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# Leveraging **AI** to optimize Rebate Adjudication for **Pharma**



## Executive Summary

**Rebate Payouts** are price concessions paid by pharmaceutical manufacturers to its contracted partners as per pre-defined contract agreement. Contracted Partners can be either Payers or PBMs (Pharmacy Benefit Managers) in case of prescription pharmacy drugs or medical benefits drugs. Also, Pharma companies need to pay rebates to providers who have used pharma drugs on patients, affiliated as a part of Government Programs like, Medicaid, Medicare, or 340B.

On average **rebate payouts** are close to 20% of the sales price, some brands have no rebates and others offer rebates of over 60% of gross contracted sales of the pharma drug. If we look at the US Pharma Industry Sales for 2019 at 600B USD (U.S Dollar)<sup>1</sup>, and assume contracted sales account for 20% of the total sales, then the gross contracted sales amount to 125B USD and the rebate payout amounts to 25B USD (assuming an average rebate of 20%)<sup>2</sup>. Over the next 5 years, the US Pharma contracted sales is projected to grow from 125B USD to 170B USD<sup>3</sup>, and thus increasing the expected outflow due to rebates to close to 35B USD. Thus, needless to say, **Rebate Payout** is, currently and in the near future will remain, one of the biggest sources of cash outflow for any Pharma organization.

To add to that, we do anticipate a significant impact in this space due to the “**lower drug prices**” **regulatory reforms** approved by House and Senate. Measures like implementing International Pricing Index (IPI) with the intent to bring drug price parity across borders, and laws on rebates, kickbacks and discounts may lead to a restructuring of the rebate process and funnel rebates directly to the Medicare / 340B patients rather than through PBMs. In such a case, going direct to patients, instead of through one entity, i.e. Payers/ PBMs will only increase the complexity of the process many folds.

Currently, the primary function of **Rebate Payout in Payer /PBM space** is to serve as an element of negotiating favorable placement of the pharma drugs within the Payers drug formulary list. Rebates are more common and usually larger in drug areas in which there is significant competition among branded drugs with similar mechanisms of action. A point to note is that rebate levels are negotiated before the drugs are prescribed, and are paid retroactively.

In regards to **Government programs**, a manufacturer who wants their drugs covered under Government Programs like Medicaid, Medicare or 340B, must enter into a rebate agreement with the Government Agency, i.e. Medicaid Drug Rebate Program (MDRP) stating that it will pay as a rebate, a specified portion of the Medicaid/Medicare/ 340B payment for the drug to the states. This amount helps to offset the federal and state costs of most prescription drugs dispensed to Medicaid patients.

The flow of rebates, drugs, and payment as shown in **Figure 1** below, features a highly complex process that includes manufacturers, wholesalers, pharmacy benefit managers, retailers/ pharmacy, private/public health care payers, and patients. In this integrated network - our focus is on the **Rebate Payouts**, which are payments from manufacturers to contracted entities (e.g. Payers, PBMs) or Government Program Agencies (i.e. CMS aka Centers for Medicare and Medicaid Services )

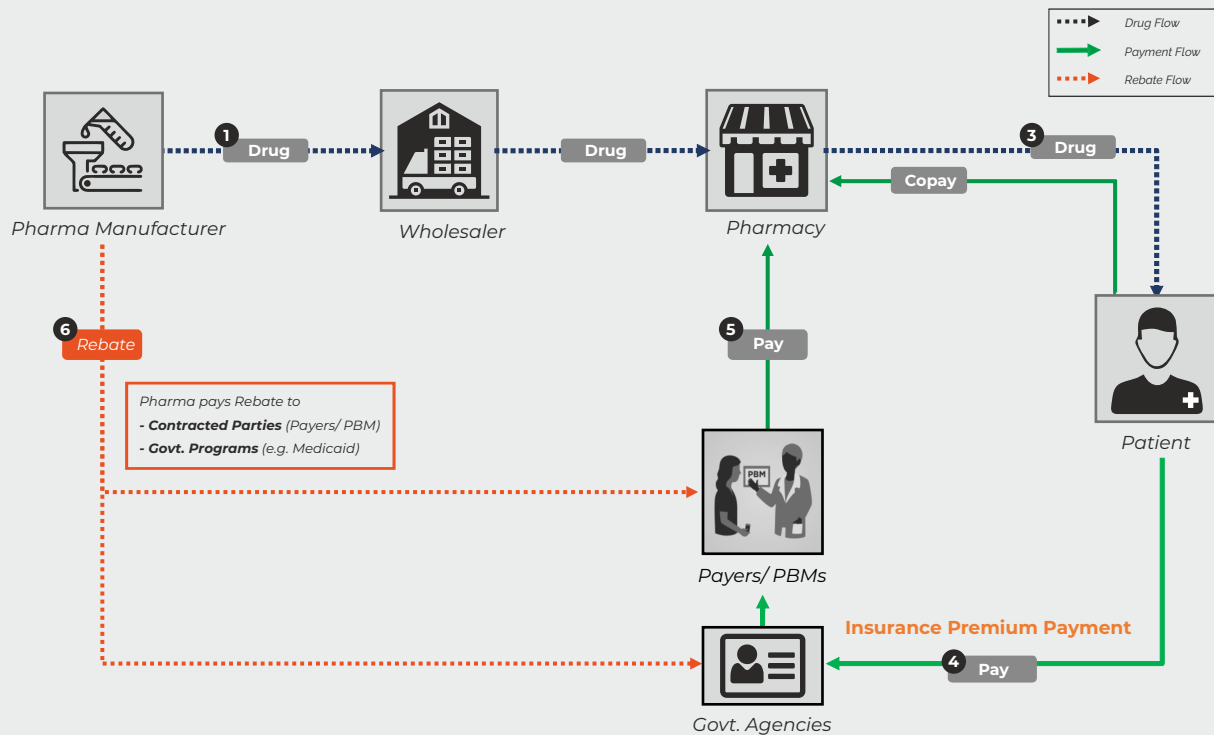


Figure 1: Flow of Drugs, Payments, and Rebates between Pharma and its network

With an ever-changing market dynamics and pressure from Payers, PBMs and States, it is critical to have a closer look into the rebate payout process so that any leakage of revenue due to inefficiencies in the Rebate Validation and Reconciliation Process can be reduced. To add to that, the rebate validation team spends 10% - 20% of their time every quarter to acquire, ingest, process and validate the claims data, which could have been used towards strategic and more value-generating initiatives. Even a 10% improvement in reducing leakage and improving process efficiency for the Rebate Adjudication Team can lead to an overall cost savings of billions of dollars for the Pharma Industry.

In the following sections, we will try to understand the Pharma Rebate Payout process in more detail and highlight opportunities for Pharma as to how AI (Artificial Intelligence), RPA (Robotic Process Automation), and Analytics can be utilized to optimize their Rebate Adjudication Process and in turn lead to cost savings for the industry.

## Understanding the Current Rebate Adjudication Process

For any Pharma organization, the Rebate Payout Process (or the Rebate Validation and Adjudication Process) includes a series of complex steps, starting from Claims Data Acquisition from the Payers or PBMs (in case of Pharmacy Benefit or Medical Benefit Contracts) or from the States (in case of Medicaid, Medicare, and 340B Contracts). Now as these Rebate claims come in different formats from the different source systems, the next step requires converting all these records into a Standardized Format so that it becomes easy for the Rebate Payout team to do the Rebate Validation. The source system for data acquisition also may be very different between partners and states, leading to increased complexity. Besides, the timeline for sharing these datasets varies greatly and can range from anything between 3-9 months after the claim generation.

In the Data Validation and Rebate Assessment Step, the Rebate Payout Analysts validates every claim record, assesses the rebates payable at each record level, and in turn identifies which of these claims needs to be disputed with the contracted partners or states. Disputes are made for claims on account of them being erroneous claims which may include quantity errors (beyond dosage threshold for specific brands), 340B Errors, Reversals, Duplicates, Wastages and Off label Usage for a brand, etc.

In the next step, the disputed claims are shared with the PRMs/ Payers/ States along with explanations for each of the disputes at the claim level. The Partners/ States debate internally on these disputes and either accept the suggestion from the Pharma Payout Team or provide evidence to support their original claims. This timeline for rebate settlement is defined by the contract and can be anywhere between 60-90 days once the claims level data file is made available.

Once the States or PBMs have confirmed the settlement, the Pharma Manufacturers does the rebate Payment. Figure 2 below shows the key steps in the Rebate Adjudication process.

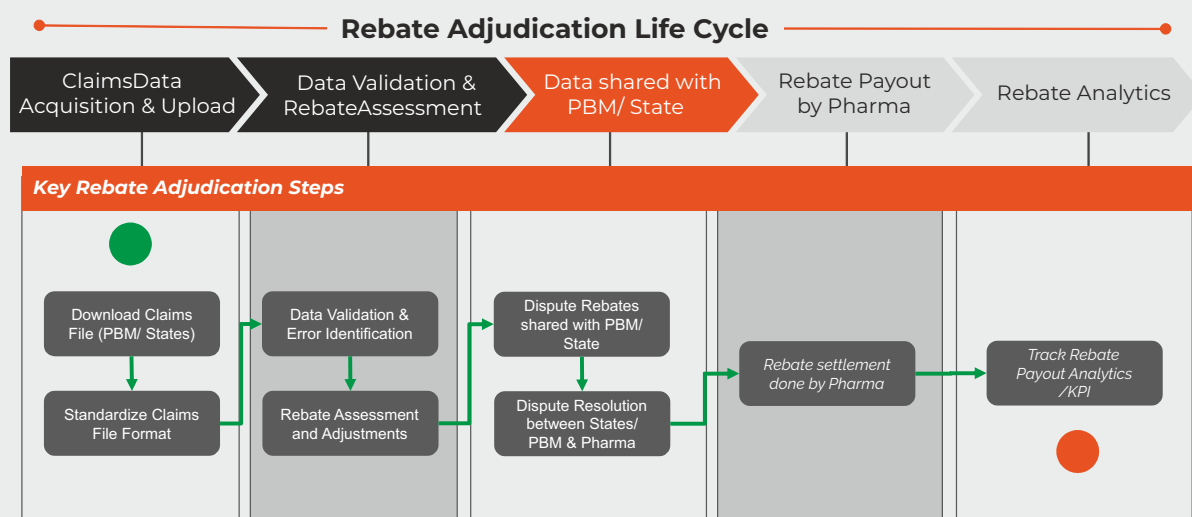


Figure 2: Rebate Adjudication Life Cycle –Key Steps

So we see that the current processes for Rebate Payout have multiple complex steps, and each of these steps is heavily manual & time-consuming, opening up immense opportunities for RPA, BI (Business Intelligence) & AI to improve the accuracy and speed of this process.

## Current Challenges across Rebate Adjudication Lifecycle

This section talks about some of the macro-level factors that act as key business drivers to bring efficiency into the rebate adjudication process at an expedited rate.

### Key External Challenges

- Outdated technology platforms to input or upload claim data, improper claim data entry process, and lack of motivation to fix source data issues, leads to huge inefficiency in getting clean claims and rebate data from the source systems
- Dependency on third party system (e.g. IQVIA data) for structured data, key attributes, and flags (e.g. 340B flags)
- Uncertainty over anticipated regulatory reforms on rebates brings in Cost and Margin pressures, threatening to impact Pharma's profitability and long term investment plan

As a resultant of the above 3 factors, for most of the Pharma Co. have shifted focus to reducing the Adjudication process leakage and improve on overall process efficiency

### Key Internal Challenges

Current processes for Rebate Validation and Adjudication is highly complex, effort-intensive with many manual touchpoints. Let us look at the internal driver for improving the process efficiency.

- Traditional Rebate Adjudication processes and tools, build to handle only Pharmacy Benefit drugs are not well suited to tackle the complexity of multiple indications, dosing thresholds, complex business rules, and Medical Benefits data
- Large Pharma manufacturers spend weeks to months on hundreds of programs and contracts annually to identify disputes. The huge difference between actual rebate payout, post dispute resolution, and requested rebate payout, arising due to filed error claims demonstrates a lack of efficiency in the existing process
- Absence of a centralized system for rebate validation, adjudication, and dispute settlement
- Lack of visibility into relevant intrinsic insights coming from the Key Performance Indicators for effective decision-making

## Opportunities for Pharma to Optimize

Across each Rebate Payout Steps, there are certain questions (see Figure 3 below ) that needs to be answered to make the process robust and efficient, like –

- 1) How do we automate the claim file download from States/ PBM/ Payers?
- 2) How do we use RPA to standardize the file format?
- 3) How to use Business Intelligence to distinguish between the clean claims and error claims?
- 4) How can we validate for data issues (in detail below) related to 340B Double-Dipping, Duplicates, Reversals, Wastages, Units Error, and Terminated Product Claims?

- a) Unit of measure issues due to incorrect provider units reported.
  - b) Duplicate claims invoiced within a current quarter across multiple programs.
  - c) Double Dipping or Discount due to claims invoiced by a 340B Covered Entity that may have dispensed a 340B Program discounted drug to a Medicaid patient.
  - d) Issues from claims for terminated products.
  - e) Missing fields in claims data.
- 5) What are my Rebate Payout and Potential \$ Savings due to disputing?
- 6) How to streamline my Rebate dispute resolution process with States/ Payers/ PBMs?

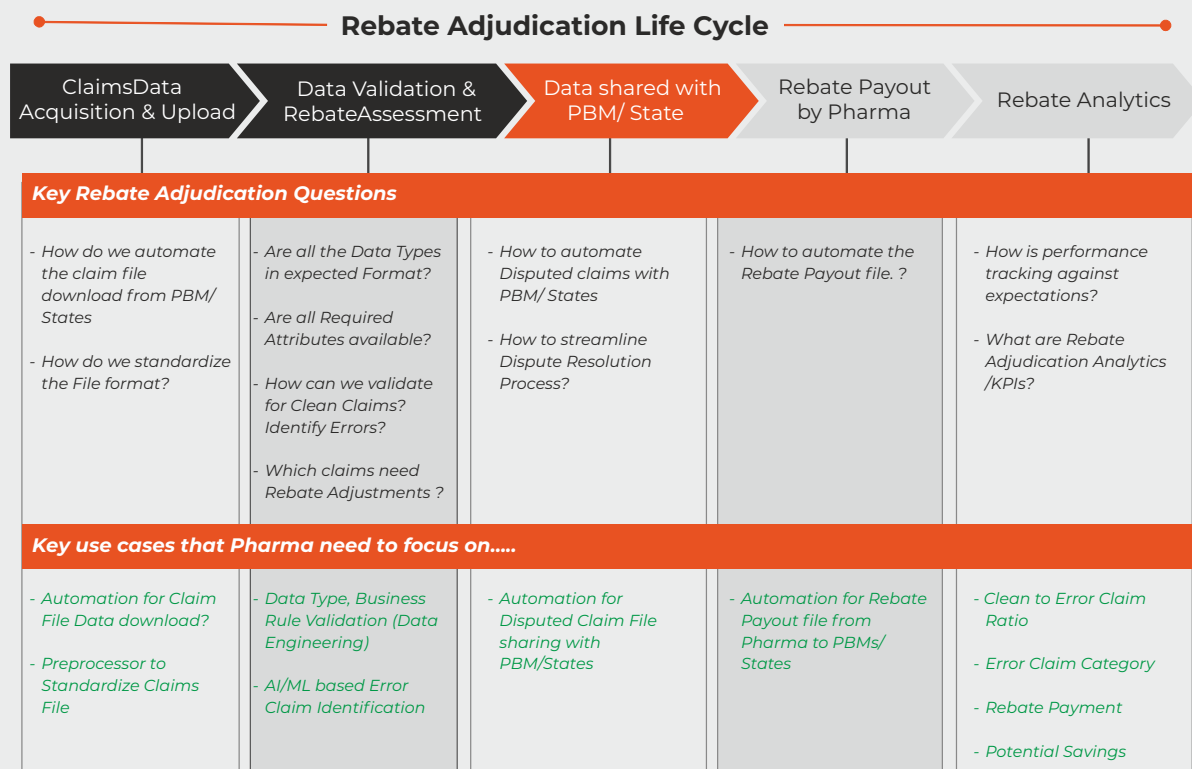


Figure 3: Key Questions and Use Cases across Rebate Adjudication Life Cycle

The major opportunity we see for Pharma is to enable Rebate Validation, Adjudication and Analytics Teams with efficiency in time and Dollar (\$) and analytical insights, through-

### 1. Automation using RPA, AI/ML (Machine Learning) to Improve Rebate Adjudication

The key opportunities from an **Automation** standpoint that can help to improve complex, manual effort-intensive processes are-

- Using RPA for Claims File Ingestion from various sources and standardizing the Claims Files to a pre-defined Standardized Claims File Layout.
- Automate pre-processing, cleansing, and data transformation process.



- Develop a business rule engine to flag erroneous claims such as flagging quantity errors (specific to brands), 340B, Reversals, Duplicates, Wastages, Off Label Usage to help in data validation.
- AI to offer Rebate recommendations for error claims.
- Provide enough explanation to a contract manager to help facilitate dispute/settlement decisions.
- Using RPA to share updated Claims and Rebate Payout File with partners and State.

## 2. **Rebate Adjudication Analytics generating actionable insights**

Enhanced reporting capabilities by setting up an AI/ML driven visualization layer on top of the data landing process will provide better visibility into relevant intrinsic insights coming from the Key Performance Indicators.

The AI/ML driven insights miner feature will surface the most relevant insights on what has happened in the past with root cause analysis. This will immensely help the Rebate Payment Team with faster identification of key issues, and thus improve the overall decision-making process.

Some of the Key Analytical Insights that we need to look at are-

- Clean Claim to Error Claim Ratio
- Error Claim Category
- Error due to Double Dipping Discounts
- Rebate Payment
- Potential Savings
- Auto Adjustment of Claims

All of the above should have the ability to slice and dice the current and historical data at the State, Partner, Program, Brand, and NDC level. By taking advantage of AI and Analytics, the benefits delivered across the Rebate Adjudication process extends far beyond Financial Productivity gains -

- Reduction in operational costs and increased productivity
- Reduction in turnaround time
- Increased compliance and adherence to process
- Improved accuracy against business rules
- Enhanced customer experience and flexibility

## **Conclusion**

In the uncertain times, we are in now, the Pharma companies are facing ever-increased challenges across the board – starting from stringent government regulations for this sector, stricter compliance protocols, to pressure from the patients to come up with affordable drugs. To add to that, high research costs demand high productivity and reliability, greater market access means higher rebates payout. Therefore, to maintain profitability in such a scenario the Pharma manufacturers must look at how to reduce revenue payout leakage by availing state-of-the-art solutions that technology has to offer.

AI can accelerate the gathering and analysis of medical evidence, market access information, rebate adjudication, and the clinical trial results, which could take prolonged time if done by traditional means (i.e., human-intensive analysis). Therefore, pharmaceuticals are well suited for the implementation of AI due to the large amounts of data available and an urgent need to understand the landscape to predict patterns and take action. Application of AI in the Rebate Adjudication process is trending because of the availability of huge amounts of data for analysis, resulting in a high appreciation for what AI can achieve because claim level data validation process requires multiple data sources to integrate with multiple data schemas within the claim data.

By coupling RPA, AI/ML with Rebate Adjudication Analytics, the Rebate Validation, and Adjudication Team can mechanize, enhance, and streamline the data validation process to identify faulty invoices and save them a huge amount of time and reduce manual errors. For example, if a particular Payer Claim File has 1 Million records for a given quarter, without automation, the Rebate Payment Team would have to manually download the data from the Payer Portal and then convert the data into a standard format that is consistent across all Payers. Next, they have to go through each row of the 1 Million record file to assess if the claim is clean, or needs to be disputed. This is a time consuming process, which requires manual effort and would result in many errors. Applying the same manual effort to a bigger population set would result in errors ranging from hundreds to thousands.

By implementing RPA at the very beginning for the data ingestion process, it will check for claim files in the source Portal, and once the file is available, the RPA tool will download the file from the portal, load the file into the defined Pharma organization folder structure, and inform the Pharma Rebate Analysts of the file upload. The RPA also transforms the file data into a defined Standard Rebate Payout File Format. Also, using a pre-configured business rules engine, it will flag for erroneous claims such as Quantity Errors (specific to brands), 340B, Reversals, and Duplicate lines. Along with flagging the error claims, the system also recommends suggestions for Error Claims to make it easy for the Rebate Analyst Team. The system also improves the efficiency of communication with the states by automating the process of sharing the updated claims file and rebate payout File with the partners and State. Thus, by implementing automation and analytics into the Pharma Rebate adjudication process, it will allow for a considerable amount of time and dollar savings.

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