabetes/resources/national-survey-of-diabetes-care-delivery-in-acute-hospitals-2018.pdf

THEME IV: TACKLING COMPLICATIONS

Significant attention and effort needs to be placed on early intervention to prevent the development of T2DM where possible and effectively manage the disease and its complications. This need is particularly acute given the high and growing number of patients living with the disease.

Participant experts likened living with T2DM to having a full-time job. Complications can be broadly described as either acute (short-term) or chronic (persistent, long-term). As failure to diagnose early or manage optimally can result in a range of debilitating complications, including cardiovascular disease, kidney (nephropathy), eye (retinopathy) and foot damage (neuropathy), it is essential to stay on top of the latest research and understanding of the disease.

The expert group members agreed that early intervention is vital in preventing complications in T2DM patients. Many diagnoses of diabetes occur only after the presentation of complications. Managing complications can be uncoordinated from a patient perspective as they spend significant amounts of time with different members of multidisciplinary healthcare teams within in the care pathway. This was reflected in the patient survey results which evidenced a disjointed approach to treatment for patients attending different services. Furthermore, the complicated and multidisciplinary nature of T2DM treatment can lead to referrals without clear pathways that patients can follow. This can lead to gaps emerging in the treatment of patients with T2DM. For example, 47.06% of patient survey respondents indicated they do not have access to foot care services. This is of particular concern as many GPs do not have access to routine chiropody services and only urgent cases are typically referred to hospital chiropody services. This leaves vulnerable patients without access to foot care.

Concern was expressed about treatment aversion in some at-risk patient demographics negatively impacting the onset/development of complications. A shift in mindset is required from considering T2DM as solely a matter of controlling blood sugars to viewing it as a broader, cardiometabolic disease that can easily exacerbate into broader complications. Expert group discussions suggested that at a secondary care level, integrated multidisciplinary teams need to be developed for patients with complicated T2DM. Integrated, multidisciplinary care would enhance patient experiences, improve attendance compliance and also reduce the need for multiple hospital visits for each aspect of required care, as is sometimes the current experience.

Moreover, it was suggested that accelerating the integration of services, such as further developing the utilisation of diabetes nurse specialists in the community, could facilitate swifter triaging and referrals of patients in advance of, or immediately upon, the presentation of complications.

Particular concern was raised regarding treatment of cardiovascular complications of T2DM. The recruitment of more diabetes specialists (including cardiologists, renal physicians and endocrinologists), in conjunction with improved coordination of interdisciplinary care, could be impactful in improving patient outcomes.

47%

Survey respondents indicated they do not have access to foot care services

THEME V: PREVENTION

There is substantial evidence that the development of T2DM can be prevented or delayed.[14] As an ultimately preventable disease, policy priorities should be reflected as such.

The HSE's Model of Integrated Care for Patients with T2DM (HSE, 2018) recommends screening for diabetes in asymptomatic patients who are at high risk of developing Type 2 Diabetes. In principle, this opportunistic "case finding" or screening is expected to be delivered as part of the Chronic Disease Management Programme for elderly patients. However, prevention awareness of the prediabetic situation is comparatively poor in Ireland, with no consistent funding for studies about obesity and diabetes. This is particularly concerning as prevention is optimum versus effective disease management and in many cases, better preventative intervention and lifestyle management could prevent pre-diabetes developing into T2DM itself.

When patients are screened for T2DM, there are three possible outcomes:

1. The person is diagnosed with T2DM;
2. They do not have T2DM; or
3. They are identified as being in pre-diabetes phase, which encompasses both impaired fasting glucose (IFG) and impaired glucose tolerance (IGT). Studies have shown that patients with IFG or IGT, or both, can significantly reduce their risk of developing T2DM by following intensive lifestyle modification programmes.[15]

The HSE recognises that in this stage, patients should be given advice on how to follow a healthy lifestyle, incorporating education on diet; physical activity; behaviour change; smoking cessation; reducing their alcohol intake and managing other cardiovascular risk factors such as hypertension and dyslipidaemia.[16] Ensuring this advice is provided in a timely manner is consistent with the recommendations and learnings under the Education theme.

[14]HSE, 'A Practical Guide to Integrated Type 2 Diabetes Care' https://www.hse.ie/eng/services/list/2/primarycare/east-coast-diabetes-service/management-of-type-2-diabetes/diabetes-and-pregnancy/icgp-guide-to-integrated-type-2.pdf

[15] The Finnish Diabetes Prevention Study (DPS): Lifestyle intervention and 3-year results on diet and physical activity. Diabetes Care. 2003 Dec;26(12):3230-6. doi: 10.2337/diacare.26.12.3230 ; Xin, Y., Davies, A., Briggs, A. et al. Type 2 diabetes remission: 2 year within-trial and lifetime-horizon cost-effectiveness of the Diabetes Remission Clinical Trial (DiRECT)/Counterweight-Plus weight management programme. Diabetologia 63, 2112–2122 (2020).

[16]HSE in response to PQ 21350/20, 29th September 2020

THEME V: PREVENTION

RECOMMENDATIONS TO IMPROVE T2DM PREVENTION:

The National Diabetes Prevention programme and strategy should be expanded to include a whole of society approach.

Active living should be built into all aspects of policy, including town and community planning and transport routes for patients with chronic diseases, in coordination with the Healthy Ireland initiative.

Education at the earliest juncture level will aid in prevention. Prevention is often community based and the school system has a large role to play.

Prioritising access to healthy foods which will help with the prevention of diabetes, in schools or for example workers on night shifts.

Many of these recommendations are in agreement with the HSE's current approach. The National Clinical Programme (NCP) for Diabetes recognised the importance of developing a targeted Diabetes Prevention Programme. In 2019, an application to the Sláintecare Integration Fund to progress development of a National Diabetes Prevention Programme was successful. This project commenced in January 2020 but was paused during the COVID-19 pandemic. However, the NCP for Diabetes is preparing to recommence this project in the coming months. The NCP for Diabetes accepts the importance of developing a coordinated approach to diabetes prevention nationally.

A lack of resourcing and education, particularly at a primary care level, remain the main hindrances to early intervention. Ireland does not have a specific diabetes prevention strategy, rather prevention forms part of Healthy Ireland and other strategies. While the development of the Healthy Ireland initiative is positive, a specific diabetes prevention strategy with a broad reach including defined targets and measurable outcomes, is needed.

THEME VI: RESOURCING & DATA

Research into diabetes is opening up new and exciting paths in patient treatment with the potential to significantly improve patient outcomes. However, a major gap remains between research and the frontline delivery of services. There is major scope to close the gap between the latest research and healthcare delivery and improved utilisation of patient data and medical devices will be central to achieving this.

Resourcing

Funding diabetes care continues to be a major challenge for the Irish Healthcare system. Ireland does not have a National Diabetes Registry, so there is no up-to-date, accurate figure available for the number of people living with T2DM in Ireland.

Diabetes Ireland estimates that the total manpower cost to the HSE for adult diabetes services is less than €30m per annum.[17] The HSE is paying a lot more money than is necessary to manage related complications whilst support for diabetes in the community is lacking. The impact of the current COVID-19 pandemic will only serve to exacerbate these issues.

Funding remains a barrier to innovation in T2DM care. With Covid-19's unprecedented impact on the public purse, and healthcare in particular, resourcing challenges can be expected to continue for Diabetes care in Ireland.

The HSE estimates that the annual cost of diabetes related illnesses to the health service to be approximately €1.7 billion.[18] However, with no accurate data regarding the prevalence of Diabetes in Ireland, this figure is extrapolated from NHS expenditure figures. The HSE estimates that there are 234,398 people in Ireland with T2DM and this figure is expected to increase by 60% in the next 10-15 years.[19] As a result, the healthcare costs of T2DM are expected to rise significantly. This underlines the need for the effective utilisation of resources and the identification of efficiencies throughout the treatment pathway.

Of further concern, is the financial impact of Diabetes complications across the healthcare system, as discussed above. Concern over the impact of mismanaged T2DM is of particular concern considering HSE estimates that 20-30% of people with T2DM remain undiagnosed and thereby are not receiving adequate treatment.

In the context of persistent budgetary issues in Irish healthcare, there can be reluctance within the healthcare system to fund treatment innovation without the provision of concrete evidence of significant positive impact. However, the provision of such evidence is extremely difficult within the context of Ireland's underdeveloped patient data systems.

The HSE estimates there are 234,398 people in Ireland with T2DM and expect this to increase by 60% in the next 10-15 years.

[17]Diabetes Ireland: the cost of treating diabetes complications https://www.diabetes.ie/diabetes-ireland-highlights-escalating-cost-of-treating-diabetes-complications-to-tds-on-world-diabetes-day/#:~:text=Using%20the%20data%20from%20this,220%2C000%20adults%20with%20diabetes%20nationally
[18]HSE in response to PQ 21349/20, 22nd September 2020
[19]HSE in response to PQ 21348/20, 22nd September 2020

THEME VI:
RESOURCING & DATA

Data Implementation

Effective patient data systems are required to support the adoption of innovations in T2DM care and to support the efficient and effective allocation of resources within the State's budgetary constraints.

The lack of electronic patient records or an integrated IT/Data Management system makes it extremely difficult to track and assess patient journeys and outcomes across primary and secondary care. There is an urgent need to develop a national registry to inform the allocation of resources in T2DM management.

The HSE acknowledges that "there is no accurate figure available for the number of people living with diabetes in Ireland" as the country does not have a National Diabetes Registry. The HSE estimates of diabetes prevalence in Ireland are extrapolated from Scottish data. "Establishment of a registry would help with tracking the prevalence of the condition, measuring outcomes, the cost of care and planning for future services".[20]

The Irish healthcare system also lacks unique patient identifier numbers or integrated electronic patient health record. Without developing adequate data systems, Irish patients risk being left behind in the adoption of healthcare innovation that could significantly improve their health outcomes.

It can be difficult to assess the impact of various interventions and the identification of complications without a comparative database. A National Diabetes Database is, therefore, urgently required.

Without effective utilisation of patient data, Irish patients with T2DM risk being left behind when it comes to emerging innovations that could significantly positively impact their treatment pathways and outcomes. Furthermore, the failure to implement effective patient data systems prevents the optimization of resourcing and further exacerbates long-term budgetary issues.

[20]HSE in response to PQ 21348/20, 22nd September 2020

SURVEY RESULTS

A survey was circulated by Diabetes Ireland to its members requesting input from those living with T2DM in Ireland (24th November 2020 – 28th February 2021). The survey sought to understand patients' perspectives on the quality and nature of T2DM care received. A total of 209 responses were received from across 21 of 26 counties in the Republic of Ireland. 44.23% of respondents classified themselves as public patients, while 31.73% classified themselves as a private patient. 24.04% of respondents identified themselves as both a private and public patient. 44% of respondents availed of public care with another 24% stating they availed of both private and public care. 32% availed of private services only. While acknowledging the limitations of such a survey, it suggests a number of findings worthy of further study.

Patients rated their satisfaction with management of the disease and available services on a scale out of ten. The average response when respondents were asked to rate their own self-management of the condition was 6.5 / 10, with only 77.56% of respondents noting their attendance at the annual recommended consultant visitations.

On average, respondents rated confidence in their healthcare professional's management of T2DM highly: 7/10 [Nurses - 7.10; Consultants - 7.03; GPs - 6.86]. Throughout the patient survey, respondents were also asked to rate their confidence in T2DM services available to them.

Responses to the patient survey suggested a desire for a more coordinated approach to T2DM management and an increase in communication within the care model.

72.50% of survey respondents noted that they do not see multiple experts (i.e., endocrinologist, podiatrist, cardiologist, nephrologist) when they are in a hospital setting, however, it must be noted that not all patients may have a need to see a multidisciplinary team.

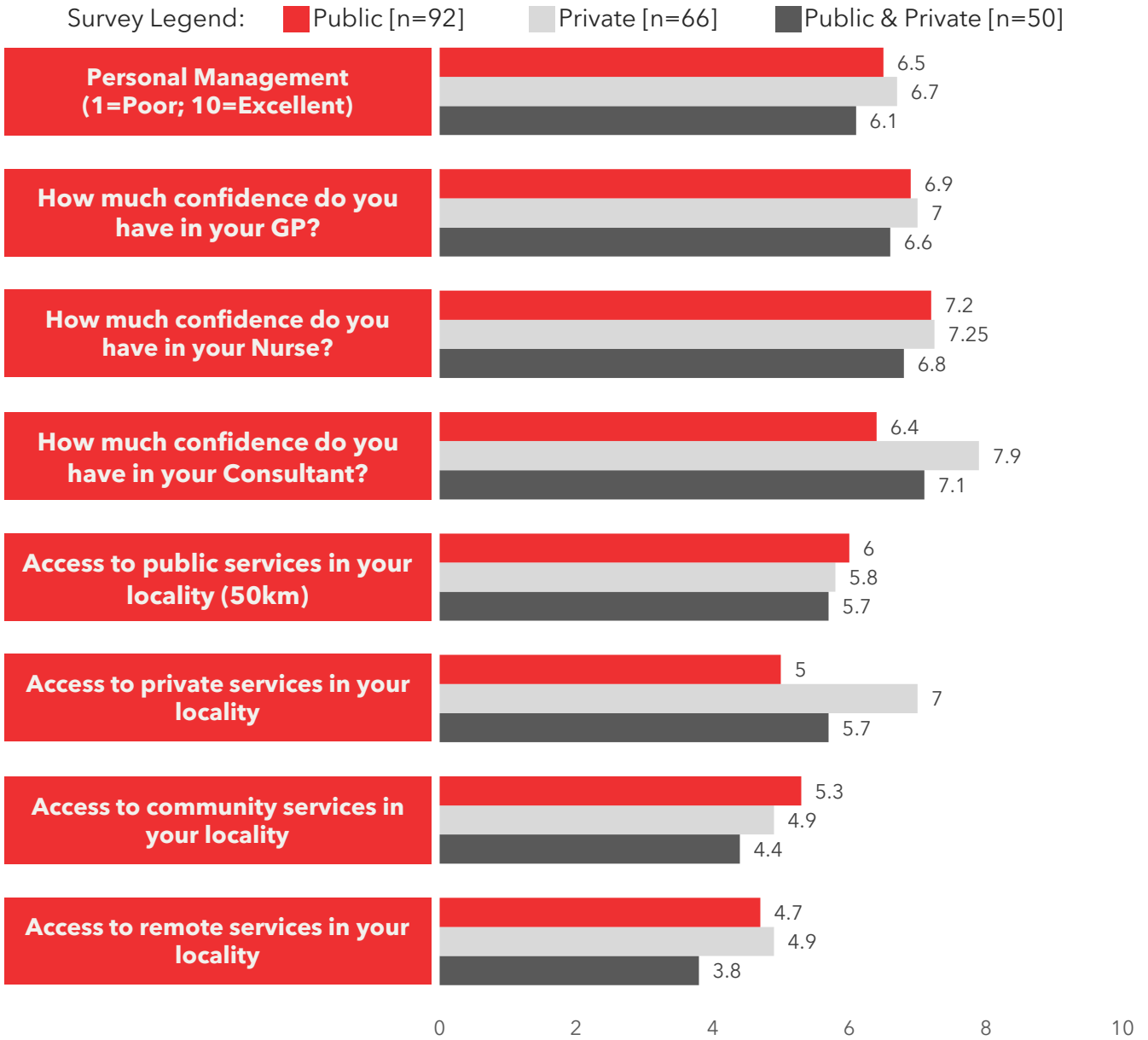
One respondent noted that while the stand-alone services provided are "pretty good" there is a feeling that they are "disjointed". Another respondent noted that there is a reliance on GPs to relay information following appointments as there is "no joined up service."

Patients were also asked their views on the access to support services available to patients living with T2DM in Ireland including public/private services, community services and access to remote services. The effect of the pandemic on accelerating availability of remote services for T2DM diabetes is worthy of further study. On average, ratings from public and private patients were similar with access to services in generally falling within a mid-tier rating.

Questions	Average Survey Rating
Access to public services in your locality (50km)	5.8
Access to private services in your locality	5.8
Access to community services in your locality	4.9
Access to remote services	4.5

SURVEY RESULTS

The findings of this survey draw on anecdotal and qualitative data from a select cohort of people living with T2DM and are featured throughout this paper.



While survey findings found similar results to most survey questions from both private and public patients, private patients surveyed, on average, noted significantly higher confidence levels in their consultant (7.8) as opposed to public patients (6.4).[21] This is likely a result of all private patients being seen by a consultant whereas public patients are often seen within a team environment. Similarly private patients surveyed rated access to private services in their locality higher (6.9) than public patients (4.9).[22]

[21]As some patients may not have had need to visit their consultant, 50 of 66 private patients and 68 of 92 public patients provided responses to this question.

[22]Based on responses from 71 of 93 public patients and 64 of 66 private patients.

LOOKING FORWARD

The Committee on the Future of Healthcare's Sláintecare Report (2017) argued that a new model of integrated care is needed to address the growing prevalence of chronic and disabling conditions such as T2DM. Integrated care is a response to the changing health profile of national populations, changes in health technology and organisation, and the inadequacy of current delivery models in responding to these changes.[23]

Such an approach is supported by the findings of this White Paper.

The White Paper outlines specific interventions to support improved T2DM patient outcomes. Recommendations seek not only to reflect the views of experts but also, via the patient survey, to reflect patient wishes.

Recommendations focused on the following key thematic areas:

- Complexity of the Disease
- Improved Education
- Optimising the Care Pathway
- Tackling complications
- Prevention
- Resourcing and Data

The White Paper emphasises the importance of preventative actions and early intervention to reduce the impact of T2DM and disease complications on patients. Improved patient and HCP education will play a key role in facilitating such improved interventions.

While the White Paper evidence a strong consensus behind the approach to T2DM care envisioned under Sláintecare and the Chronic Disease Programme, improved integration of healthcare provision and improved resourcing (particularly at a secondary level) are key steps in realizing this vision. The establishment of an improved patient data system and national register of people with T2DM can play a significant supporting role while telemedicine solutions should be further considered.

[23]Committee on the Future of Healthcare Sláintecare Report (2017)
https://assets.gov.ie/22609/e68786c13e1b4d7daca89b495c506bb8.pdf