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Improving Type 2 Diabetes Therapy Adherence and Persistence in Germany

Appendix



Introduction

This Appendix document provides supporting material for the report entitled Improving Type 2 Diabetes Therapy Adherence and Persistence in Germany, How to Address Avoidable Economic and Societal Burden.

Research and analysis for this report was undertaken by the IMS Consulting Group with support from Lilly Diabetes.

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Appendix

Overview of methods

A number of key areas were addressed to understand how to improve T2D therapy adherence and persistence in Germany. First of all, the current social, economic and political context surrounding T2D therapy adherence and persistence was analysed. The different reasons and motivations for being adherent or non-adherent were then explored before understanding the challenges facing PwD. After creating a holistic picture of therapy adherence and persistence in T2D, a number of key recommendations to improve the current situation were then developed.

In order to build up this holistic viewpoint and subsequent recommendations, a multifaceted approach was taken. This comprised extensive literature and desk-based research, stakeholder interviews, online quantitative surveys and the use of the IMS CORE Diabetes Model (CDM)—an economic model validated in peer-reviewed journal articles.

Assessing the current situation

The epidemiology of T2D, current strategies for treating and preventing T2D as well as the political context surrounding T2D and therapy adherence were investigated through stakeholder interviews and surveys, literature reviews and desk-based research of a variety of sources including scientific, governmental and charity publications. Complications and costs linked to T2D and sub-optimal adherence were then quantified using the CDM, based on data inputs gathered from a variety of sources.

The CDM was populated with a series of Germany-specific inputs to build an average PwD risk profile for various diabetes-related complications, notably:

- The direct healthcare costs of various diabetes-related complications in Germany (e.g. MI, stroke, amputation, blindness, renal disease, among others)
- The medical characteristics of the average PwD in Germany (e.g. HbA1c levels, blood pressure, body mass index, age, duration of diabetes, co-morbidities, among others)

These risk profiles were built for three different age cohorts (35–49, 50–64, 65+ years old), while the 50–64 age profile was applied to newly diagnosed PwD.

However, one variable, HbA1c levels, of each PwD risk profile was left open to change in order to differentiate between adherent and non-adherent PwD in Germany. The HbA1c of an adherent PwD and a non-adherent PwD was calculated by collecting the following information:

- The proportion of PwD in Germany who are adherent and non-adherent, respectively
- The average HbA1c levels of all PwD in Germany
- The relationship between T2D therapy adherence and HbA1c among PwD in Germany

With all of this information, the model was then run twice on a per-patient basis:

- Once in a scenario for adherent PwD, where HbA1c levels are lower and therefore the risk of complications is lower
- Once in a scenario for non-adherent PwD, where HbA1c levels are higher and therefore the risk of complications is higher

Each scenario results in a per-patient cost, which was multiplied by the number of PwD who are adherent or non-adherent in Germany, respectively. The total of these two scaled-up scenarios represents the total cost burden of PwD in Germany.

Finally, in order to determine the avoidable cost due to sub-optimal T2D therapy adherence, the adherent per-patient scenario was multiplied by the total number of PwD in Germany (representing a hypothetical scenario where all PwD in Germany have adequate adherence levels and therefore lower rates of complications and costs) before subtracting it from the actual cost burden of PwD in Germany. This difference captures the total avoidable cost due to T2D therapy non-adherence in Germany and therefore the estimated cost saving were all PwD to reach an adequate level of adherence (generally defined in these papers as the PwD picking up 80% or more of their T2D medication as prescribed by the physician or the PwD reaching a threshold level of adherence as scored in a self-reported adherence survey).

Characterising PwD

PwD face a number of challenges, which can act as a barrier to adherence and persistence. The main barriers to T2D therapy adherence were identified through extensive literature searches before being validated in discussions with healthcare professionals and policy makers.

Creating the recommendations

By analysing the current situation, PwD behaviours and challenges facing them at the level of desk research, a number of recommendations to improve adherence and persistence in T2D were developed. These recommendations were then reviewed and optimised during qualitative interviews with healthcare professionals, payers, policy makers and patient association representatives thus ruling out all but the most important, effective and easily implementable solutions.

Recommendations

Exhibit A: Recommendations and Associated Interventions to Improve T2D Therapy Adherence and Persistence in Germany

Recommendation	Intervention description	Possible intervention assessment metrics	Key Partners / Target Audience	Outcomes
Profile				
Use validated psychometric assessment models to evaluate identified PwD activation as related to their diabetes care	Psychometric questionnaire, such as the Patient Activation Measure (PAM), to gain insight into a range of health-related attributes (attitudes, motivators, behaviours, or logistical/financial challenges) and quantify PwD activation degrees	Tool uptake in clinical practice (number of questionnaires sent); questionnaire completion rates; record PwD activation trends; fewer emergency admissions, medical visits or prescriptions	KKs, HCPs, policy makers, manufacturers	Holistic and personalised care; better T2D self-management (including therapy A&P); lower and optimised healthcare service use
Activate				
Open conversation to allow pharmacists to act as T2D management partners	Promote cooperation rather than competition by fostering discussion and division of roles between pharmacists and physicians. PwD would be exclusively managed by the contracted pharmacist; implement contract agreements between pharmacists and PwD to comply with data protection rules	Benchmark for filled prescriptions; number of pharmacist-PwD contracts (sick fund records); record PwD activation trends; reduced rates of complications with unchanged prescription practices	National pharmacist association, DDG pharmacist board, patient advocacy groups	Holistic and personalised care; better T2D self-management (including therapy A&P); lower and optimised healthcare service use; competitive advantages for pharmacists

Recommendation	Intervention description	Possible intervention assessment metrics	Key Partners / Target Audience	Outcomes
Improve attendance to education programmes and retention of content by gearing incentives towards repeatable modular education	Increase range and utilisation of modular education courses; ensure that individual modules can be consistently repeatedly reimbursed to promote attendance on a needs basis. Novel methods of education can be used to maintain PwD degree of activation. Courses need to be certified by the DDG to enable reimbursement	Course certification by the DDG; expansion into new modes of education (internet, apps) that are readily advertised to patients; optimisation of referral practices between primary and secondary care	DDG, BVA, GKV-SV, KVs, national general practitioner association	Improved attendance at T2D group education courses; increased PwD engagement; better T2D self-management (including therapy A&P); reduction in T2D-related complications; lower and optimised healthcare service use in the long-term
Promote involvement of PwD social circle (primary support person in the first place) in the T2D education and care process	Involve PwD close friends and family (primary support person in the first place) in certain modules of T2D education to promote a more open environment for the PwD to address their condition; provision of education materials (brochures etc.) especially addressing friends/family	Course attendance by PwD close social circle; record PwD activation trends; fewer emergency admissions, medical visits or prescriptions	HCP associations, patient advocacy groups, manufacturers, GKV-SV, KVs	Higher PwD activation through greater awareness; progress towards unwinding the sensitive nature of being a PwD; better social support structure for PwD to reduce the risk of depression; increased PwD engagement; better T2D self-management (including therapy A&P); reduction in T2D-related complications; lower and optimised healthcare service use in the long-term

Recommendation	Intervention description	Possible intervention assessment metrics	Key Partners / Target Audience	Outcomes
Sustain				
Monitor high PwD activation and repeat or adapt activation strategy for PwD with dropping activation or diabetes control	Once optimally activated, PwD can be monitored to check if activation or control drops, thus allowing HCPs to understand when further or different strategies are needed to increase activation or improve control	Record PwD activation trends, adherence and medical statistics	KKs, HCPs, policy makers	Holistic and personalised care; improved PwD engagement; improved health status; lower and optimised healthcare service use
Leverage technology and digital offerings to maintain PwD activation	Leverage technology for T2D therapy tracking, T2D management support, refresher education and reminders to reduce need for human intervention; Tweet chats could be conducted by diabetes specialist nurses or additional online health platforms could be 'prescribed' to PwD	Measure disease and medication knowledge (e.g. teach-back method); record PwD activation trends and adherence	KKs, HCPs, policy makers, manufacturers, patient advocacy groups	Proficient T2D self-management; reduced costs to healthcare system; alternative and easy access to peer support, HCPs and educational materials

Source: IMS Consulting Group research and analysis

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