The missing piece

How EY’s Health Outcomes Platform can create “triple wins” through outcomes-based contracting
Executive summary

In our previous paper *Passing fad or game-changer?*, we explored the potential for outcomes-based contracting (OBC). Executives around the health ecosystem understand that moving to new value-based models of care delivery requires a common vision that links reimbursement not to product utilization but to actual improvements in health outcomes. The use of OBC is an important step in the transition to value-based care and to deepening relationships between life sciences companies and other health stakeholders, especially payers and providers. Yet, while there is a great deal of talk about the importance of OBCs, they are not being used at scale. That’s primarily because no one organization has all the capabilities – or the data – to construct an outcomes-based contract on its own.

In this paper, we take a closer look at what is required to make outcomes-based contracts a reality. Key activities include creating, managing and assessing OBCs in a transparent, secure and scalable way. We believe EY’s Health Outcomes Platform (HOP), an industry platform designed to help remove the complexity, cost and risk of outcomes-based contracts for all players in the industry, can have a key role in this endeavor.

This paper is divided into three sections. The first outlines the key points of “friction” that have limited the uptake of OBCs and the ability to deliver better patient outcomes and value. The second section discusses the core requirements of an ecosystem-wide solution facilitate OBCs. The third explains the functionality and benefits of our Health Outcomes Platform and how it can enable so-called “triple wins”: better outcomes and experience for patients, better value for money for payers or providers and increased patient access for life sciences companies.

Ultimately, we will explore three critical questions:

► How do we build trust between multiple parties so that they can work together in a frictionless way?
► How do we radically simplify how data can be accessed, integrated and used in the right way for the benefit of all?
► How can we be part of a standardized industry platform but maintain the flexibility to create differentiated contracts at scale?
In *Life Sciences 4.0: securing value through data-driven platforms*, EY’s latest edition of our *Progressions* series, we explored how health is being reimagined as a result of scientific and technological change and rising customer expectations. We also examine the ramifications for life sciences companies’ market offerings, business models and the new capabilities needed as the disciplines of health care and technology merge to become “health technology.”

In this fluid environment, every company developing health care products and services is a data company, and, therefore, a technology company. Likewise, every technology company that has access to health-related, consumer-generated information or other health data is a health care organization. At the same time, the ubiquity of mobile and peer-to-peer sharing tools are transforming consumers into super consumers. As these super consumers encounter engaging experiences in other areas of their lives, they demand more of the same from their interactions with the health ecosystem. Consumers, not organizations, are now at the center of this market paradigm.

**Figure 1:** The changing dynamics of value

<table>
<thead>
<tr>
<th>Traditional: product and cost leadership</th>
<th>Emerging: data and relationships</th>
</tr>
</thead>
<tbody>
<tr>
<td>► Product efficacy vs. placebo</td>
<td>► Efficacy vs. comparator</td>
</tr>
<tr>
<td>► Reimbursable price achieved</td>
<td>► Improved health outcomes</td>
</tr>
<tr>
<td>► Number of prescriptions</td>
<td>► Real-world evidence</td>
</tr>
<tr>
<td>► Health care provider opinion</td>
<td>► Customer trust</td>
</tr>
<tr>
<td></td>
<td>► Positive experiences</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Value creation</th>
<th>By owning:</th>
</tr>
</thead>
<tbody>
<tr>
<td>► Investing in research and development</td>
<td>► Data and algorithms</td>
</tr>
<tr>
<td>► Protecting intellectual property</td>
<td>► The customer relationship</td>
</tr>
<tr>
<td>► Maximizing geographical footprint</td>
<td>► Engagement platforms</td>
</tr>
<tr>
<td>► Diversification or specialization</td>
<td>► Leading in:</td>
</tr>
<tr>
<td>► Fast follower mentality</td>
<td>► Disruptive technologies</td>
</tr>
<tr>
<td></td>
<td>► Cross-industry partnerships</td>
</tr>
</tbody>
</table>

**Buy and build, to scale**

**Collaborate, to scale**
In this new environment, value is both defined, and created, in different ways than it has been historically (Figure 1). As a result, life sciences companies must respond not by supplying new product-centric innovations that organizations believe consumers want, but by offering the personalized products and services that satisfy those consumers’ demands. To develop these new products and services, life sciences companies must invest strategically and differentially, not only in disruptive technologies, but also in data and algorithms, as well as customer engagement capabilities that maximize individual health outcomes. Indeed, to achieve significant improvements in outcomes, companies must unlock the power of diverse data streams that reside outside the traditional health ecosystem.

The new value equation frames innovation in terms of outcomes and personalization, meaning products are no longer the central driver of value. Success requires the adoption of flexible business models that allow life sciences companies to leverage data to develop systems that align objectives and share value among stakeholders.

Underpinning this equation is the concept of the “platform” based business model. Platforms are interfaces that connect different stakeholders in order to combine and share data easily and securely to deliver a shared goal: improved health outcomes. The Health Outcomes Platform, which will be explored in this paper, is a prime example of such a platform as well as Life Sciences 4.0.
Releasing the brakes
Many thinkers have discussed the value of outcomes-based contracting. This paper aims to address a different need: discuss what is currently stopping the adoption of OBCs at scale and the need for infrastructure to enable their sustainable creation. We believe the creation of an industry platform that allows seamless and secure sharing of data is essential to achieving “triple wins.”

At a macro level, stakeholders have three concerns that have slowed the adoption of outcomes-based contracts. These are:

1. OBCs are too risky.
2. OBCs are too complex to measure.
3. OBCs are too difficult to contract for.

The key beliefs are outlined in Figure 3, along with the frictions causing them and the consequences. What is important is that the right industry platform, designed and run in the right way, can help overcome these issues and most, importantly, manage the risk while minimizing the administrative burden for all involved.

Figure 3: Key consequences of the market frictions

<table>
<thead>
<tr>
<th>Market frictions</th>
<th>Consequences</th>
</tr>
</thead>
<tbody>
<tr>
<td>The need for budget certainty</td>
<td>Not understanding the true drivers of risk</td>
</tr>
<tr>
<td>Lack of transparency between the two parties</td>
<td>and therefore overstating the risks</td>
</tr>
<tr>
<td>Benefits are not always aligned to where the</td>
<td>Reluctance to take on any budgetary uncertainty</td>
</tr>
<tr>
<td>intervention and effort takes place</td>
<td></td>
</tr>
<tr>
<td>Data is fragmented and not joined up</td>
<td>Perception that “we won’t get a good deal”</td>
</tr>
<tr>
<td>Concerns over sharing sensitive data</td>
<td></td>
</tr>
<tr>
<td>No one party has ownership of all the data</td>
<td></td>
</tr>
<tr>
<td>No structured yet flexible way to create contracts</td>
<td>outcomes are too difficult to measure</td>
</tr>
<tr>
<td>Lack of agreement on a baseline and targets</td>
<td>No capability/capacity to analyze due to outdated</td>
</tr>
<tr>
<td>Existing commissioning flows don’t allow for it</td>
<td>IT infrastructure</td>
</tr>
<tr>
<td></td>
<td>Data sometimes doesn’t exist</td>
</tr>
<tr>
<td></td>
<td>Can’t agree on the right outcome measures</td>
</tr>
<tr>
<td></td>
<td>Difficult to measure incremental value</td>
</tr>
<tr>
<td></td>
<td>Doesn’t fit with existing ways of contracting</td>
</tr>
<tr>
<td></td>
<td>(static pricing mechanisms)</td>
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These concerns were historically valid. However, three things are different now. First, data is growing exponentially, driven by digital technologies that enable us to track, capture and measure things we previously didn’t think were possible. For example, sensors in pills can help track drug adherence in schizophrenics, a smart algorithm can diagnose diabetic retinopathy without physician assistance, and the latest version of certain smart watches contain sensors that expand the device’s function from fitness into care management.

Secondly, there is no shortage of computational power and data storage to handle and manage this data in a secure, scalable and low cost way.

Finally, market needs and dynamics are driving the pace of change.

Health care systems across the world are at breaking point and new solutions are needed. This is driving far greater openness and a willingness for stakeholders to share data, work together and test new models. In this dynamic environment, forward-thinking leaders empowered with the right tools are required. Enter the Health Outcomes Platform.

Key questions

► **Is it better to build your own or be a participant?**
Be a participant. The bottom line for platforms is scale in the form of users. The more users, the more data; the more data the better the insight and points of “exchange,” the more powerful the platform is. We believe one company alone would not achieve the level of adoption or be prepared to invest the amount to get a platform to a scale where it is sustainable.

► **Will providers be prepared to share the data required?**
In short, yes. The world is changing – we now live in the interconnected, sharing economy. Sharing health care data so that multiple parties can analyze it is what is going to transform health care for the better. In response to this, policies are changing. Safe mechanisms for sharing data, such as secure application programing interfaces (APIs) (designed so the “data never moves”) and blockchain, supported by clear General Data Protection Regulation (GDPR) guidelines is making sharing increasingly viable and easier.

► **How can we create a competitive advantage for our company if it is an industry platform that everyone is using?**
It’s what you do with it that counts. True competitive advantage comes from being bold, selecting the outcomes that matter and then delivering a service strategy that outperforms your competitors on those outcomes. The platform is a means to an end and massively simplifies and reduces the cost of doing business for all.
Section 2: Enter the platform
In today’s hyper-connected, on-demand world, platforms have disrupted businesses in many different industries. They have changed the way we shop, the way we travel, even the way we bank. Platforms in mobility, consumer and financial sectors have a number of commonalities. They are convenient, prioritize the user experience and drive profitability by eliminating known friction points. In health care, platforms are a means to connect highly disparate stakeholders. They offer some unique advantages that make it possible to scale the delivery of improved outcomes. These include:

► Helping connect stakeholders, data and resources and recombine these to add value in new ways that previously were not possible
► Simplifying and enhancing the user experience
► Providing transparency and immediate and regular feedback loops
► Providing a mechanism for companies to innovate faster by enhancing agility
► Streamlining data integration and management, eliminating costly overhead and reducing running costs
► Platform economics mean there is almost zero marginal cost of additional users; one patient or one thousand – it doesn’t make a difference
► Creating virtuous circles – more users creates more insight, which drives ever more connections and users

Currently, there is no single platform that allows parties to come together to deliver better patient outcomes. Ultimately, the HOP is designed to streamline one important piece of the process: the end-to-end process for setting up, managing and assessing outcomes-based contracts. It is designed to overcome the challenges set out in section one at each step of the way (See figure 4).
Define outcomes and service strategy

- Assessing the opportunity for OBCs for different types of product and/or service
- Co-create and agree on the right outcomes that better align to your customers’ needs
- Design a service strategy to de-risk the contracts

Create smart contracts

- Provide transparency and ways of understanding risks so that they can be managed effectively
- Helps align incentives, making it clear what each party is required to do
- Create contracts that fit with existing ways of contracting and funding

Optimize and scale

- Help link services to outcomes so that their value is measured and appropriately rewarded
- Track the deployment and use of services to understand what does and doesn’t work

Assess contracts

- Integrate varied (and new) sources of data
- Put governance around data definitions and measures
- Reduce the burden on providers in having to capture and manage the data
- Manage data in a secure and compliant way

Measure and manage data

- Make scaling and replicating contracts easy
- Post-contract analysis to help optimize future contracts to deliver better outcomes

Health Outcomes Platform

- Measure the incremental value that has been delivered
- Give all parties transparency over performance
- Calculate the financial implications

Figure 4: The ways in which platforms remove friction
The platform works because it is based on three key design principles – transparency, security and scalability.

**Transparency** for all parties involved in a contract is critical to building trust and gives them the confidence to explore and pursue these innovative ways of contracting.

**Security** has two dimensions – data privacy and risk. When it comes to managing sensitive patient data, each party needs to ensure it is done so in a fully compliant way. Mistakes here end up as newspaper headlines, so a zero risk approach is required. To help with this risk, using anonymized and, where possible, aggregated data is preferred. The second dimension of security is to not land any party with an unmanageable or unforeseen commercial risk. By their very nature, these types of contracts are more risky but that is not a downside as risk often leads to attractive rewards for all. Security here enables parties to go into any agreement with their eyes open.

Finally, **scalability** is critical. It is time to move beyond pilots and start to drive system-wide value at scale. Scalability is about reducing the cost and complexity of managing these contracts and providing a solution that works for any company, product and market. Figure 5 summarizes these three important principles in more detail.

**Figure 5: Key principles of a sustainable solution**

- **No hidden surprises** – model expected impact and add financial safeguards
- **Equal access** – all parties have equal access to build trust
- **Simplicity** – intuitive user experience
- **Open to all** – a true ecosystem-wide platform

- **Safe and compliant** – data platform powered by Microsoft Azure
- **Risk management** – simulation and predictive analytics to understand risk
- **Accurate and reliable** – robust data management and governance
- **Independent** – EY acts as an independent third party

- **Standardized** – way of capturing data and managing contracts
- **Flexible** – manage any type of outcomes-based contract in any market
- **Responsive support model** – to support end users
- **Integrated** – with existing systems and processes
In this section we dive deeper into the EY Health Outcomes Platform’s specific value proposition. The platform is designed to enable the key steps of setting up, managing, analyzing and assessing outcomes-based contracts (Figure 6).

At the creation stage, the platform provides a structured way to quickly and easily create OBCs with an acceptable level of risk and move to outcomes-based shared value for all stakeholders. Importantly, it creates binding contracts where all parties are required to play a part which makes it true risk sharing. When creating contracts, this is where the opportunity lies—to craft compelling value propositions and really differentiate a product or service from its competitors. For example, in cardiovascular looking at a longer-term contract that reduces stroke rate through better diagnosis to unlock downstream cost saving benefits. Outcomes contracts won’t be right or necessary for every product but those conditions that face significant clinical, economic and humanistic challenges will be very attractive.

Management of the underlying data that demonstrate the health outcome is also critical. To adequately assess a real world impact, parties must be able to aggregate data from a range of sources in an easy, secure and compliant way that minimizes, if not eliminates, the administrative burden for all involved.

Finally, OBCs need to be analyzed, monitored and assessed. Performance needs to be tracked so that the right interventions can be made to maximize outcomes for the benefit of all. A set of dashboards provide near real-time analytics to monitor, evaluate and predict the performance of outcomes and financials relating to the contract.

Figure 6: What EY’s Health Outcomes Platform provides

- Create
  - How can we quickly and easily create outcomes-based contracts with an acceptable level of risk that align with our customers’ biggest priorities?
  - Outcomes catalogue and selector
  - Simple, guided end-to-end contracting framework
  - Agree baseline and set realistic joint targets
  - Rationalize and align your service strategy
  - Add in appropriate incentives and penalties
  - Simulation engine to compare and contrast contracts

- Manage
  - How can we manage the data required in an easy, secure and compliant way that minimizes the administrative burden?
  - Standardize data capture and management
  - Automated and flexible data feeds including new sources of data
  - Near real-time access to data and analysis
  - General Data Protection Regulation and provider data policy compliant
  - EY supporting service model and service level agreements
  - Integrated workflow management

- Analyze
  - How can we provide near real-time analytics to monitor, evaluate and predict the performance of outcomes and financials?
  - Monitor contract performance
  - Forecast outcome and financial performance
  - Deep dive patient population and service optimization analytics
  - Contract benchmarking
  - Manage settlements of payments
  - Contract optimizer and replication
What makes EY’s platform unique?

Our purpose is to help build a better working world and this solution is very much focused on this. We believe our solution provides some key differentiators at each stage of the three key steps of creating, managing and analyzing outcomes-based contracts:

1. The first practical, end-to-end approach to help create “triple win” contracts — we help you understand risk and impact and move forward at pace through:
   - An OBC attractiveness assessment tool to evaluate and understand the business case for your products
   - Strong relationships with health care providers and payers to kick-start partnerships
   - An “outcomes selector” tool which helps users select the right outcomes from a large database of clinical, economic and humanistic outcomes across all major therapy areas
   - Health economic modeling to calculate expected benefits to inform contract targets
   - Service design capability to design low-cost solutions to de-risk outcomes
   - Legal support to help create commercially sound and compliant contracts
   - Negotiation preparation through modeling and scenario analysis of revenue impact

2. A platform, accelerators and partners to support data management — we help “connect the dots” across the ecosystem to simplify and streamline data capture and management by:
   - Working with companies who are already established in health care systems and have access to data such as Zesty, Umotif, Orion Health and BeWell.
   - Deep understanding of the data governance and architecture of health care systems in the top twenty global markets
   - A robust and flexible underlying data model and structured supported by APIs to access data but ensure the “data never moves”
   - A fully secure and compliant platform built on Microsoft Azure and designed with cyber security in mind

3. A strong heritage as a trusted, independent audit firm to support contract performance analysis:
   - We have been analyzing businesses and their transactions for over one hundred years and giving markets confidence in the process. Rigorous and reliable analysis that can be depended upon and trusted
   - Predictive analytics algorithms to forecast and understand expected performance
   - Dashboards that have been designed and co-created with key stakeholders
Create

In order to successfully move the industry toward OBC, there is a need for a structured and consistent approach to creating contracts. The right preparation is crucial: from selecting the right payer and the right target population to correctly identifying outcomes, services to de-risk those outcomes, budget to be targeted and payment mechanisms and safeguards. Once set up, the Health Outcomes Platform allows you to play with those variables to assess the level of risk associated with OBC based on different scenarios. It also provides a first view on expected impact on revenue for the life sciences company and spend for the payer or provider. This part of the platform really prepares both parties for negotiations by providing the necessary analysis, modeling the impacts and risks, and the structure to allow positive and fruitful negotiations.
Manage

One of the key aims of the HOP is to take a much broader view of outcomes — moving beyond purely clinical outcomes to consider economic, performance and humanistic ones as well. As the diversity and number of data sources continues to grow (see Figure 8), the HOP provides the platform to integrate, structure and govern all this data, moving from the siloes it resides in today.

Figure 8: Integrating new and diverse datasets

![Diagram](Image)
Once the source of data required to capture a particular outcome has been identified, one of the biggest challenges is to then get the right data governance and architecture in place. Due to differences in legislation and processes to capture, store and manage data sources, this needs to be tailored to each market. The Health Outcomes Platform not only integrates these different siloes of data from across pathways, organizations and stakeholders into one single platform to form longitudinal datasets but also manages five essential elements of data governance. It provides very structured process tools (APIs, data models, data mapping structures, etc.) and accelerators to identify, define and access the data required, assess the quality and use it in a secure and compliant way (see Figure 9).

**Figure 9: Putting the right data governance in place**

- **Data definition**
  - Is data clearly defined?
  - Can the data be identified?
  - Are there variations of definitions between areas?
  - Is data captured in a similar way?

- **Data quality**
  - What is the current quality of the data?
  - What is the variation of quality between datasets?
  - Is there variation of quality between areas?
  - What is the risk of opt-out?

- **Data privacy and security**
  - Do we need patient consent? If so, do we have the consent?
  - How is the data protected?
  - Can the raw data be accessed?
  - How to pseudonymize and anonymize data?

- **Data access**
  - Who can access your data?
  - How/where is the data stored?
  - What is the legislation on data sharing?
  - Will the Health Outcomes Platform retain the data?

- **Data linkage/integration**
  - What coding structures are used to collect and structure the data?
  - What are the methods used to gain insight from unstructured data?
  - How to link data between sources and levels (patient vs. aggregated)?

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**Data architecture**
Assess

Finally, perhaps the most important element of the platform is the ability for all parties to analyze performance in a transparent and trusted way. Ultimately, parties need to understand and agree on the outcome performance in order to agree the required payment. The Health Outcomes Platform not only monitors the contract performance but also provides a forecast of outcomes and financial performance to alert all parties to potential poor performance (i.e., not hitting the desired outcomes targets) and thus take action. All parties have equal access to the data to ensure transparency needed to help build trust and a sustainable partnership.

User friendly dashboards provide each party with all the information they need to understand performance in near real-time. They can see the baseline performance, the agreed target, actual performance, including any variances, and forecasted performance. It also provides two additional pieces of valuable analysis:

► The first is the ability to analyze the patient populations to understand outcome performance at a more granular level – for example do men under the age of 40 perform worse on certain outcomes? The second is service usage so that stakeholders can track the impact of services on outcomes. This can often be challenging but, with enough scale in terms of patients, we can analyze groups of similar patients and whether service usage correlates to better outcomes.

► Ultimately this data is used to generate a real-time picture of the contract’s financial performance, including the actual and forecasted spend for payers or providers and the revenue for life sciences companies. A detailed breakdown of payments, including both performance-based payments and financial safeguards, is also provided for maximum transparency. Finally, the contract optimizer provides insights on contract performance and areas of improvement to help scale and replicate successful outcomes-based contracts nationally and globally.
We encourage a range of outcomes to be selected (typically three) with a blend of clinical, economic and humanistic. The outcomes need to be weighted based on stakeholder needs and priorities, and an overall “composite” outcome calculated.

This is the target set by both parties for the composite outcome performance (weighted average of individual outcome targets). This is set based on the baseline, i.e., the expected outcome if we did nothing.

This is the performance (actual or forecasted) for the composite outcome based on the data collected, using weighted average for the different individual outcomes.
The initial contract value represents the theoretical payment the supplier would receive if no payment mechanisms were applied to the product list price.

The net payment value represents the final amount to be paid at a given time, after applying financial safeguards and/or performance-based payments.

Represents different types of financial safeguards included in the contract – e.g., base discount and volume based discounts.

The agreed performance-based payment (or penalty) for meeting or exceeding the outcomes targets.
The missing piece
Conclusion – be a “game changer.”
The world has enough followers

EY's Health Outcomes Platform can help unlock outcomes-based contracting at scale for the benefit of all. The beauty of our platform is that it takes something very complicated and uncertain (the management and sharing of data) and simplifies the process, providing the essential ingredients to manage and reduce the risk. By arming each party with the information required for success, we not only provide real-time transparency but foster an environment of trust that is essential for long-term shared value creation.

This is new territory for health care and life sciences companies and finding the right path won’t be without effort or risk. But purpose and leadership are key. As Henry Ford once said, “whether you think you can, or think you can’t – you’re right.” For those with the ambition and boldness to “think they can,” the opportunity to really do something special and have a demonstrable impact on patient lives is significant.
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As populations age and chronic diseases become commonplace, health care will take an ever larger share of GDP. Scientific progress, augmented intelligence and a more empowered patient are driving changes in the delivery of health care to a personalized experience that demands health outcomes as the core metric. This is causing a power shift among traditional stakeholder groups, with new entrants (often not driven by profit) disrupting incumbents. Innovation, productivity and access to patients remain the industry's biggest challenges. These trends challenge the capital strategy of every link in the life sciences value chain, from R&D and product supply to product launch and patient-centric operating models.

Our Global Life Sciences Sector brings together a worldwide network of nearly 17,000 sector-focused professionals to anticipate trends, identify their implications and help our clients create competitive advantage. We can help you navigate your way forward and achieve sustainable success in the new health-outcomes-driven ecosystem.

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