Session 1: Core Pharmaceutical Datasets

Retail and Non-Retail

Laura Jenkins Jirele
PMSA Virtual University

• PMSA Virtual University is conducting this 4 part webinar series focused on the introduction and understanding of the current and evolving data resources available in the Life Sciences industry.

• Beginning with this initial session which will build a foundation of understanding for Life Sciences data, each subsequent session is designed to build on the prior session to both expand and explore the evolving data available to the Pharmaceutical industry.
  – **Session 1:** Learn about core pharmaceutical datasets - retail and non-retail.
  – **Session 2:** Dig deeper into analytics with APLD, EMR, and Specialty data.
  – **Session 3:** The world of big data coming from the evolving digital world.
  – **Session 4:** Understanding data behind the complex new world of health care involving IDNs and ACOs.

• With a solid foundation of the data resources, PVU’ goal is to establish a venue for discussion & collaboration on best practices in analytics, marketing and sales operations.
Agenda

• Industry Overview
  • Past, Present & Future
• The Healthcare Information Flow
  • Data Building and Sourcing
• Retail Data
  • Point of Service
  • Mail-Order
• Non-Retail/Channel Data
• Managed Markets Data
• Summary/Q&A
Industry Overview

Past, Present & Future
The Pharma industry is in a constant state of change..

Portfolios and Leading Markets are shifting

- Generic Erosion & Non-Retail
- Blockbuster Retail
- Specialty & Biologics

Federal controls grow stronger

Budgets and profits decline

Data resourcing is exploding and imploding in the US & globally

Mergers and Acquisitions
Physician Level Data

1990

Physician-Payer Level Data

Late 1990s

2000 - 2010

2010 - 2015

.... 2016+

What’s on the horizon?

As the data evolved, more questions followed.
The evolution and dynamics shifts result in more complex questions which now require different types of data sources and analytics to perform the even the basic tasks and responsibilities in the home office and the field.

- Sales
- Manufacturing
- Marketing
- Research & Development
- Administration
- Sales Operations
- Media & Marketing
- Field Sales
- District Managers
Healthcare Information Flow

Where it Comes From
Common Terms

Prescriptions (Rx):

Branded Product (Branded)

Generic Products (Generic)

Point of sale (POS)

Claim

Retail Pharmacy

Mail Order Pharmacy

Specialty Pharmacy

Non-Retail Distributors

Healthcare Provider (HCP)

Data Vendor

Federal Drug Enforcement Agency (FDA):

Medical Care Organizations (Payer, MCO)

National Council for Prescription Drug Programs (NCPDP)

Centers for Medicare & Medicaid Services (CMS)
It starts all about the patient

The majority of pharmaceutical data comes from the billing and processing of healthcare interactions for the care of a patient.
From the perspective of a pharmaceutical company, the most important information is the prescription and distribution of their product.

**Prescription Information**
- Product form & strength
- Quantity dispensed
- Days supply
- New or refill
- # of refills authorized
- Pharmacy Reimbursement fee
- Member contribution
- Date filled
- Drug Codes
- DAW Indicator

**Physician Information**
- Prescriber ID/Specialty
- Geography
- Demographics

**Health Plan Information**
- Organization
- Location
- Payment Type

**WARNING:** Pharma may only see what reaches the pharmacy or mail-order house!
When a patient sees a physician or goes to a clinic or hospital, a medical claim is generated, which provides diagnosis and/or procedures, as well as many other types of patient care information.

**Prescriber ID**
- ID information
- License #
- Name
- Address

**Patient Information**
- Unique Anonymous Patient Identifier
- Name
- Address
- Gender

**Treatment Information**
- Date of Service
- Service Rendered (office visit, X-Ray, etc)
- Illness or Diagnosis
- Charges
- Location of Service
- Provider of Service (MD, Lab, Ambul, etc)
- Plan of Treatment
- Duration of Treatments
An EMR/EHR database is a repository of all historical medical and prescription activity, often providing a more granular and detailed account of a patient’s care over time.

**Prescriber ID**
- ID information
- License #
- Name/Address

**Patient Information**
- Unique Anonymous Patient Identifier
- Name/Gender
- Address

**Treatment Information**
- Date of Service
- Service Rendered (office visit, X-Ray, etc)
- Illness or Diagnosis
- Charges
- Location of Service
- Provider of Service (MD, Lab, Ambulatory, etc)
- Plan of Treatment
- Duration of Treatments
- Lab Data
- Test Results
- Physician Notes

**EMR:** An electronic record within one health organization

**EHR:** An electronic record that conforms to national standards and is used across organizations
Outside of the patient care spectrum, Pharma companies also have to manage a complex balance of manufacturing, contracting and distribution.

<table>
<thead>
<tr>
<th>852 Sales &amp; Inventory</th>
<th>867 Product Sales</th>
<th>844 Chargeback Forms</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Sales out</td>
<td>• Product transfer</td>
<td>• Requests for reimbursement</td>
</tr>
<tr>
<td>• In-bound returns</td>
<td>• Resale transactions</td>
<td>• Extended difference between the wholesale cost</td>
</tr>
<tr>
<td>• Product transfers</td>
<td>• Returns from end customers to distribution center</td>
<td>• Contract cost</td>
</tr>
<tr>
<td>• On-hand and on-order quantities</td>
<td>• Intra-company product transfers</td>
<td>• Quantity sold</td>
</tr>
<tr>
<td>• Forecasted quantities</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

EDI data is the billing and tracking of drug/product information similar to the Rx/Medical tracking of patient care.

<table>
<thead>
<tr>
<th>850 Purchase Orders</th>
<th>180 Returns Forms</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Placement of POs between wholesalers and manufacturers</td>
<td>• Product returns from wholesalers and client locations</td>
</tr>
<tr>
<td></td>
<td>• Return disposition codes</td>
</tr>
<tr>
<td></td>
<td>• Reason codes</td>
</tr>
</tbody>
</table>

EDI data can be used for analytics with marketing and sales with a solid data strategy and integration infrastructure.
All of these information input streams are gathered and processed in varying methods/volumes by vendors across the US

- Patient Name
- Date
- Physician Name
- Address
- Telephone
- License Number
- Rx:
  - Product
  - Quantity to Dispense
  - Refills
  - DAW
  - Dosage
  - Procedure/Test
  - Requirements
  - Jcode
  - ICD-9
- Prior info plus:
  - Patient Name (if not provided)
  - DEA #
  - Insurance info
  - RX:
    - Pharmacy
    - Procedure/Test
    - Location
    - Referrals
- Prior info plus:
  - Patient Name (anonymized)
  - Plan Name
  - Formulary Status
  - Gender
  - Age
- Prior info plus:
  - Physician Specialty
  - Designate’s Prescription Type (Nrx, Refill, Longitudinal Designation)
  - Lists Concomitant Drug Usage
  - Hospital/Location of Care
  - Affiliations
  - Agent (AMA, AOA, etc.)
  - Integration with other data sources

**Note:** Transmission & processing ensures compliance with all HIPAA & Govt Regulations

[Diagram showing steps: COLLECT, QC, ADD, MERGE, SELL]
Once data is captured, cleansed and integrated, it is bucketed into broad distribution channels.

- **Retail**
  - Pharmacies
  - Chain
  - Independent
  - Mail-order
  - Food Stores
  - Mass Merchandisers

- **Non-Retail**
  - Hospitals
  - HMOs
  - Clinics
  - LTC facilities
  - Other Institutions
  - Home Health Care

- **Gov’t**
  - Federal Hospitals
  - Direct purchasing (CDC)
  - Prisons
  - Military (VA)

- **Specialty**
  - Specialty Mail
  - Specialty distribution networks

- **Digital/Social**
  - Marketing
  - Prescribing
  - Social networks
  - Websites
  - Virtual events

- **Big Data**
  - Unstructured data
  - New IT platforms
  - Data Lakes, ponds
  - Real-time integration

But these are evolving as well.
Core Pharma Data Source

Retail & Non-Retail Data
Retail data is typically a combination of Point-of-Sale data and Mail-Order volumes of NCPDP transactions.

- **Retail Pharmacy**
  - Pharmacy-based
  - Standard Rx information
  - Physician linkage
  - Payer
  - Optional: Patient

- **Mail-Order**
  - Channel
  - Standard Rx Data
  - Optional: Physician Linkage
  - Optional: Patient Linkage
  - Optional: Plan information
NCPDP created a national standard for electronic healthcare transactions used in prescribing, dispensing, monitoring, managing and paying for medications and pharmacy services

- With hundreds of fields, this data is both reliable, stable and monitored
- This protocol, along with a daily product distribution and overall Rx volume provides a “stable” ceiling for national projections
Examples of key retail data fields used by pharma for sales and marketing analytics

<table>
<thead>
<tr>
<th>Prescription Information</th>
<th>Physician Information</th>
<th>Health plan Information</th>
<th>Patient Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Product form &amp; strength</td>
<td>• Prescriber ID/ Specialty</td>
<td>• Organization</td>
<td>• Age</td>
</tr>
<tr>
<td>• Quantity dispensed</td>
<td>• Geography</td>
<td>• Location</td>
<td>• Gender</td>
</tr>
<tr>
<td>• Days supply</td>
<td>• Demographics</td>
<td>• Payment Type</td>
<td></td>
</tr>
<tr>
<td>• New or refill</td>
<td></td>
<td>• Optional</td>
<td></td>
</tr>
<tr>
<td>• # of refills authorized</td>
<td></td>
<td>• Primary/secondary</td>
<td></td>
</tr>
<tr>
<td>• Pharmacy Reimbursement fee</td>
<td></td>
<td>• Voucher/Coupon</td>
<td></td>
</tr>
<tr>
<td>• Member contribution</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Date filled</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Drug Codes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• DAW Indicator</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Non-Retail data provides an understanding of the distribution for where there is no storefront, namely outlets, hospitals, etc.

**Types**
- Non-Retail prescription sales data
- Channel (EDI) data
- Hospital operations data

**Sources**
- Wholesaler
- Distributors
- Company’s direct sales
- EDI invoices
Non-Retail provides information on product movement through these wholesaler or institutional channels such as hospitals, clinics, LTC facilities, etc.

- Once a product leaves the manufacturer’s dock, Pharma often loses track of “granular” sales

- Non-retail data captures product sales to end-purchasers, giving our clients the ability to gauge growth, monitor “key” customer accounts and evaluate their sales and marketing efforts
What is a Wholesaler/Distributor?

They buy and sell products for a profit

- Purchase products in large quantities from manufacturers at a 20% discount – “WAC”
- Re-sell product to “end user” institutions such as: pharmacies, hospitals, clinics, etc., for profit – “AWP”

They handle complex billing and distribution activities

- Store products in warehouses strategically located throughout the country to improve logistics
With the assembly of the invoice data and attributes, the sell-in of products can be tracked, and in some cases, the sell-out as well.

<table>
<thead>
<tr>
<th>ITEM#</th>
<th>QTY</th>
<th>UM</th>
<th>ITEM DESCRIPTION</th>
<th>AWP OR RETAIL</th>
<th>UNIT PRICE</th>
<th>GP%</th>
<th>ID CODE</th>
<th>EXTENDED</th>
</tr>
</thead>
<tbody>
<tr>
<td>328-8958</td>
<td>5</td>
<td>EA</td>
<td>SENSOR SDV 0.25% 30ML</td>
<td>5.51</td>
<td>1.29</td>
<td>475.00</td>
<td>6.45</td>
<td></td>
</tr>
<tr>
<td>329-1051</td>
<td>5</td>
<td>EA</td>
<td>SENSOR SDV 0.5% 30ML</td>
<td>5.95</td>
<td>1.38</td>
<td>3046.08</td>
<td></td>
<td></td>
</tr>
<tr>
<td>245-6416</td>
<td>8</td>
<td>EA</td>
<td>NATRECOR VIAL 1.5MG 5ML</td>
<td>475.00</td>
<td>380.76</td>
<td></td>
<td>3059.43</td>
<td></td>
</tr>
</tbody>
</table>

CUSTOMER: 263533  BILLING DATE: 10/18/2002
INVOICE DATE: 10/18/2002  INVOICE NO. 1541104291

WHSE NBR: 002

SOLD TO: SARTIN'S DISCOUNT DRUGS INC SUITE A
         4300 15TH STA
         GULFPORT, MS 39501

PHONE: (985) 645-2500
DEA: AS2048557
PHCY: 01681-01.1

CATEGORY – PHARMACY, RX ONLY

NET PAYABLE BY 11/10/2002  3059.43
### Key metrics used by Pharma companies with Non-Retail data

<table>
<thead>
<tr>
<th>Attributes</th>
<th>Users</th>
<th>Basic Applications</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Purchase data</td>
<td>• Account Management</td>
<td>• Resource allocation</td>
</tr>
<tr>
<td>• Shipment data</td>
<td>• Contracting</td>
<td>• Alignment</td>
</tr>
<tr>
<td>• Account names</td>
<td>• Marketing</td>
<td>• Performance evaluation</td>
</tr>
<tr>
<td>• Time, Units, Dollars, Products</td>
<td>• Brand Management</td>
<td>• Goal setting</td>
</tr>
<tr>
<td>• EDI information</td>
<td>• Market Research</td>
<td>• Training</td>
</tr>
<tr>
<td>• Operating, medical codes, financial data</td>
<td>• Management Sciences</td>
<td>• Targeting</td>
</tr>
<tr>
<td></td>
<td>• Sales</td>
<td>• Call planning</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Effort &amp; results analysis</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Competitive analysis</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• New product introduction</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Micro-marketing</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Target marketing</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Distribution management</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• National account pricing</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Contract compliance</td>
</tr>
</tbody>
</table>
Managed Markets data provides an understanding of the payments, insurers, and reimbursement for retail and mail-order products.

**Types**
- Formulary information
- Affiliation information
- Prescribing behavior
- Treatment behavior
- Operating information
- Pay Type & Payment Information
- Cost & patient pay

**Sources**
- Health Plans
- Medical Claims
- Prescription Claims
- Contracts/Transactions
- Switch Networks
For Managed Markets data, all sourcing tracks back to health plans that provide basic coverage, whether pharmacy or medical benefit

**Key Attributes**
- Product Rxs
- Product form/strength
- Product Tier Status
- Costs / Pricing
- Pharmacy metric
- Medical Procedure
- Diagnosis
- PBM/Payer/MCO
- Plan
- Benefit Design
- # Lives covered

**Users**
- Account Management
- Contracting
- Marketing
- Brand Management
- Market Research
- Management Sciences
- Sales

**Applications**
- Resource allocation
- Alignment
- Performance evaluation
- Goal setting
- Targeting
- Call planning
- Effort & results analysis
- Competitive analysis
- New product introduction
- National account pricing
- Contract compliance
- Price Elasticity
- Medicare Part D/Donut Hole
This complex tracking ensures that Managed Care (both Commercial and Government) continues to have an increasing impact on Pharma

- Rebate, Contract and Benefit dollars pass through many hands throughout the Managed Dare process
- New Government mandates and restrictions add further complexities
Impacts of Managed Care on Pharma have many moving parts and therefore many dimensions

- Generally, pharmaceutical manufacturers have realized the importance and advantages of being involved with Managed Care, including:
  - Rebates to plans for preferred placement on formularies
  - Rebates to plans to limit restrictions even if preferred
  - Rebates to pharmacies for stocking the product
  - Direct involvement with both for discount and assistance programs
  - Advertising
  - Restricted access to physicians through traditional means (office visits, sampling)
  - Mail-Order/Home Delivery
  - Patient Incomes (Wages)
  - Patient Outcomes (Efficacy)
  - Generic erosion
  - Government entitlements

*It’s no longer maintenance of market share through physician targets or management of contracts, but additionally balancing patient and payer dynamics as well*
Pharma has long utilized both retail and non-retail resources for stable and reliable incentive compensation plans.
With the core sources, traditional pharma has managed sales and marketing strategies.

But knowledge, data and technology continue to evolve, providing opportunities to enhance, optimize and expand the insights to measure and drive strategy.
Questions?