WHITE PAPER

To maximize the impact of patient services, you need an exhaustive measurement framework

The 4 stages of successful development and deployment

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In order to get the care they need, U.S. patients must navigate a complex healthcare ecosystem that includes hurdles as varied as understanding their healthcare coverage, getting prior authorizations, and learning how to store and administer medications properly. Newer therapies, such as immuno-oncology, cell and gene therapy, and personalized medicine add yet another layer of complexity to this system. It's unsurprising then that researchers have found only 12% of people have the sufficient literacy needed to navigate today's healthcare system.[1] Additionally, up to 30% of patients never fill their prescriptions—and of those who do, up to 50% discontinue filling those prescriptions within the first year.[2] These numbers, when considered in relation to the entire U.S. population, imply a staggering effect on health outcomes and cost of care at a national level.

As a solution, many pharma manufacturers offer patient services ("traditional services" [e.g., financial assistance] or "newer digital-driven services" [e.g., companion apps]) to educate patients, help them understand their disease and provide support throughout their treatment. An effective deployment of patient services has been shown to have a meaningful impact on patients. A literature review of patient services shows 64% of studies reporting a positive clinical outcome. That same review found medication adherence reportedly being improved in 66% of studies.[3]

Despite the potential positive impact these services can have, many patients aren't even aware of their existence.[4] Though pharma continues to invest in tracking and assessing the performance of these services, these measures tend to be either more operational or aspirational, often lacking the measurement design to understand the actions required to realize a meaningful uptick in adoption. To ensure progress and enable a culture of continuous improvement, pharma manufacturers need to define success metrics of interest and how these relate to strategic objectives explicitly.

This white paper introduces a framework and process to help pharma manufacturers systematically design a measurement program with the aim of uncovering drivers of patient impact, which can be used to inform service enhancements.

Defining your measurement framework

For many pharma organizations, foundational reports track patient engagement in digital resources and utilization of these services. However, a critical gap exists in being able to attribute the impact delivered by their rising adoption. Measuring this impact will enable manufacturers to identify areas of opportunity to improve their services, validate their investment and provide input into patient-centric tactics.

One of the key constraints that leads to the inability to measure impact is data availability—although, methods exist to gather and link the required data to conduct impact measurements. The ability to measure impact is valuable across the spectrum, from rare diseases to chronic illnesses. Reconciling the impact patient services programs have on their objectives results in a deeper understanding of the way these services directly affect the patient. More importantly, it's data that pharma can use when making effective decisions that drive long-term patient health and loyalty.

The following two questions should be top of mind for pharma when considering their patient services programs:

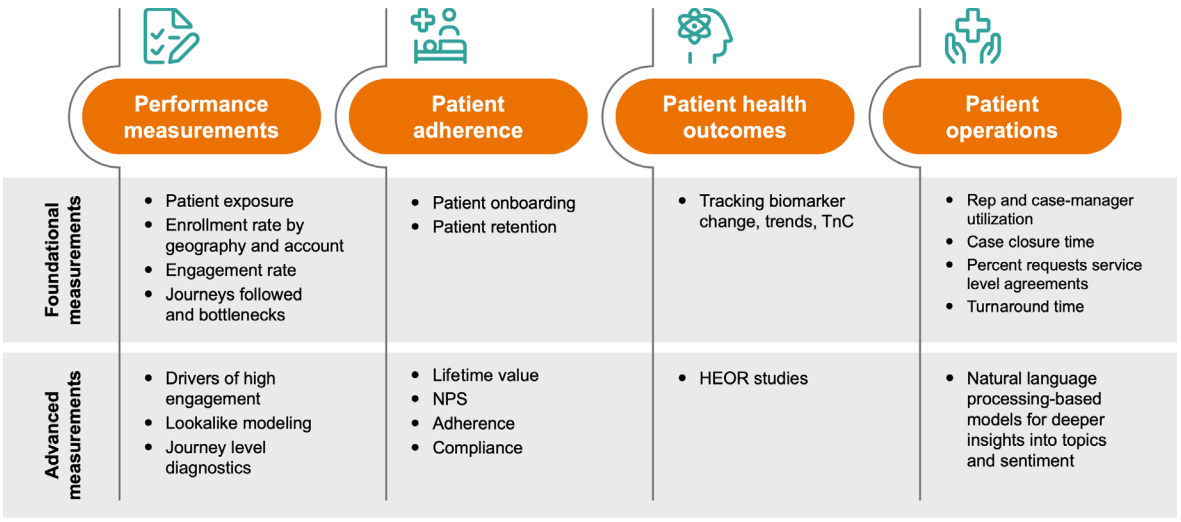
1. Are we providing services that are enhancing the patient experience?

2. Are the services getting more efficient?

Our proposed framework (Figure 1) gives pharma companies the ability to answer both by organizing based on common objectives for patient services and can aid them in determining what to measure and how to enable the measurement program.

FIGURE 1:

Proposed measurement framework for patient services programs



The four pillars of this framework create a multidimensional insight into the effect these programs have on the patient in different ways, each providing an important view into pharma's end-user and their interaction with their products.

Performance measurements focus on the customer journey and the experience being created for patients, covering aspects like patient flow through journey moments (initiating therapy, navigating payer coverage, etc.).

Patient adherence focuses on the impact of services on the patient journey.

Patient health outcomes focus on real-world health evidence from patient services and usage of connected health devices.

Patient operations focus on measuring processes that enable the customer experience.

4 stages of developing and deploying a measurement program

Setting up a measurement program requires a clear understanding and articulation of objectives, hypotheses and actions that can improve the service experience and performance. The framework can then be leveraged in a systematic process to ensure clear the articulation and adoption of measurements to drive decision-making.

1. Define your hypotheses

Patient services should serve a defined role within the organization's strategy. Clearly articulating the service objectives and resulting measures to assess success in achieving them should be a foundational step prior to setting up a measurement program. Once objectives are mapped to each service, hypotheses on the expected impact should be generated and the purpose and decisions that the measurement will inform should be aligned upon.

2. Understand what data you'll need

In addition to defining service objectives and the scope of the measurement program, access to patient longitudinal data required for measurement is needed. Since the objective is to construct a longitudinal view of the patient, the required data must include elements that influence the desired outcome. For some manufacturers, access to such data is a limiting step, most commonly driven by disparate data (patient services, outcomes) that isn't linked at the patient level.

Data tokenization technology offers a compliant way of linking disparate data feeds (first party, second party, third party) that protects patient privacy and HIPAA. These tokens can be generated using available patient identifiers (e.g., name, gender, zip) and used to match and link patients across different data feeds to create a longitudinal view.

To determine the appropriate data and tokenization approach, it's important to understand the required level of granularity for the measurement program. Depending on the service objectives and decisions required, population-level insights may be appropriate (e.g., measuring how the overall adherence rate is affected by the addition of a new pill reminder service), whereas other times individualized patient-level insights are required (e.g., measuring the impact of local programs or customized campaigns for a subsegment of patients). With a clearly articulated objective, organizations may find it easier to garner support from both internal and vendor legal compliance teams in order to access and work with the required patient data. These teams are critical in informing the necessary vendor contracts and patient consent terms of use to ensure the right data is collected.

While these barriers currently exist within the industry, with recent ACA and interoperability rules,[5] emerging technology APIs are making collecting data directly from patients a real possibility. Pharma manufacturers can expand routes of collecting data to include first-party options that collect directly from patients through direct digital engagement, allowing them to become self-sufficient and less reliant on tokenization to bring together second- and third-party data.

3. Determine how you'll measure the outcomes of interest

Once the service objectives, scope and data availability are understood, the measurement approach should be defined. Ultimately, the measurement program should isolate the impact of the treatment effect of interest against a control group. So defining the appropriate outcome measure(s) and population(s) of interest is critical.

This can be achieved by creating two patient groups that are comparable in baseline characteristics, which can be accomplished through simple thresholds or by more advanced methods, such as propensity score matching. These test groups of patients are those enrolled in these patient services, with the control populations created using a matching approach. The outcomes of interest are then defined (e.g., adherence) and can be compared and analyzed between the two groups. Intergroup differences are already controlled through the matching, so the patient services' impact can be isolated.

However, it is important to be aware of trade-offs in the measurement design. Key considerations when designing a measurement program include data loss due to tokenization (some patients may not have identifiers needed to generate a given token), data loss due to matching (controls may not be found for all patients in the test group), poor capture (some patients may have gaps in their longitudinal data) and biased samples (underlying data may be missing key portions of the population). These considerations may not be fully limiting factors, as advanced analytics techniques to enrich the underlying data through AI and machine learning can help organizations overcome data loss or poor capture issues.

4. Take action

Once the measurement results are generated, the original hypotheses should be revisited to determine what actions and decisions should be made. Regardless of whether the hypotheses are proven or disproven, the measurement program and framework should generate evidence to support actions that the team can take. For example, if experience metrics are trending lower and patients are complaining about the poor experience in finding healthcare professionals (HCPs) that take their insurance, this is correlated to measurable outcomes, such as the delay in testing to an HCP visit. Interventions can then be modified to augment the navigator script to bring in HCP finder tools. Measurements can be done to see if this affects experience metrics and if patients are feeling more informed. This then translates to a reduced time lapse between diagnosis and the start of treatment.

Case study: Maximizing the impact of nurse call services

A pharma client deployed nurse call services to help with treatment onboarding and to send reminders at various stages after starting treatment (calls would go out on 30, 60 and 90 days, respectively). The nurse call services were believed to be instrumental in influencing the patient experience and thus adherence to their product. The team wanted to understand whether the existing call frequencies were appropriately timed to provide services to patients when they needed it the most.

1. Define your hypotheses

The nurse call services were believed to have a positive impact on patient experience, and thus adherence. With experimentation on different call frequency timings, the team also wanted to understand what specifically to improve in the nurse call services and outreach model quickly to make the most out of this positive effect.

Key hypothesis to test:

- The nurse calls occurring when the patient is in most need for guidance will be more effective than calling at preset frequencies.
- The nurse calls are leading to higher product adherence.

2. Understand what data you'll need

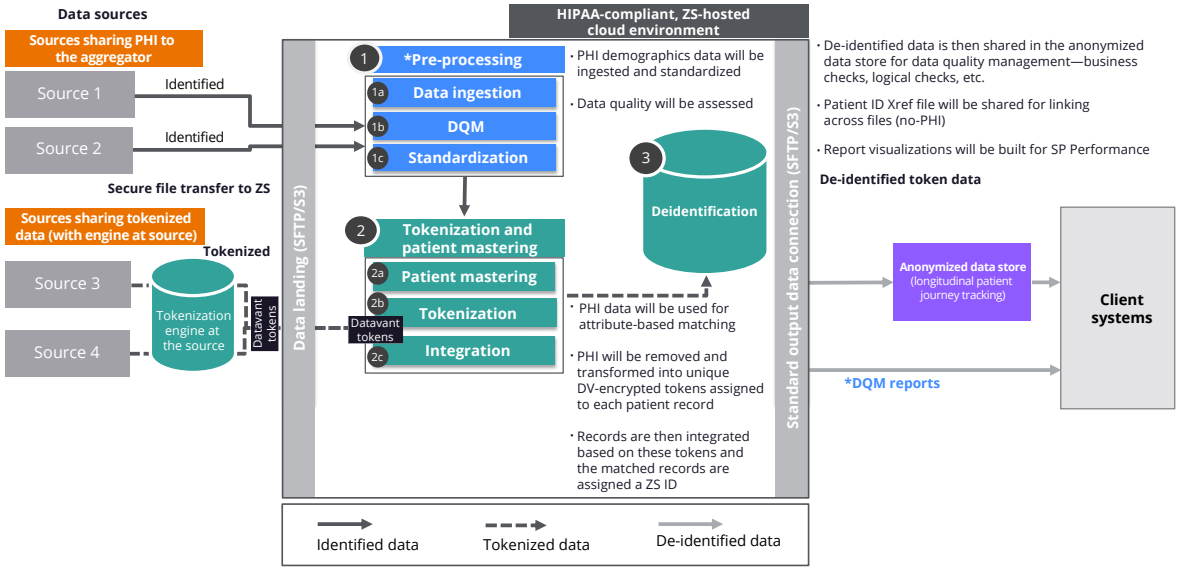
The key data sets required for the study based on the above hypothesis were:

- Nurse engagement data: Nurse services were administered by a third-party vendor with the raw data not directly connected with internal client CRM.
- Health outcomes: The measure of interest for feasibility was chosen as patient adherence to the drug. The information is accessible through claims data.

In order to link these two data sets, there is need to have a HIPAA-compliant data warehouse where the two can be stored, managed and integrated via token sharing mechanisms coming from a tokenization engine (Figure 2 demonstrates a tokenization flow). Risk assessment was also conducted to ensure patient reidentification risk was limited in the integrated data feed.

FIGURE 2:

Data tokenization flow



3. Determine how you'll measure the outcomes of interest

The data once consolidated was separated into two discrete groups:

- Test group: Patients received calls along with variations in the number of calls received from the three planned calls at 30-day intervals each (not all patients received all three calls).
- Control group: Patients received no calls matched against the test group using demographics and medical history.

The key outcome measure was product adherence, defined as time on therapy (measured using claims). Lift was generally positive across the board, with earlier calls having the greater impact, with declining magnitude of lift from calls later in the journey. Patients who missed calls or did not receive calls at the expected frequency also experienced lower adherence than others.

4. Take action

The study proved the need for more timely calls and an increase in call frequency to optimize patient experience and better adherence outcomes for patients. Our recommendations were:

- Add a 45-day reminder followed by a 30-day reminder to increase frequency early in the patient journey.
- Invest more in raising awareness of the program and encourage enrollments.

Using measurement frameworks to put the patient first

Pharma manufacturers in the U.S. healthcare industry have heavily invested in providing support for patients. To realize and maximize the impact these investments can have, manufacturers must both continuously track and monitor the usage of these services and their effect on the patient experience. Many companies lack a measurement framework, however, to get the full view of these programs. And without quality data, decision-making suffers. It's time for pharma to see improvements in these programs beyond the aspirational and to commit to getting patients to know about them. They can be a force that helps clear complexity, puts the patient first and gains insights doing so. Tokenization technology and common measurement techniques are effective ways for these companies to quantify the impact driven and to aid in optimizing the mix for desired outcomes, which ultimately improves the patient experience and helps bridge the gap in product fulfillment and adherence experienced by many in the U.S. healthcare system.

Endnotes

[1]Agency for Healthcare Research and Quality, "AHRQ Pharmacy Health Literacy Center," https://www.ahrq.gov/health-literacy/improve/pharmacy/index.html.

[2]Meera Viswanathan et al, "Interventions to improve adherence to self-administered medications for chronic diseases in the United States," https://doi.org/10.7326/0003-4819-157-11-201212040-00538.

[3]Arijit Ganguli, Jerry Clewell, Alicia C Shillington, "The impact of patient support programs on adherence, clinical, humanistic, and economic patient outcomes: a targeted systematic review, " https://doi.org/10.2147/PPA.S101175.

[4]Phreesia Life Science, "Industry perspectives: Expanding awareness of patient support programs," https://lifesciences.phreesia.com/reports/expanding-awareness-patient-support-programs/.

[5]Centers for Medicare & Medicaid Services, "Policies and technology for interoperability and burden reduction," https://www.cms.gov/regulations-and-guidance/guidance/interoperability/index.

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