Demonstrating the financial case for **Digital Therapeutics**

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Diabetes is a major chronic disease in the United States. With over 23 million diagnosed diabetes patients in the country, this population continues to grow rapidly. The annual cost of diabetes in the United States has increased from $254 billion in 2012 to $327 billion in 2017.

Accounting for Impact

In order to account for the many factors and complications typical to a patient's life with diabetes – lengthy waits between appointments or co-morbid conditions such as depression or obesity, to name a few – digital therapeutic products such as BlueStar have been developed. BlueStar, WellDoc's FDA-cleared digital therapeutic for type 2 diabetes, has demonstrated measured reduction in A1c values through published Randomized Control Trials (RCT) and real-world studies.

Historically, it has been difficult to measure the financial impacts associated with clinical improvements in diabetes care. To directly address this issue, WellDoc introduced a novel method to estimate the financial impact that results from a clinical reduction in A1c.

By utilizing a large, administrative claims database for a real-world segment of type 2 diabetes patients, WellDoc assessed the outcomes of a cohort of over 3,000 active BlueStar patients. They tracked patients' A1c levels when they were first on-boarded with BlueStar and compared them to the fractional A1c reductions that were achieved in a 12-month period. IBM Watson Health took this data and mapped it into a database that contains annual, adjudicated claims data. IBM Watson Health determined that costs ranged from $10,601 to $19,980 per patient per year, with lower costs corresponding to lower A1c bands and higher costs with higher A1c bands.

Results

By applying the impact of BlueStar's A1c bending effect – as observed in real-world clinical data – to IBM Watson Health's calculations of cost per A1c band, WellDoc was able to estimate the following average annual, per patient cost savings.

Commercial sector:

- $1,824 for all patients with starting A1c > 7%
- $3,252 for all patients with starting A1c > 8%
- $5,244 for those patients with starting A1c > 9%

Medicare sector:

- $1,392 for all patients with starting A1c > 7%
- $3,048 for all patients with starting A1c > 8%
- $3,672 for those patients with starting A1c > 9%

Case study provided on behalf of WellDoc

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Real Word Application

By applying these principles to real world settings, there is clearly a tremendous opportunity to reduce the total cost of diabetes, particularly for those patients whose diabetes remains uncontrolled (A1c >7%) and costly, even under physician care.

Ultimately, payers – insurers and self-insured employers – as well as health systems that are accountable for care delivery in capitated models, hold responsibility for cost efficiencies and need to understand the breadth of impact of digital therapeutics.

When properly deployed, DTx products have the ability to significantly reduce costs per patient within their first year of use – as is the case with BlueStar. Participants in the broader ecosystem – healthcare providers, EMR vendors, pharmacies, and others – must also understand this process of financial modeling as it creates fertile ground for value-based partnerships and demonstrates the impact of digital therapeutics beyond baseline clinical measures.

Digital therapeutics have the unique opportunity to offer promise alongside drugs and other treatment modalities to improve patient self-engagement, adherence to therapy, and health economic outcomes.

For more information on BlueStar® by WellDoc, visit: www.dtxalliance.org/productbluestar