

From Data to Outcomes: Digital Health & the Role of the Healthcare Provider

Malinda M Peeples, Mansur Shomali, Vinayak Shenoy, and Anand K Iyer
WellDoc, Inc. Columbia, MD

Introduction

Digital health tools should not only be effective in clinical trials, but should be implemented and integrated into the healthcare ecosystem without adding undue burden for patients and the care team. In fact, the implementation process is critical for activating users and promoting appropriate engagement with the system, thus leading to desired outcomes.

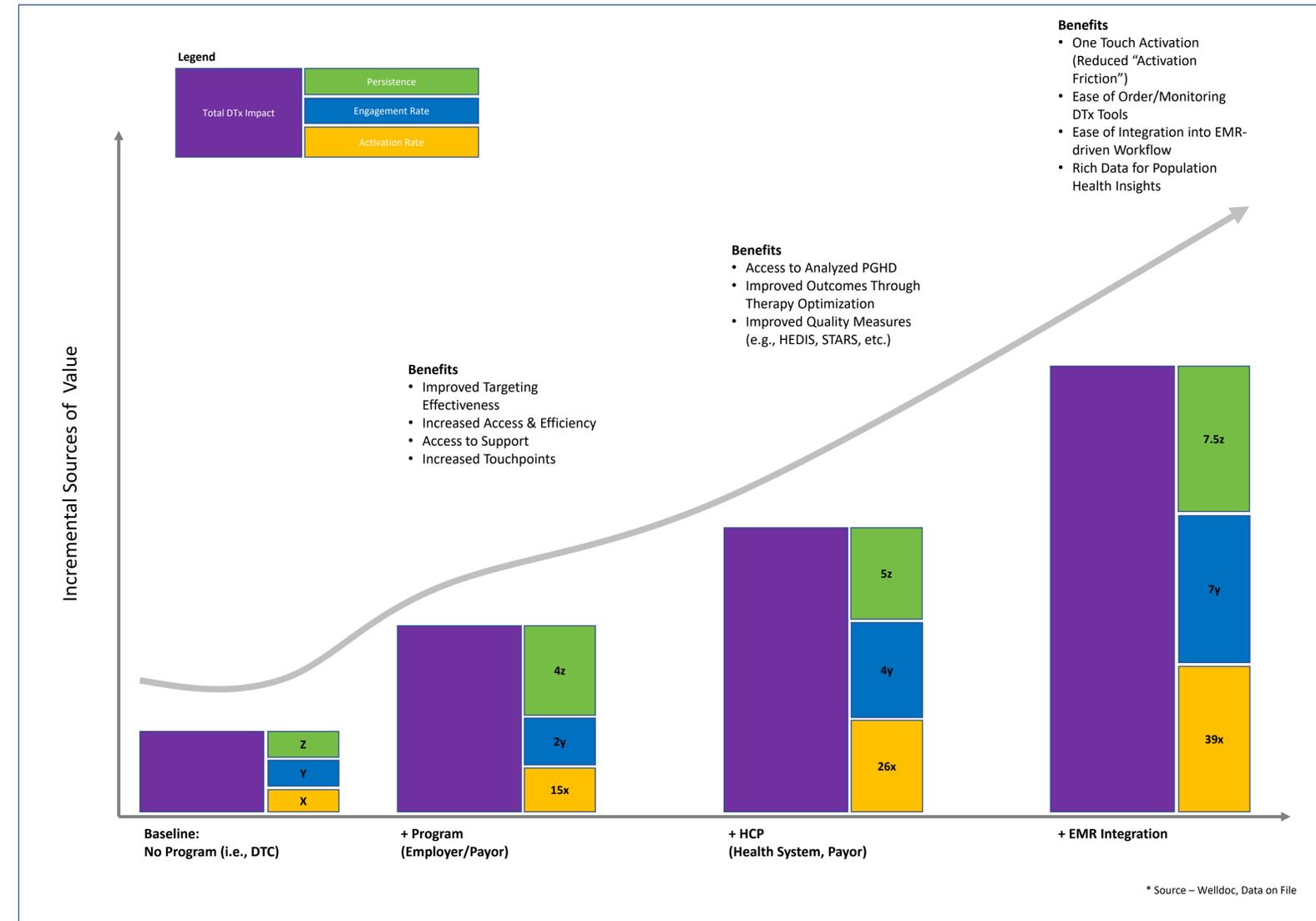
BlueStar® is a scalable digital health solution for people aged 18 and older with type 1 or type 2 diabetes. It offers precision feedback driven by artificial intelligence (AI) and is FDA-cleared (WellDoc, Inc., Columbia, MD)¹. BlueStar is comprised of a highly sophisticated platform that coaches patients based on their providers' specific treatment plan and sends clinical decision support to the providers using the user-generated health data. BlueStar has been implemented in integrated health systems, through employer-based programs, and with health plans. In each model, the people with diabetes (PWD) could share their BlueStar data with their healthcare providers (specialty and primary care clinicians, care managers, diabetes educators, pharmacists). The level of involvement of the HCPs varied with the different implementations and we wanted to understand how this impacted patient activation and engagement.

Methods

For this analysis we used the Digital Health Engagement Chain² as a framework to assess each of the implementation approaches. We evaluated the target population, the outreach modalities, activation rate for each type of implementation: direct to consumer, a program approach, a healthcare provider (HCP) direct to patient, and a HCP via a electronic medical record (EMR) integration. After the PWD starting using BlueStar, the users were evaluated for initial engagement and ongoing engagement or persistence. Ongoing support activities such as automated product-based messaging and people strategies, including level of HCP involvement were also assessed for each approach. The user data was collected electronically and de-identified according to WellDoc data policies.



Results



“Incremental Effect” on Digital Health Engagement Chain by Implementation Type

Conclusions

Digital health solutions are being adopted by consumers at a rapid pace regardless of whether they are made available from their employer, health plan, or healthcare provider. We evaluated the level of patient engagement with each approach. For this chronic disease digital health solution, we determined that the engagement increased with direct healthcare provider involvement. These solutions provide user-generated data that can provide additional information to inform clinicians and can provide alternatives to face-to-face visits, or phone outreach. However, this must be done with minimum impact on the workflow.

The maximum value (patient and provider outcomes) is greatest when a digital health solution is implemented through a program that involves the healthcare provider and is integrated easily into their electronic medical record (EMR) workflow. However, incremental value can be achieved through a phased approach to the implementation of digital solutions in practice for both patients and providers. This allows the clinicians to understand what value the digital solutions bring for access and scale for their patients and practice. This experience prepares the HCP to be a key stakeholder in the technical integration of the digital solutions into the EMR – a necessary activity to realize the full value of digital health solutions.

In summary, EMR integrated digital solutions have a high value impact on the Digital Health Outcomes Continuum - Initial Engagement (Activation) → Ongoing Engagement (Persistence) → Clinical & Cost Outcomes.

References

1. Quinn C, Shardell M, Terrin M, et al. Cluster-Randomized Trial of a Mobile Phone Personalized Behavioral Intervention for Blood Glucose Control. *Diabetes Care*. 2011. 34:1934-1942.
2. Shomali, M, MacLeod, J., Peeples, M The Implementation Strategy for Digital Health Tool Influences User Engagement, poster, ADA 2018, Orlando.

