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DIGITAL AFFECT ABILITY

THERAPEUTIC LENS ON VALUE

LIFE SCIENCES

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for better patient outcomes

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QUANTIFYING THE ECONOMIC IMPACT OF

DIGITAL HEALTH ASSETS

Leading health ecosystem participants are applying a new approach to assessing the "affectability" or dollar value of the economic potential of digital health assets[1] on the prevention/early diagnosis, intervention and monitoring of specific therapeutic areas (TAs). By examining how digital assets can affect or influence value through a healthcare system and therapeutic lens, they make more strategic investment decisions that help improve patient outcomes, business performance and competitive advantage.

HELP FOR THE NEAR SIGHTED

Most of life sciences companies' digital investments (52 percent) are aimed at improving internal efficiencies.[2] Such investments are important. But they typically address near-term opportunities that are not aligned to a true value-creation strategy. To deliver a strong ecosystem impact, these investments must focus on reducing disease cost burdens associated with specific TAs. Further, they need to introduce new, differentiated business models that can revolutionize R&D productivity, clinical development, patient care and health outcomes in more economically viable ways than ever before.[3]

Historically, manufacturers involved in the healthcare ecosystem—from pharmaceutical, biotech and medical device manufacturers and distributors, to health and diagnostic service providers, and even venture capitalists looking to fund the next health breakthrough—have not had an effective way to measure the affectability of digital assets on patient outcomes or disease cost burdens. Instead, they've focused on internal measures of performance and based their digital investment decisions on hunches or industry benchmarks and other lagging indicators. Companies using these internal measures might keep up with their industry peers, but they miss out on the digital investment opportunities that will deliver meaningful returns—for patients, as well as the business.

There is a better way. An approach that quantifies the economic impact of digital assets within the health system enables life sciences companies to estimate the dollar value of digital assets in specific therapeutic areas across three dimensions of the patient journey: prevention/early diagnosis, intervention and monitoring. By assessing digital opportunities and avoidable costs through a TA lens (rather than an operational lens), they can identify hidden pockets of value they have likely overlooked. With these insights, they can define a value-creation strategy, based on a differentiated portfolio of digital assets.

US POPULATION AFFLICTED IN 2016[4]

DIABETES
38,260,665

CONGESTIVE HEART FAILURE
6,325,226

ALZHEIMER'S DISEASE
5,400,000

HIV
1,329,913

BREAST CANCER
3,369,114

MULTIPLE MYELOMA
148,728

WHERE IS THE TRUE POTENTIAL OF DIGITAL?

Accenture Strategy applied the new approach to analyze digital's impact on six therapeutic areas. Our results revealed a $108 billion long-term economic value opportunity (see Figure 1).[5] In addition, we created a more conservative, risk-adjusted estimate based on the demonstrated maturity of the asset (similar to a traditional therapeutic in development). Asset risk was categorized as low, medium or high based on level of proof of concept, study, and demonstrated maturity of the asset. Even when adjusted for risk, there is a $60 billion economic value opportunity. That translates to $49,866 per patient and $24,184 per patient when adjusting for risk.

Our analysis found that the greatest opportunities vary dramatically across both the therapeutic areas, as well as the stage of the journey within each therapeutic area.

In addition to analyzing digital's potential economic affectability on total disease costs, our analysis determined the relative economic impact across prevention/early diagnosis, intervention and monitoring.

ACCENTURE DIGITAL POTENTIAL ANALYSIS

A research methodology that uses quantitative analyses to determine the dollar value of the economic potential (affectability) of a digital asset within specific disease states or therapeutic areas and across phases of prevention/early diagnosis, intervention and monitoring. This analysis, calculated against current US health system costs, provides a new way for life sciences companies to understand the potential value of their investments in digital assets and healthcare technologies.

FIGURE 1.

ACCENTURE DIGITAL POTENTIAL ANALYSIS

Total Economic Potential and Risk-Adjusted Impact in Six Therapeutic Areas (Diabetes, Congestive Heart Failure, Alzheimer's Disease, HIV, Breast Cancer, Multiple Myeloma) and Across the Patient Journey

	Diabetes	Congestive Heart Failure	Alzheimer's Disease	HIV	Breast Cancer	Multiple Myeloma
Number of People in US population with disease in 2016	38,260,665	6,325,226	5,400,000	1,329,913	3,369,487	148,728
Total Potential Upside Economic Impact	$42B	$24B	$19B	$9.7B	$7.5B	$4.7B
Risk-Adjusted Economic Impact	$30.3B	$13.6B	$6.2B	$4.8B	$2.8B	$2.3B
Risk-Adjusted, Prevention/ Early Diagnosis	$1.3B (4.4%)	$800M (5.9%)	$3.1B (49.9%)	$510M (10.7%)	$110M (3.9%)	$340M (15.0%)
Risk-Adjusted, Intervention	$24.7B (81.5%)	$8.2B (60.2%)	$2.4B (39.3%)	$4.2B (87.4%)	$950M (34.0%)	$1.2B (51.7%)
Risk-Adjusted, Monitoring	$4.2B (14.0%)	$4.6B (33.9%)	$670M (10.8%)	$95M (2.0%)	$1.7B (62.1%)	$750M (33.4%)
Total Value Per Patient (PP)	$1,098	$3,852	$3,519	$7,294	$2,226	$31,601
Risk-Adjusted Value PP	$792	$2,144	$1,148	$3,609	$831	$15,464

Interestingly, **80 PERCENT** of digital asset investments we studied focus on intervention and monitoring. While that approach may be appropriate for many therapeutic areas, it will not work as a general rule. For example, our analysis of Alzheimer's disease found that **50 PERCENT** of the total risk-adjusted digital opportunity lies in early diagnosis. In other therapeutic areas, however, investments in prevention/early diagnosis represent just a small fraction of the risk-adjusted digital value. That's because it's been difficult to demonstrate robust clinical outcomes in prevention/early diagnosis or progression in meaningful ways that address the objectives of stakeholders across the health system.

Clearly, investment risks will differ by therapeutic area. Our analyses suggest that applying digital assets to large-population, chronic diseases such as diabetes comes with relatively little risk because investments can focus on strengthening proven methods of prevention/early diagnosis, intervention and monitoring. By contrast, digital assets for Alzheimer's disease and breast cancer are not as mature. Companies targeting these TAs will find it more challenging to generate optimal returns, since these conditions call for investments in new and innovative solutions.

Additionally, we've found that the highest-impact digital opportunities often lie outside the chronic, high-prevalence diseases that receive the most investment attention. Our analyses showed that **50 PERCENT** of system costs can be prevented by targeting investments to rarer, specialized disease states with lower prevalence. That may come as a big surprise to companies that have routinely assumed that focusing on solutions tailored to the largest diseases will generate the greatest returns.

Of course, prevalent disease states also hold ***DIGITAL OPPORTUNITY.***

But within prevalent disease states, too, the opportunity does not lie where many life sciences companies might think. The real potential exists in digital assets that can be applied to multiple therapeutic areas. For example, in the area of HIV, more than **75 PERCENT** of digital's impact is driven by assets that can be applied to multiple TAs. In the area of congestive heart failure, approximately **$2 BILLION** in annual costs can be avoided by applying digital assets originally intended for diabetes, atrial fibrillation and hypertension. The case for applying a portfolio lens to chronic disease investments could hardly be stronger.

FINDING YOUR HIDDEN POCKETS OF DIGITAL VALUE

A Digital Potential Analysis allows life sciences companies to see the economic affectability of digital assets within specific TAs across the patient journey. The therapeutic lens expands these companies' perspectives and opens up new investment opportunities. To capture the greatest value from their digital assets, life sciences companies must:

1. **MAKE DIGITAL ASSET INVESTMENT A C-SUITE IMPERATIVE.** Because digital health assets can lead to new revenue streams and business models, companies should manage them as they would manage core therapeutics. This means moving the digital agenda to a business unit with P&L responsibility. Once CEOs embrace this imperative, new opportunities emerge for chief medical officers, chief digital officers and extended medical teams to coalesce around common objectives. These players will be elevated to more strategic roles, with greater impact and accountability.

2. IMPLEMENT A DIGITAL PORTFOLIO INVESTMENT APPROACH. A Digital Potential Analysis enables companies to identify the affectability of digital assets on specific TAs, across the patient journey. Whether they invest in large, prevalent therapeutic areas or within targeted and rare disease states, companies should apply this cross-disease value calculation to scale investments, reduce disease cost burdens and address unmet needs.

3. BUILD DIGITAL ECONOMIC ECOSYSTEMS. The opportunities for health system players to seize digital value are even more significant if they work together. Pharmaceutical companies, biotechs and medical device manufacturers can take the lead in creating digital ecosystems that drive economic returns and improve patient outcomes. Leaders must understand the economic cost curves associated with healthcare technologies, as well as the objectives and risk appetites of other players, to deliver solutions that produce the desired near-term outcomes. They must also manage ecosystems effectively and determine how to appropriately split economic returns across stakeholders.

4. EMBED DIGITAL COLLABORATIONS AS A STRATEGIC CAPABILITY. Chief digital officers, chief marketing officers, chief medical officers and others in leadership roles need to be able to work closely with multiple external organizations simultaneously to incubate digital technologies and address key concerns such as infrastructure/platforms, commercial constructs and regulatory issues. Portfolio strategies of life sciences leaders will increasingly include M&As, collaborations or alliances with other players in the larger health system, including venture capital firms, incubators and smaller digital health firms. Effectively managing these new types of internal and external relationships will be key. This may require new leadership models and ecosystem-management roles.

BROADEN YOUR VIEW NARROW YOUR FOCUS

Life sciences companies have proved that digital can boost organizational efficiencies. It's now time to let digital do more.

Understanding the economic value potential of digital assets in distinct therapeutic areas and across the patient journey paves the way for the development of products, services and solutions that will optimize returns—for patients, as well as the business. Look through the therapeutic lens and see where the best economic and patient opportunities lie.

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NOTES

[1] Accenture Strategy defines a therapeutic digital asset as a current, actively tested or proven health technology, analytics solution, or digital, social media, or mobile device or service that can be used to improve system efficiencies or the delivery of therapies, patient care or health outcomes. We included digital assets in our analysis if they impact the patient disease journey through prevention/early diagnosis, intervention, or monitoring and thus impact the economic cost of a given disease state.

[2] World Economic Forum (in collaboration with Accenture), Digital Transformation of Industries: Healthcare, January 2016.

[3] Jeff Elton and Anne O'Riordan, Healthcare Disrupted: Next Generation Business Models and Strategies, Wiley, 2016.

[4] Alzheimer's Association, 2016 Alzheimer's Disease Facts and Figures; Accenture Strategy analyses, 2016.

[5] Accenture Strategy analysis.

ABOUT THE RESEARCH

Accenture Strategy conducted a Digital Potential Analysis in 2016 to assess (and quantify) the economic impact digital assets and healthcare technologies could have across the patient journey in six therapeutic areas: Alzheimer's disease, breast cancer, congestive heart failure, diabetes, human immunodeficiency virus and multiple myeloma. The analysis revealed the impact these technologies could have on addressable health system costs in the United States. Results were presented as the actual value, in dollars, of cost reduction in each disease state across the phases of prevention/early diagnosis, intervention and monitoring.

ABOUT ACCENTURE

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