

## **Flipping the Script: A Buyers' Perspective on the Value of Data**

Jennifer Webster (Pfizer), Beverly Buckta (Pfizer), Richard Urena (Pfizer), Joseph Donaldson (Pfizer)

We live in the age of big data. By 2030, the market for commercialized data from Health IT will be larger than the market for the Health IT products themselves (\$45.1B vs \$38.5B) 1, 2. Increasingly companies list data as an asset and base entire business models around the possibility of commercializing that data. However, there are no standard methods for determining the actual value of that data to the stakeholders in the health care system.

Often, the term “Health Value” or “Value-Based Assessment” is used, but what does that mean? Mostly, it may be a matter of perspective. In healthcare, we can consider value from the standpoint of several personas including patients, healthcare providers, administrators, pharma companies and payers. Regardless of persona the healthcare definition of value is commonly defined to be (value = [efficacy - toxicity / cost]). This is in contrast with the supplier perspective that the valuation of big data is based on what it costs to generate, acquire, process, analyze and visualize the data along with the market value of commercializing both the data itself and it’s insights 3. From the buyers’ perspective, we will introduce a framework for establishing those market values.

Many articles discuss how to determine the value of data from the supplier’s point of view. Some articles<sup>1</sup> dive into ways to monetize your data when targeting external entities. Other articles<sup>2</sup> focus more on a business’s ability to get value out of the data they produce at scale. Our goal in this article is to flip the script by focusing on the buyers’ perspective on the value of data.

One element that needs focus, especially in health care, is data quality. Just as six-sigma led to differentiation of physical products in the manufacturing industry by quality, data and insights generated using high quality data have a competitive advantage and a higher value. Recalling our definition of value (value = [efficacy - toxicity / cost]), you see that there is balance between efficacy (how well something works), toxicity (the unintended consequences), and cost. The efficacy of a data element or a dataset is captured in what we can do with it. The toxicity of data is something that is often overlooked; it is the ability for your data to not only act with low value but to act in ways that may produce negative value. The toxicity of data can be driven by obvious attributes such as low quality, poor user experience, ambiguity, and is even amplified by the risk of privacy concerns, unintentional identification, and data breaches. The cost of data can include elements such as the storage, retrieval, acquisition of the data itself, not to mention the cost associated with the analysis of the data. In addition, there are sporadic one-time costs including the cost to mitigate regulatory changes (GPDR, PIPL, etc).

Standards and interoperability gained increasing focus when the Office of the National Coordinator (ONC) first introduced meaningful use (MU), which defined a common set of data elements that needed to be included in all certified EHRs. This standard has evolved over time into a national standard for interoperability of all actionable health information. Interoperability is an essential part of health care activities ranging from day-to-day health care delivery to health equity to public health emergency response. When first introduced, there was general agreement that data quality deserved more focus in terms of valuation 4. Although there is ongoing work in the testing and use of FHIR-based Quality Measures for use in Quality Measurement programs, including CMS, Merit-based Incentive Payment System (MIPS), Gaps in Care (GIC) and Clinical Decision Support (CDS) use cases, there is benefit in agreeing on standard value definitions.

In this analysis, we will apply this healthcare centric data value model from the perspective of 3 personas: patient, provider, and pharma. Through this lens, we hope to develop a data value framework that allows us to efficiently improve the value of our existing and future data assets and demystify the economic landscape present in the industry. We will also use this model to estimate the impact of data standards on value and use those estimates to drive awareness of standards in the industry. This is particularly timely as more machine learning (ML) and artificial intelligence (AI) capabilities make their way into healthcare and can have layering effects of the adage “junk in, junk out”.

1. Ondřej Kulhánek “The five rules of data monetization.” KPMG, 1 May 2019, <https://home.kpmg/xx/en/home/insights/2019/04/the-five-rules-of-data-monetization.html>. Accessed 24 Jan. 2023.
2. Market Analysis Report, Electronic Health Records Market Size, Share & Trends Analysis Report By Product (Client-server-based, Web-based), By Type (Acute, Ambulatory, Post-acute), By End- use, By Business Models, By Region, And Segment Forecasts, 2022 – 2030, Range 2017-2020.
3. Abou Zakaria Faroukhi , Imane El Alaoui , Youssef Gahi , and Aouatif Amine, An Adaptable Big Data Value Chain Framework for End-to-End Big Data Monetization; Big Data and Cognitive Computing, Nov 2020.
4. Powell, K., & Alexander, G. (2019). Mitigating barriers to interoperability in health care: OJNI. On - Line Journal of Nursing Informatics, 23(2) Retrieved from <https://www.proquest.com/scholarly-journals/mitigating-barriers-interoperability-health-care/docview/2268058152/se-2>