

# My Diabetes My Way: clinical outcomes impact and user experiences for an electronic personal health record for diabetes

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## Aims

My Diabetes My Way (MDMW) is an interactive website for people with diabetes and carers, with over 32,000 registrants in NHS Scotland. It contains multimedia resources for self-management and clinical records access (data from primary and secondary care, specialist screening services and laboratories). Features include: goal setting, communication tools and automated highly-tailored guidance based on results. We aimed to evaluate user experience, assess impact on outcome measures and model health economic benefits.

## Methods

In 2015, an online evaluation survey was emailed to 3,979 active users of the MDMW electronic personal health record (ePHR) to assess their experiences and perceived benefits. In a cohort of long-term active users, clinical outcomes were assessed ( $HbA_{1c}$ ) and compared with age, gender, diabetes duration, treatment type and socioeconomic status-matched group.

## Results

1,095 (27.5%) active users completed the survey. Patients reported that MDMW improved their knowledge (90.3%) and motivation (89.3%). It allowed them to make better use of consultation time (89.6%) and meant that they did not need to keep paper records (84.4%) or phone their doctor for results (85.2%). Users found graphs helpful to monitor changes (95.9%) and help them meet their diabetes goals (83.5%).

7,689 active users of MDMW had 3 or more years of follow-up data. There was a reduction in  $HbA_{1c}$  in active users, with patients with type 2 diabetes not treated with insulin ( $n=943$ ) showing most significant changes (intervention cohort reduction from 59 to 54 mmol/mol (females) and 58 to 53 mmol/mol (males) within 1 year, versus matched control reducing from 58 to 57 mmol/mol (females) and 58 to 57 mmol/mol (males) during the same period). Intervention patients remained between 4 mmol/mol (females)

and 3 mmol/mol (males) below their matched counterparts at 56 mmol/mol after 3 years of follow-up ( $p<0.001$ ) sustained reduction. A return on investment of at least 6:1 has been modelled using UK Prospective Diabetes Study (UKPDS) predictions.

## Conclusion

MDMW is a cost-efficient, population-based, self-management intervention with sustained impact on clinical measures. Current operating costs (~£2/diabetes patient/annum) could offer significant cost savings through reduction of long-term complications and improved process measures. Patients report enhanced knowledge and understanding of diabetes and motivation to make positive changes. Improvements in  $HbA_{1c}$  are shown within 1 year of follow-up and are sustained at improved levels. The service is being implemented into other parts of the NHS. ■

## Conflict of interest statement

Dr Wake, Mr Cunningham, Mr Brillante and Dr Pokrajac are affiliated with the MyWayDigital Health Ltd (which is commercialising My Diabetes My Way outside Scotland) either as employees, shareholders or directors.

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