

The role of digital diabetes education (MyDESMOND) during the COVID-19 pandemic

Launched in 2018, MyDESMOND has been designed to support self-management and prevention of type 2 diabetes through digital means to fit around modern lifestyles. Primarily developed with mobile use in mind, MyDESMOND is a responsive website that can be used on smartphones, tablets, laptops and PCs. It was developed by the multidisciplinary team (MDT) at Leicester Diabetes Centre to fill an unmet need for a digital self-management education programme for people with type 2 diabetes.

MyDESMOND is based on the evidence-based Diabetes Education and Self-Management for Ongoing and Newly Diagnosed type 2 diabetes (DESMOND) group education programme (Davies et al, 2008). It was recognised that group education was not going to meet all needs and that using digital technology could potentially reach a different patient group, as well as provide an ongoing resource for those who attend a group programme. It was important for the MDT at Leicester that the digital programme retained the person-centred approach and the strong theoretical underpinning that had been successfully adopted within the evidence-based group programme.

The development of MyDESMOND used an iterative approach grounded in optimising user learning and engagement (Hadjiconstantinou et al, 2020). Since its conception, the platform has undergone a rigorous testing process and has been approved by NHS Digital, highlighting the high levels of data security and quality assurance built in to ensure confidence in access for primary care providers and people with diabetes alike.

Programme description

To date, three programmes have been made available within the MyDESMOND platform:

- 1. Type 2 diabetes** – suitable for anyone with a diagnosis of type 2 diabetes, regardless of whether they are newly diagnosed or have established diabetes.
- 2. Let's Prevent Diabetes** – for those who find themselves at risk of developing type 2 diabetes.
- 3. Babysteps** – a programme designed specifically for women who have previously been diagnosed with gestational diabetes.

Core functions that are available across all three programmes include:

- Interactive educational material based on the award-winning group-based DESMOND programmes. These are called “Learning Sessions” and are available to users on registration.
- Weekly “Booster Sessions” that build on the key messages of the Learning Sessions.
- Opportunities for users to make decisions about what they want to do to improve their health through the Decision Maker tool.
- A number of Health Trackers, including HbA_{1c}, weight/shape, healthy eating and blood pressure, in which users can self-report their latest data and track their progress.
- A range of activity-tracking options, including steps and minutes, that link to wearable technology such as Fitbit, Garmin and Google Fit.
- “Ask the Expert”, in which users have access to Leicester Diabetes Centre’s MDT to help answer their questions.
- Chat, in which users can talk with each other and ask questions in the MyDESMOND Community about their successes and challenges relating to their diabetes management.
- Technology Support provided by Leicester Diabetes Centre, in which users are supported

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with any technical problems via a direct messaging service.

- “Buddies”, an innovative function in which users can invite up to five members of their family and friends to join in their journey with them. They can compete against each other in weekly/daily activity challenges. The “buddies” can also view a range of useful information to help them in their understanding of diabetes, to provide better support for their friend or relative.

Goal setting

Among the various behaviour-change techniques within MyDESMOND (Hadjiconstantinou et al, 2020), goal setting is a technique that can support successful self-management; therefore, throughout MyDESMOND there are opportunities for users to make decisions about what they want to do to improve their health. This is carried out via the Decision Maker tool and is similar to the action planning used in group-based programmes.

As part of the Decision Maker tool, users are first asked to identify what change they want to focus on from the following list:

- Increase physical activity levels.
- Make healthier food choices.
- Reduce weight and waist circumference.
- Cholesterol.
- Smoking.
- Blood pressure.
- Blood glucose.
- Wellbeing.
- Personal goal.

Users are guided to consider how important their preferred change is to them on a scale of 1–10. Next, they are guided to select an option of what they could do to achieve their goal from a list of options. Potential barriers that may get in the way of achieving the goal are identified. Subsequently, they are guided to rate their confidence in achieving this goal using a scale of 1–10, and finally they set a date to review their goal.

Impact of the COVID-19 pandemic

Launched in June 2018, MyDESMOND slowly built momentum as a follow-on

support for those who attended a group-based programme. The platform had approximately 2500 registered users in March 2020 when the UK went into its first national lockdown. It has gone from strength to strength ever since and is now available as a stand-alone alternative option to group-based programmes, ensuring a variety of educational options for people with type 2 diabetes now and into the future. It currently has over 16 750 registered users and continues to be a great resource for home-based diabetes education and self-management, with over 1000 new users registering on average each month.

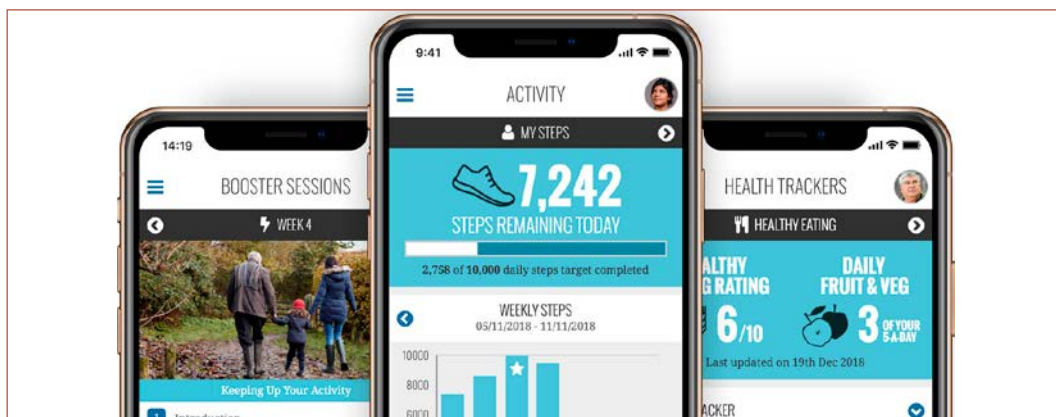
MyDESMOND has come into its own during the challenging times of the COVID-19 pandemic, and in August 2020 an online survey of the current user base was conducted to ascertain user satisfaction and usefulness of the MyDESMOND type 2 diabetes management programmes. From the 803 responses, 92% of users agreed or strongly agreed that the information was presented clearly and concisely, 81% were able to better understand their condition and 85% agreed or strongly agreed that MyDESMOND was easy to use (Quinn et al, 2020). The information was deemed valuable or extremely valuable by 83% of users, and 82% would recommend the programme.

Feedback from service users suggests that during COVID, MyDESMOND has provided them with a place to go to find out information, have their concerns addressed and access avenues of support:

“I was diagnosed in March 2021 with no help because of lockdown. MyDESMOND has helped me learn a lot about diabetes and helped me to understand it more.”

“...in small chunks at a time I find that the information stays with you better than trying to take everything in at once. Big thank you for putting it all together.”

Current self-reported user data show reductions in weight for 87% of users and reductions in HbA_{1c} for 85%.



Impact on psychological outcomes

In a recent service evaluation, significant improvements in self-efficacy and diabetes-related distress were demonstrated after 4 weeks of participation in the MyDESMOND programme (Hadjiconstantinou et al, 2021). This is important evidence not just for MyDESMOND but also to improve understanding of the role that digital health programmes can have on psychological outcomes as well as on the medical and behavioural aspects of managing type 2 diabetes.

Demographics

Analytics of the current registered users of MyDESMOND show that the gender split is 50% male, 49% female and 1% not specifying. Users are logging in for over 10 minutes per login, which has grown from 3.5 minutes on average in March 2020. Overall, 78% of users describe themselves as White British, 3% White Irish and 19% from ethnic minority populations. In terms of age, 16% of all users are recorded as 71 years or older, 26% as 61–70 years, 31% as 51–60 years, 24% as 31–50 years and 2% as 18–30 years.

The “What is Diabetes” booster session is the most popular, with over 50 000 views to date, followed closely by the “Treatments” session, with 46 000 views, and “Food and Weight”, with 43 500 views.

Preliminary data suggest that MyDESMOND is accessible as a standalone programme or alongside group attendance.

Future developments

Work is underway on the development of further programmes that will be hosted on

the MyDESMOND platform, expanding the functions that make each programme unique and impactful into other long-term conditions, as well as providing more specialist self-management support for type 2 diabetes. This year will also see MyDESMOND launch a proportion of its content in other languages and targeting ethnic minority populations through audio translations, and adding new content regarding building resilience and keeping well during the pandemic, information about COVID-19 and fasting.

For further information please contact myDESMOND@uhl-tr.nhs.uk ■

MyDESMOND

MyDESMOND is available for provision under licence from the University Hospitals of Leicester NHS Trust. For a list of all areas where DESMOND and MyDESMOND are available, please visit: <https://www.desmond.nhs.uk/find-your-nearest-centre>

Wales resources

MyDESMOND will soon be available in Wales. Self-referral will be available at: www.mydesmond.wales
Current educational resources available in Wales include [PocketMedic](#) and [X-PERT Health](#)

Davies MJ, Heller S, Skinner TC et al (2008) Effectiveness of the Diabetes Education and Self Management for Ongoing and Newly Diagnosed (DESMOND) programme for people with newly diagnosed type 2 diabetes: cluster randomised controlled trial. *BMJ* **336**: 491–5

Hadjiconstantinou M, Schreder S, Brough C et al (2020) Using intervention mapping to develop a digital self-management program for people with type 2 diabetes: tutorial on MyDESMOND. *J Med Internet Res* **22**: e17316

Hadjiconstantinou M, Barker MM, Brough C et al (2021) Improved diabetes-related distress and self-efficacy outcomes in a self-management digital programme for people with type 2 diabetes, myDESMOND. *Diabet Med* **38**: e14551

Quinn LM, Davies MJ, Northern A et al (2020) Use of MyDesmond digital education programme to support self-management in people with type 2 diabetes during the COVID-19 pandemic. *Diabet Med* **38**: e14469

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