

# Value-Based Insurance Design: Benefits Beyond Cost and Utilization

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A decade ago, the concept of value-based insurance design (VBID) was conceived, based on the principle of aligning the clinical value of care for patients with consumer financial incentives, such as co-payments and co-insurance.<sup>1</sup> In the VBID paradigm, high-value, evidence-based services have lower cost-sharing levels, and low-value services have higher cost-sharing levels.<sup>1</sup>

In the years since its inception, various payers, firms, and government entities have implemented VBID programs.<sup>2</sup> For example, VBID has been incorporated into the Affordable Care Act via co-payment waivers for certain preventive services<sup>3</sup> endorsed by the Medicare Payment Advisory Council in reports to Congress as an approach to improve value,<sup>4,5</sup> and has been examined in the Institute of Medicine's report to the secretary of Health and Human Services on essential health benefits.<sup>6</sup> VBID principles are also growing in prominence: a survey of large firms revealed 81% were planning to incorporate VBID into their benefits packages in the future.<sup>7</sup>

## Measuring the Impact of VBID Programs: A Spectrum of Dividends

As VBID programs proliferate, evidence is emerging on their impact. To date, studies have largely measured impact on utilization and a few have included quality, outcomes, and cost.<sup>8</sup> Here, we discuss these domains as well as our belief that the effects are likely to extend into related areas including work productivity, quality of life, engagement, and talent.

Several VBID evaluations have focused on measuring the effects of VBID on *healthcare utilization*, which includes medication adherence, guideline adherence, and medical care utilization.<sup>8</sup> These studies focus on the central mechanism of VBID: the price to the consumer. In response to a change in price, utilization of these services is likely to change. Measuring the impact on utilization is essential as it provides information on the central question surrounding the effectiveness of the VBID program: is the core principle of the program working as intended?

## ABSTRACT

As value-based insurance design (VBID) programs proliferate, evidence is emerging on the impact of VBID. To date, studies have largely measured VBID impact on utilization, and a few studies have assessed its impact on quality, outcomes, and cost. In this commentary we discuss these domains, summarize evidence, and propose the extension of measurement of VBID impact into areas including workplace productivity and quality of life, employee and patient engagement, and talent attraction and retention. We contend that VBID evaluations should consider a broad variety of programmatic dividends on both humanistic and health-related outcomes.

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A 2013 review found that VBID programs were associated with a 3% increase in medication adherence on average,<sup>8</sup> and a more recent study reported similar findings from a VBID program implemented within a large health plan, showing a 2.7% to 3.4% increase in adherence.<sup>9</sup> Two VBID studies analyzed medical service utilization, with the first study reporting a significant first year decrease in emergency department (ED) visits and physician office visits for patients in a diabetes VBID, and in the second year patients with diabetes experienced a significant decrease in ED visits.<sup>10</sup> Hospital admissions were unchanged in the first and second years. The second study reported reductions in ED visits, hospitalizations, and physician office visits for users of certain medications included in the VBID program.<sup>11</sup>

Few studies have extended measurement of VBID effects to include *healthcare quality* and *outcomes*, incorporating clinical measures such as patient laboratory values, complications, and mortality into a VBID assessment.<sup>12</sup> This approach focuses on outcomes of care and the quality measures most likely to be affected by utilization of VBID services. For example, reduced cost sharing for diabetes medications has been shown to increase adherence,<sup>13-15</sup> and based on empirical evidence, patients with higher levels of adherence can experience better outcomes, including complication rates (eg, heart attack, stroke). Improvements to the process of care and to management of care could be ascertained through changes in quality measures related to high-value services, such as the Healthcare Effectiveness Data and Information Set measure assessing persistence of beta-blocker treatment after a heart attack.

In terms of evidence, a randomized VBID intervention waiving co-payments for preventive medications after heart attack (the “Post-Myocardial Infarction Free Rx Event and Economic Evaluation” [MI FREEE] trial) reported a decline in total major vascular events and revascularizations, as well as in the rate of occurrence

### Take-Away Points

Value-based insurance design (VBID) evaluations should consider a broad variety of both humanistic and health-related outcomes.

- Previous studies have explored the impact of VBID on utilization, and a few have included healthcare quality and outcomes.
- Additional domains of benefit include workplace productivity and quality of life, employee and patient engagement, and talent attraction and retention.

of initial major vascular events.<sup>12</sup> A secondary analysis from the MI FREEE trial also found a reduction in disparities in outcomes of care.<sup>16</sup> For subjects identifying as nonwhite, the co-payment waiver was associated with reductions in rates of revascularization and major vascular events, although not among subjects identifying as white. In addition, a prepost study of a combined pharmacist intervention model with a VBID diabetes medication co-payment waiver showed a 17 percentage point increase in patients with a glycated hemoglobin value of  $\leq 7.0$ ; however, the study was uncontrolled.<sup>17</sup>

A few studies have focused on *cost impact* based on changes in direct medical spending.<sup>8</sup> In general, measurement of the economic impact is not straightforward and can vary depending on the perspective adopted (eg, patient, health plan, employer) and the extent of measurement (eg, direct medical costs, indirect costs, program costs). For example, if co-payments are lowered for high-value medications, then direct medical spending on these medications will decrease for the consumer. In contrast, the health plan is likely to experience higher direct spending on these medications due to higher payment rates and higher rates of utilization. At the same time, direct medical spending by the health plan could be reduced by short- or long-term savings in medical spending from any cost offsets resulting from lower complication rates. Additional programmatic costs to design and implement the VBID are likely to be incurred, as well as potential savings in indirect costs from changes in work productivity. Evidence to date shows that VBID programs are associated with a reduction in patient out-of-pocket costs for VBID

■ **Figure. Spectrum of Dividends**



services. Notably, existing VBID programs have not been associated with changes in total medical spending.<sup>8,9,12</sup>

The association between VBID and *work productivity* or *quality of life* is a natural extension due to the close ties among health, productivity, and functional status; because VBID is health-enhancing, work productivity in participants is likely to improve. For example, improved adherence to medications to treat diabetes, hypertension, hyperlipidemia, asthma, and chronic obstructive pulmonary disease has been associated with improvements in work productivity.<sup>18</sup> The theoretical relationship between VBID and productivity has been well addressed,<sup>19,20</sup> although empirical verification has not yet occurred.

Also unexplored are the effects of VBID programs on patient *engagement* in health and wellness. Engaged employees are marked by characteristics such as commitment, vigor, dedication, and absorption.<sup>21</sup> Engagement in work and in one's own health has been linked to better health outcomes because engaged employees are more likely to have better health outcomes and more importantly, better experiences with care provision.<sup>22</sup> It remains to be proven that when, for example, price incentives are applied to high-value services (eg, adherence to a regimen of care for a chronic condition), a patient utilizes more of these specific services and becomes more actively engaged in health management and wellness. In response to VBID, patients may gather relevant information, including data about their own health status (eg, biometric measures), health conditions, and appropriate treatments and actions. We contend that patients who are well informed and participate in their care in coordination with their provider are more likely to stay abreast of treatments that are considered high value or evidence-based, and are more likely to improve or maintain health.<sup>23-26</sup> These patients are more likely to exhibit high health literacy, healthy behaviors, and greater productivity.

A final unexplored dimension of benefit of VBID for workplace programs is the impact on a firm's *talent*. Offering enhanced or individualized benefits could improve recruitment or retention, as employees or their family members receive a package of benefits aligned with their needs.<sup>27</sup> However, this approach could also result in selection effects, as good potential employees might not choose to work at a firm with non-VBID plans. In addition, emphasizing the corporate value of health and wellness may also serve to attract and retain employees who place a great deal of value on health and wellness.<sup>28</sup>

### Additional Initiatives to Improve VBID Effects

VBID is not intended as a stand-alone lever to pro-

duce positive effects; it can be used in synergy with other initiatives such as wellness programs,<sup>29</sup> integrated health systems, and health information technology to enhance results. These activities may also include regular information-gathering from biometric screenings, assessment of results from health risk appraisals, and discussions of health risks and disease state(s) from well-structured patient-provider interactions.<sup>26</sup> At a minimum, these services could be used to identify diseases and risks to create an individualized list of high- and low-value services. For example, a patient with undiagnosed high blood pressure is not likely to respond to VBID financial incentives for treatment of hypertension. A likely responder is a well-informed, engaged hypertensive patient with a benefit program designed to provide information about blood pressure readings, cardiovascular risks, a medication management plan, a program of lifestyle change, and frequent interactions with care providers.

### Next Steps

We provide this overarching framework to capture the *spectrum of benefits* that may result from VBID programs, extending beyond utilization and outcomes to positive impacts on work productivity, employee engagement, and talent management. VBID evaluations should consider a broad variety of programmatic dividends on humanistic as well as health-related outcomes.

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