dario

Dario Clinical Research Summary

Significant clinical and financial outcomes driven by digital health

Dario's digital health solutions capture billions of data points for multiple chronic conditions and related consumer behaviors, enabling a wide range of research initiatives. We are in the unique position of being able to study over a decade's worth of user activity for common chronic conditions—many which occur together—including diabetes, prediabetes, high blood pressure, obesity, pain, stress, anxiety, and depression.

Dario is proud of the results its solutions continue to achieve, both in clinical studies and the real world. Dario has an impressive 80% user retention rate year over year, and tens of thousands of app store reviews have given Dario an average customer satisfaction rating of 4.9 stars. This real-life vote of confidence wouldn't be possible if Dario didn't make life better for most users, and study after study shows that Dario delivers long-lasting results. Much of the clinical research summarized in this report extends beyond the typical year-long timeframe, because Dario's goal is to drive long-term behavior change. Understanding the impact of Dario solutions over time is essential for continuously influencing health behaviors and delivering sustainable outcomes for partners.

About Our Research

Dario is continuously validating and enhancing our solutions with ongoing studies and insights. We are always working to understand how digital health helps members live their best life. To that end, we isolate different features of our products and examine their impact on engagement and clinical outcomes. Our body of research demonstrates our ability to deliver best-in-class results across a wide range of conditions and populations.

PUBLICATIONS

- ADCES
- Advanced Technologies & Treatments for Diabetes
- AMCP-Nexus
- American Association of Diabetes Educators
- American Diabetes Association
- American Psychology Association
- Applied Sciences
- Diabetes Technology Meeting
- Diabetes Technology Society
- Frontiers in Physiology
- Haute Ecole Robert Shuman
- International Association for the Study of Pain
- Journal of Diabetes Science & Technology
- Journal of Medical Internet Research
- Oregon Health and Science University
- PAIN reports
- San Francisco University
- Texas Tech University
- The University of North Carolina

Real-world evidence with rigorous study design

Dario sponsored a 3rd party evaluation of member data to understand the impact of digital health solutions on chronic conditions when compared to non-Dario members receiving the usual standard of care. The resulting analyses demonstrating Dario's ability to deliver clinical, economic and care quality outcomes aligned to all stakeholder needs: healthcare consumers, payers, providers and the broader healthcare system.

Select clinical and financial outcomes

Financial impact: $5,077 in medical costs savings for Dario users compared with non-users

Retrospective cohort study demonstrated significant reduction in medical costs for Dario users with type 2 diabetes compared to non-users driven by cost savings in all-cause HCRU and all-cause office visits. *ADA 2023*

Economic impact: Reducing utilization and hospitalization

Retrospective cohort study demonstrates significant impact through a user-centric approach to managing type 2 diabetes, 9.3% all-cause Health Care Resource Utilization (HCRU), and 23.5% reduction in all-cause in-patient hospitalizations. *ISPOR 2023*

Economic impact: Reduction in hospital readmission rate and length of stay for Dario users

Use of Dario was associated with a 36% reduction in 30-day hospital readmission rate and 1.6 fewer days in the hospital for Dario users with type 2 diabetes (7.2 vs 8.8 days). *AMCP Nexus 2023*

Quality impact: Improvements in Healthcare Effectiveness Data and Information Set (HEDIS) measurement criteria

8% more Dario users with type 2 diabetes with baseline HbA1c ≥ 8% achieved HbA1c below 8% (control) compared to non-users after 12 months and 13% less Dario users stayed above 9% (poor control). *AMCP Nexus 2023*

Relevant Research: Analyzing Key Trends

Dario demonstrates 12 months of sustained healthy behavior change for members taking a GLP-1

Adopting healthy behaviors while taking a GLP-1 is crucial for the efficacy of the drug. The sustainability of these behaviors is proven to be achievable through the innovative technology behind Dario's cardiometabolic solution and integrated tools for GLP-1 medications. Dario members using a GLP-1 experienced a significant reduction in blood glucose levels in the first 5 months, with the changes sustained through the rest of the year, and a significant increase in the monthly number of weight measurements over 12 months. Dario members demonstrated significant change in lifestyle activities during the first three months maintained for 12 months.

Digital Platform Users Taking GLP-1 And Managing Diabetes Adapt Lifestyle Behavior Change over Twelve Months . ADA 2024

31% of Dario members with type 2 diabetes achieve results consistent with diabetes remission

Recent research examined Dario's ability to help members realize the goal of diabetes remission for people living with type 2 diabetes. The ADA considers remission to be achieved when someone with type 2 diabetes sustains normal blood glucose levels of less than 6.5% HbA1c for three months without the aid of a diabetic medication.[1]

31% of Dario members experienced blood glucose levels reflecting the goal of diabetes remission with average blood glucose readings of less than 140 mg/dL (A1c 6.5%) during a three-month period.

70% of Dario members who achieved a blood glucose level of less than 140 mg/dL in their last month of usage maintained it for a three-month period, indicating behavior change and improved long-term glycemic control.

Sustained Reduction in Blood Glucose Levels Reflecting Diabetes Remission in People with Type 2 Diabetes Using a Digital Health Platform. ADA 2024

Dario's digital tools reduce stress and brooding in teens in a randomized control trial

A randomized controlled clinical trial (RCT) studied the impact of a self-guided Digital Mental Health Intervention (DMHI) for teens and found significant improvements in perceived stress, brooding and loneliness compared to the waiting for access control group, demonstrating the potential for Digital Mental Health Intervention
management programs as an effective alternative to in-person programs.

Effects of a Digital Mental Health Intervention on Perceived Stress and Rumination in Adolescents Aged 13 to 17 Years: Randomized Controlled Trial. J Med Internet Res 2024

Increased levels of deep sleep correlates to significant reductions in blood glucose levels

Member sleep data gathered from Apple Health integration alongside blood glucose readings demonstrates significant improvements related to deeper sleep. A digital health platform that aims to help users adjust deep sleep and manage blood glucose levels can be a powerful tool in promoting overall health and well-being. Sleep quality assessment connected with blood glucose monitoring on one single platform may provide actionable insights and help users understand the impact of sleep on their metabolic health.

Deep Sleep Interaction With Blood Glucose Levels In People Using An Integrated Digital Health Platform For Diabetes Management. ADA 2024

1. Riddle MC, Cefalu WT, Evans PH, Gerstein HC, Nauck MA, Oh WK, Rothberg AE, Le Roux CW, Rubino F, Schauer P, Taylor R, Twenefour D. Consensus Report: Definition and Interpretation of Remission in Type 2 Diabetes. Diabetes Care 2021 Oct 1;44(10):2438–2444. doi: 10.2337/dci21-0034

Key findings across studies: 70+ published clinical studies & counting

Cross-condition studies

Walking away from depression: the mediating role of walking activity in depression impacting blood glucose levels of people with diabetes or prediabetes

This study demonstrates that regular walking may reduce the negative impact of depression on blood glucose levels in people with T2D or prediabetes. The findings highlight the importance of integrating physical activity, such as walking, into diabetes management protocols to enhance both glycemic control and mental health.
Frontiers in Endocrinology 2024

Digital platform users managing three chronic conditions diabetes, hypertension and overweight experience better outcomes than those who manage one condition following six months

The test group that managed diabetes, hypertension and weight demonstrated 1.7 times higher engagement than the control group.
ADA 2023

Blood pressure monitoring as a digital health tool for improving diabetes clinical outcomes: Retrospective real-world study

Blood glucose levels were positively associated with systolic and diastolic blood pressure monitoring, and a significant improvement in blood glucose levels during first months of using Dario to monitor blood pressure versus control group. *JMIR 2022*

Hypertension control among persons with diabetes using a self-management multi-condition digital platform

Two-thirds of users with diabetes and hypertension stage 1 improved their systolic blood pressure by 13 mmHg and diastolic by 8 mmHg; 38.7% lowered their hypertensive stage by one stage; and a subgroup of users with high-risk type 2 diabetes reduced average blood glucose readings by 15% over six months. *ADA 2022*

Persons with high-risk diabetes, depression and stress use a digital health platform experience an improvement in glycemic management

The use of a multi-condition digital therapeutic platform may be associated with improved glucose management for persons with "high-risk" glycemia who also cope with depression and stress. *ADA 2022*

Impact of digital management on clinical outcome in patients with chronic conditions: Diabetes and hypertension

70% of users improved their blood pressure levels by 8.4 mmHg Systolic and 6.2 mmHg on average following three months. *ADCES 2020*

KEY FINDINGS: CARDIOMETABOLIC HEALTH

DIABETES & PREDIABETES

1.4%

A1C reduction after 12 months

HYPERTENSION

38%

of users with hypertension reduced blood pressure by one stage

WEIGHT MANAGEMENT

Nearly 2/3rd

of the population improved their weight

Diabetes studies

Impact of a digital health intervention on awareness of vaccination against influenza among adults with diabetes

The Dario digital therapeutic platform was used to test two approaches using digital influenza nudge interventions to improve vaccination awareness and rates. The group that received adapted personalized intervention resulted in a 1.4% greater vaccination rate compared to control. *ATTD 2024*

Non-linear association between blood glucose levels and walking in an integrated digital health platform for diabetes management

During the first 4 months there was a positive trend of monthly average steps along with a negative trend of blood glucose levels in the same time frame. Significant improvement in monthly average blood glucose was observed in users with at least 400 steps a day. *DTS 2023*

Users managing diabetes with large-scale digital therapeutics platform experience a change in blood glucose and engagement over two years

Total users' self-monitoring engagement increased significantly by 29% (14.3 to 18.5) over two years. High readings ratio (>180mg/dL) in high-risk subgroup decreased significantly by 38% (38.8% vs. 63.1%) over two years. *ADCES 2023*

Digital Platform Users Taking GLP-1 And Managing Diabetes Adapt Lifestyle Behavior Change over Twelve Months

Dario members using a GLP-1 experienced a significant reduction in blood glucose levels in the first 5 months, with the changes sustained through the rest of the year, and a significant increase in the monthly number of weight measurements and significant increase in lifestyle activities maintained over 12 months. *ADA 2024*

Sustained Reduction in Blood Glucose Levels Reflecting Diabetes Remission in People with Type 2 Diabetes Using a Digital Health Platform

31% of Dario members experienced blood glucose levels reflecting the goal of diabetes remission with average blood glucose readings of less than 140 mg/dL (A1c 6.5%) during a three-month period.

70% of Dario members who achieved a blood glucose level of less than 140 mg/dL in their last month of usage maintained it for a three-month period, indicating behavior change and improved long-term glycemic control. *ADA 2024*

Deep Sleep Interaction With Blood Glucose Levels In People Using An Integrated Digital Health Platform For Diabetes Management

Member sleep data gathered from Apple Health integration alongside blood glucose readings demonstrates significant improvements related to deeper sleep. *ADA 2024*

The impact of targeted coaching interventions in a digital-first chronic care solution

Clinically significant reduction in blood glucose levels across both groups, 18% in those who engaged with a coach and 11% in those without a coach. Coaching interactions have the potential to positively impact the trajectory of low-engaged users. *ATTD 2023 #373*

Significant impact on hypoglycemic events in senior populations

Significant reduction in both level 1 and level 2 hypoglycemia events; level 1 events were reduced by 31% after 6 months and level 2 events were reduced by 53% after 6 months and sustained over a year. *ATTD 2023 #1012*

Blood glucose reduction and long-term sustainability in high-risk patients with type 2 diabetes over three years using a digital platform

Dario users significantly reduced their blood glucose average consistently over three years by 15.6% and their high readings ratio by 39%. *ADA 2023*

Impact of a digital health educational feature on engagement and glycemic outcomes

The introduction of a new educational feature increased the average number of blood glucose measurements by 34%. Average blood glucose reduced by 13% on average, and glucose variability reduced by 11% on average in high-risk population. *ADA 2023*

Blood glucose levels in high-risk type 2 diabetes users of a digital therapeutic platform by race/ethnicity

Average blood glucose was reduced by 14% in all ethnic groups over a year; the study suggests that digital therapeutics may mitigate outcome differences seen in ethnic and racial groups by improving access to educational tools and consistent monitoring. *ADA 2022; MDPI Applied Sciences 2023*

Efficacy of a tailored digital intervention tool targeting patients with clustered recurrent high glucose readings

19% reduction in following month vs. control group; 18% type 2 and 42% type 2 non-insulin. *ADCES 2021*

Impact of digital intervention tools on engagement and glycemic outcomes

56% increased engagement; 12% improvement in clinical outcomes. *ADA 2021 612-P*

Users with high-risk type 2 diabetes using a digital therapeutic platform experience a change in blood glucose levels

Average ratio of target range readings (70-180 mg/dL) increased from 28.4% to 54.8%. *ADA 2021 611-P*

Impact of a digital intervention engine on diabetes self-management

17% increase in average number of blood glucose measurements; 15% increase in average number of Dario app interactions following 60 days of intervention. *ATTD 2021 #478*

Impact of a digital therapeutic on insulin self-management

Significant reduction in fasting blood glucose (9%) vs. baseline in high-risk users; 6-unit average increase in basal insulin per injection after three months. *ATTD 2021 #221*

Digital therapeutics for type 2 diabetes: incorporating coaching support and validating digital monitoring

Significant reduction in lab values: HbA1c (2 points), Fasting Blood Glucose (18%) and BMI (10%); statistically significant improvement in glucose variability (21%). *JDST 2021*

Role of digital engagement in diabetes care beyond measurement: retrospective cohort study

Highly engaged users improved more in 6 months (13%) than engaged users (9%); increased monthly tagging behavior improved glucose levels 43% the next month. *JMIR Diabetes 2021*

The effect of a digital therapeutic platform on glycemic control in adults above age 65 with type 2 diabetes

Reduction of 13% blood glucose average and 38% in high readings ratio (>250 mg/dL) in age group ≥65 at six months sustained for 12 months. *DTS 2020*

Users with type 2 diabetes using a digital platform experienced sustained improvement in blood glucose levels

Fasting blood glucose <126 mg/dL rates increased by 16%; 38% of users with hypertension reduced blood pressure level by one stage. *ADA 2020 860-P*

Estimated A1C reduction in high-risk patients over two years of using a digital diabetes management platform

Two-year sustained reductions in eA1c (1.42%) and average blood glucose (18%). *ADA 2020 859-P*

Decrease in hypoglycemia events over two years in patients monitoring with a digital diabetes monitoring system

Reductions in Level 1 (50%) and Level 2 (57%) events on average following 24 months. *ATTD 2020*

The effect of digital intervention on glycemic control in users with diabetes

38% increase of in-range measurements (70-180 mg/dL) versus baseline after 3 months of continued use. *DTS 2019*

Impact of digital intervention on in-range glucose levels in users with diabetes

45% of users reduced their average blood glucose under 140 mg/dL after 3 months of continued use. *AADE 2019*

Reduction of blood glucose average less than 140 mg/dl in people with type 2 diabetes using a digital diabetes management system

30-40% of users with type 2 diabetes reduced average blood glucose below 140 mg/dL. *ADA 2019 913-P*

T2D users of a digital diabetes management system experience an increase of in-range glucose levels linked to app engagement

Users saw a relative increase of 10% in in-range readings following six months. *ADA 2019 912-P*

Decrease in glycemic variability for T2D over six months in patients monitoring with a digital diabetes management system

14% measurement variability reductions observed in users with type 2 diabetes following six months. *ATTD 2019*

Decrease in estimated HbA1c for high-risk users over a full year monitoring with a digital diabetes management system

Reductions of 1.4% eA1C were observed in users with type 2 diabetes following a year. *AADE 2018*

Continuous reduction of blood glucose average during one year of glucose monitoring using a digital monitoring system in a high-risk population

A reduction in average blood glucose of 14% observed in users with type 2 diabetes over one year. *ADA 2018 78-LB*

Decrease in high readings and severe hyperglycemic events for people with T2D over the full year of 2017 in users monitoring with a digital diabetes management system

Average decreases of 20% in high readings and 58% in severe events observed among users with type 2 diabetes over one year. *ADA 2018 77-LB*

T2D users of a digital diabetes management system experience a shift from greater than 180 mg/dL to normal glucose levels with sustainable results

Tens of thousands of users with type 2 diabetes moved from readings greater than 180 mg/dL to in-range levels. *ADA 2018 76-LB*

Reducing A1C levels in individuals with high-risk diabetes using the mobile glucose meter technology

Mobile glucose monitoring led to reductions of +1-point eA1c in less than a year. *ADA 2017 114-LB*

Behavioral health studies

Association of Digital Engagement With Relaxation Tools and Stress Level Reduction: Retrospective Cohort Study

Significant decrease in stress symptoms during the period of weeks 1-6 of app use, which was maintained during the period of 6-10 weeks. Users who engaged in both digital CBT-based videos and breathing exercises as a relaxation tool saw a significant moderating effect on general levels of stress, on perceived sense of burden and on lack of productivity. *JMIR Formative Research 2024*

Effects of a digital mental health intervention on perceived stress and rumination in adolescents aged 13 to 17: a randomized controlled trial

Significant improvements in perceived stress, rumination/brooding, and loneliness over 12 weeks among adolescents who engaged with a self-guided wellness intervention for adolescents, relative to a waitlist control. *JMIR 2024*

Specifying the Efficacy of Digital Therapeutic Tools for Depression and Anxiety: Retrospective, 2-Cohort, Real-World Analysis

Significant decrease in both depression and anxiety symptoms during the period of weeks 1-6 of app use, which was maintained during the period of 7-16 weeks.

Coach interaction significantly moderated the reduction in depression symptoms during the period of weeks 1-6. Breathing exercises significantly moderated the reduction in anxiety symptoms during the period of 1-6 weeks. *JMIR 2023*

Race-based differences in engagement and outcomes in a digital mental health intervention

Engagement with a self-guided digital wellness program is comparable across racial/ethnic categories, with nearly identical proportions of users who identify as White, Black, or Hispanic/Latino engaging at the optimal level. Changes in subjective well-being and anxiety over 8 weeks among users engaging at the optimal level are also comparable across race/ethnic groups. *ADAA 2023*

The burden of anxiety among a nationally representative US adult population

44% of US adults report at least mild symptoms of anxiety, though 11.5% of US adults do not recognize those symptoms. Adults with recognized and unrecognized anxiety symptoms experience significantly worse quality of life, and higher direct and indirect costs relative to those without anxiety symptoms. *Journal of Affective Disorders 2023*

The effects of a digital well-being intervention on older adults: retrospective analysis of real-world user data

24.5% improvement in subjective well-being and 25.6% improvement in anxiety symptoms among older adults (65 years or older) who engaged with a self-guided wellness intervention at the optimal level (average of 2 or more activities per week). *JMIR Aging 2022*

Using a digital approach to improving mental health in adults with self-reported psoriasis: an analysis of real-world data

Users with self-reported psoriasis who engaged with our self-guided wellness program improved subjective well-being by 26.8% and their anxiety symptoms by 26.64%, significantly greater improvements than observed among users with less engagement. *CHASM 2022*

Agreeable and conscientious, but not open-minded: breadth and intensity of users' impressions of an artificially intelligent chatbot

Users who engaged with an AI chatbot within a self-guided wellness program made more judgments, and more intense judgments, about the chatbot's agreeableness and conscientiousness, but fewest judgments about open-mindedness. Compassion and Respectfulness were subfacets that emerged as easiest to judge. *APS 2022*

Cost-effectiveness and cost-utility of a digital wellness intervention for managing depression and anxiety symptoms: a payer perspective

For payers, the self-guided wellness program, Happify, was found to be cost-effective compared to a sham control for individuals with mild to severe depressive symptoms, and cost-effectiveness improves with recommended use.
AcademyHealth 2022

Cost-Effectiveness and Cost-Utility of a Digital Wellness Intervention for Managing Depression and Anxiety Symptoms: An Employer Perspective

For employers, the self-guided wellness program, Happify, was found to be cost-effective compared to a sham control for individuals with mild to severe depression symptoms, and that cost-effectiveness improves with recommended use.
AcademyHealth 2022

Effects of a digital mental health program designed for adolescents: Preliminary results on perceived stress and brooding

Adolescents engaging with a self-guided wellness program for teens reported a 16.38% decrease in perceived stress, and a 13.03% decrease in brooding, after 4 weeks, significantly greater than changes observed in a waitlist control. *ATA 2022*

Budget impact of a digital wellness intervention for managing depression and anxiety symptoms: a payer and employer perspective

Direct cost savins for those engaging with a digital wellness intervention was $2322 higher, per person, than in a control group. At a population level, activation rate was the primary driver of cost savings. *ISPOR 2022*

Cost-utility of a digital wellness intervention for managing depression and anxiety symptoms: a payer perspective

For payers, the wellness intervention was cost-effective for improving QALYs compared to a sham control for individuals with moderate to severe depressive symptoms; cost-effectiveness improves with recommended use. *ISPOR 2022*

Cost-effectiveness of a digital wellness intervention for managing depression and anxiety symptoms: a payer perspective

For payers, the wellness intervention was cost-effective compared to a sham control for individuals with moderate to severe depressive symptoms; cost-effectiveness improves with recommended use. *ISPOR 2022*

Cost-effectiveness of a digital wellness intervention for managing depression and anxiety symptoms: an employer perspective

For employers, the wellness intervention was cost-effective compared to a sham control for individuals with moderate to severe depressive symptoms; cost-effectiveness improves with recommended use.
ISPOR 2022

Effectiveness of a Digital Behavioral Health Solution for Anxiety Symptoms

The study's results indicated that users with high or moderate levels experienced reduced anxiety during their 12 weeks of Dario App usage. *APA 2022*

Effectiveness of a Digital Behavioral Health Solution for Depression Symptoms

Users with high or moderate levels reduced their depression levels during their 12 weeks of Dario App usage. *APA 2022*

The effects of a digital mental health intervention in adults with cardiovascular disease risk factors: analysis of real-world user data

Users who self-reported diabetes, high blood pressure or cholesterol, and/or heart disease showed significant improvements in subjective well-being and anxiety symptoms after at least 6 weeks, with those completing at least 2 activities per week

showing significantly greater improvement relative to those who completed fewer activities. *SPSP 2022*

User perspectives on a digital therapeutic for major depressive disorder in multiple sclerosis patients: a qualitative study

Engagement with DTx prototype by 20 adults with Multiple Sclerosis and moderate to severe depressive symptoms exceeded the recommended level (2 activities per day), and participants perceived the program as effective, easy to use, and convenient. *AAN 2022*

The effects of a digital mental health intervention in migraine patients: a pilot study

Adults with self-reported migraines who engaged optimally with a self-guided wellness program reported significantly better outcomes relative to those with suboptimal engagement. Specifically, subjective well=being improved by 23.5%, and anxiety improved by 26%. Migraine interference also improved by 18.4%. *AAN 2022*

Assessing the effects of a digital mental health intervention in older adults with real-world user data

Older adults who engaged with a self-guided wellness program at the optimal level improved their subjective well-being by 24.5%, and anxiety symptoms by 25.6%, after a minimum of 6 weeks. These improvements were significantly greater than among older adults who engaged with the program less. *ADAA 2022*

The effects of a digital mental health intervention in adults with cardiovascular disease risk factors: analysis of real-world user data

Significantly greater improvements in subjective well-being and anxiety symptoms among users with elevated cardiovascular risk (i.e., self-reported diabetes, high blood pressure or cholesterol, or heart disease) when completing an average of 2 or more activities per week, relative to those with lower engagement. *JMIR Cardio 2021*

Engagement in digital mental health interventions: can monetary incentives help?

Pilot study showing monetary incentives may help increase the number of active days and activities completed in a self-guided wellness program. Monetary incentives also led to greater improvements in subjective well-being as a function of increasing the consistency of a user's engagement. *Frontiers in Psychology 2021*

Artificially intelligent chatbots in digital mental health interventions: a review

Review of evidence for AI chatbots in digital mental health interventions.
Participants who engaged with a self-guided wellness program (Happify) wrote more words, and about content more directly relevant to the intervention activities, when activities were delivered by an AI chatbot than fully self-guided activities. *Expert Review of Medical Devices 2021*

The impact of a digital intervention (Happify) on loneliness during COVID-19: qualitative focus group

Qualitative study; participants showed evidence of learning and incorporating Happify skills, and found gratitude and mindfulness particularly useful. Participants described Happify activities as helpful for addressing loneliness, and some found using the platform a good distraction from their loneliness in and of itself. *JMIR Mental Health 2021*

The economic burden of depression with concurrent anxiety in a general population of US adults

Depression with concurrent anxiety is associated with increases in direct and indirect costs. *ISPOR Europe 2021*

The economic burden of anxiety with concurrent depression in a general population of US adults

Anxiety with concurrent depression is associated with increases in direct and indirect costs. In a population of 1 million people, reducing the prevalence of depressive symptoms by 1% could reduce total direct costs by over $5 million, and total indirect costs by nearly $10 million. *ISPOR Europe 2021*

The effects of a digital well-being intervention on patients with chronic conditions: observational study

Similar rates of improvement in subjective well-being among users with and without chronic conditions, though users with at least one self-reported chronic condition have lower levels of well-being overall. Greater improvements are observed among users who complete more activities and who engage for a longer period of time. *JMIR 2020*

Positive psychological interventions (PPIs) in the age of COVID-19: on the potential impact of digital PPIs on loneliness

Editorial referencing pilot study showing a trend that lonely people who complete more than average activities in a self-guided wellness program show significantly greater improvements in loneliness over 8 weeks compared to those engaging at below average levels. *Journal of Positive Psychology 2020*

Effect of brief biofeedback via a smartphone app on stress recovery: a randomized experimental study

Engaging Breather, a heart rate variability biofeedback activity, following an acute stressor led to significantly greater reductions in salivary alpha amylase relative to participants who could engage with their smartphone – but not the activity – or those without access to their smartphone. *JMIR Serious Games 2019*

Testing a scalable web and smartphone based intervention to improve depression, anxiety, and resilience: a randomized controlled trial

Significantly greater improvements in depression symptoms, anxiety symptoms, and resilience after 8 weeks among users who engaged with a self-guided wellness program at the optimal level (2+ activities per week) relative to those with lower levels of engagement, or those assigned to a placebo control. *International Journal of Wellbeing 2018*

Improving resilience among employees high in depression, anxiety, and workplace distress

Significant improvements in resilience after 8 weeks among employees with high levels of emotional distress (25%) or workplace distress (21%) when engaging at the optimal level, significantly greater than improvements among employees who engaged with the intervention less, or who were assigned to a placebo control. *International Journal of Management Research 2018*

Reduction in Depression and Anxiety Levels in Individuals Using Dario Behavioral Health Program

Users of the Dario Behavioral health platform improved their Depression and Anxiety levels significantly. *Internal DarioHealth Study*

Reducing Depression and Anxiety and Productivity levels in individuals using Dario behavioral health program

Dario members who used the platform for 6 months improved their depression symptoms by 59% and Anxiety symptoms by 48%. *The University of North Carolina at Chapel Hill*

Seeing the "big" picture: big data methods for exploring relationships between usage, language, and outcome in internet intervention data

27% increase in positive emotionality over an 8-week period among users of a self-guided wellness program, with greater improvements on weeks when they engaged more with the platform relative to weeks with no engagement. *JMIR 2016*

KEY FINDINGS: BEHAVIORAL HEALTH

26%

reduction in depression and anxiety symptoms over an 8 week period

20%

of users high in workplace distress improved resilience

24.5%

improvement in subjective well-being in older adults optimally engaged in a digital program

Musculoskeletal (MSK) Studies

Effects of digital personalization on pain management with adapted machine learning

Strong improvement of pain during the first 3 weeks of the training with sustained results throughout the remainder of the study. *PAIN reports International Association for the Study of Pain, 2023*

The two-stage therapeutic effect of posture biofeedback training on back pain

Users experienced an average 50% reduction in pain. *Frontiers in Physiology, 2022*

Pain level reduction mediated by perceived posture quality and training duration in patients using digital therapeutic biofeedback technology

Posture biofeedback training duration was significantly associated with pain levels.
Research performed in collaboration with University of Haifa, International Association for the Study of Pain (IASP)

Effect of posture feedback training on health

Users of a posture training device reported 29% combined RAND-SF score improvement.
San Francisco University, 2020

Staying Upright in Parkinson's disease: a novel postural intervention

Posture training led to significant improvement in neck posture and a reduction in maximal neck flexion angles during sitting.
Oregon Health and Science University, 2019

The influence of a biofeedback "Upright Go" on the posture and pain of employees working on a screen

Employees working at a screen reported a 2X improvement in extensor muscle endurance.
(Sorensen test) Haute Ecole Robert Schuman, 2019

Effects of the Dario MSK posture training program on spinal angles and self-esteem

Posture training resulted in a 16% improvement in seated thoracic spine angles.
Texas Tech University, 2018

KEY FINDINGS: MUSCULOSKELETAL HEALTH

PAIN

50%

pain level reduction in users with baseline pain level >6

SPINE HEALTH

16%

improvement in seated thoracic spinal angle

OVERALL HEALTH

29%

improvement in RAND SF health survey

PARKINSON'S DISEASE

38%

reduction in maximal neck flexion