Content Management in the Pharmaceutical Industry - An Overview

Dr Arun Gangatkar
http://in.linkedin.com/in/drarungangatkar
drarunj@gmail.com

Global Pharma Market Shares by Sales (Approx. USD 700 Billion)

Top 10 Pharmaceutical Companies

Global
1. Pfizer (USD 48 Billion)
2. Sanofi-Aventis
3. GlaxoSmithKline
4. Novartis
5. AstraZeneca
6. Merck
7. Johnson & Johnson
8. Roche
10. Bristol-Myers Squibb (USD 18 Billion)

India
1. Ranbaxy
2. Dr Reddy's Laboratories
3. Cipla
4. Sun Pharma Industries
5. Lupin Labs
6. Aurobindo Pharma
7. GlaxoSmithKline Pharma
8. Cadila Healthcare
9. Aventis Pharma
10. Ipca Laboratories

Blockbuster!!!

- Avatar
  USD 2 Billion
- Lipitor
  USD 12.5 Billion in 2008
Life Cycle of a Drug

Where is Data Required?

- Everywhere!!!

What Shall we See Today?

- R&D
- Marketing
- Sales

Types of Content

Primary
- Sales Data
- Prescription Data
- Market Research Data
- CRF
- Primary Intelligence
- Company Reports

Secondary
- Publications
- Congress Reports
- Databases
- Financial Reports

Content

- Available in public domain

Subscription

- Paid databases
Data Cycle

- Dissemination & Storage
- Collection
- Analysis
- Storage
- Processing

Technology has Proven to be a Powerful Enabler Throughout the Life Cycle

- Insuins Generation
- Information Synthesis

- Streamlined Process
- Data Mining

- E-mail
- Desktop
- Intranet
- Web-based

- Intelligent Search

Web crawlers

Questions???

Functions and Data Cycles
We are looking at the “Tip of the Tip of the Iceberg”

R&D Data

- Primarily from Clinical Trials
- Data ranging from less than 20 patients to >1000
- Single to multi-center

R&D Data (Clinical Trial)

Dissemination & Storage

- Publications
- Poster
- Regulatory submission reports

Collection

- Clinical Trial Protocol
- Case Report Form
- Reporting Systems

Analysis

- Medical Writers
- Statisticians
- Copy Editors

Processing

- Clinical Trial Data Management Software

Storage

- Clinical Trial Data Management Software

Statistical Methods

- Cohort Studies, Controlled study
- Randomized controlled trial, Observational study, Cross-sectional study, Longitudinal study, Case control study and others

Poster

Protocol ID:

Visit: Screening

Please print all details and INITIAL and DATE all corrections. Indicate “X” where applicable.

DATE OF BIRTH: (yyyy-m-d)
SEX AT BIRTH:

RACE:

African American, Asian, Black, Caucasian, Hispanic, Native American Indian or Alaska Native, Other

Age:

18-21

21-24

24-27

27-30

30-33

33-36

36-39

40-43

43-46

46-49

50-53

53-56

56-59

60-63

63-66

66-69

70-73

73-76

76-79

80+

Mayo Clinic ID:

DATE OF BIRTH: (yyyy)-M-D
SEX: [ ] Male [ ] Female
RACE: [ ] African American [ ] Asian [ ] Black [ ] Caucasian [ ] Hispanic [ ] Native American Indian or Alaska Native [ ] Other

AGE GROUP:

18-21

21-24

24-27

27-30

30-33

33-36

36-39

40-43

43-46

46-49

50-53

53-56

56-59

60-63

63-66

66-69

70-73

73-76

76-79

80+

COHORT:

[ ] Caucasian [ ] African American [ ] Hispanic [ ] Native American Indian or Alaska Native [ ] Other

MEDICAL HISTORY:

[ ] Yes [ ] No [ ] Not Applicable

SIGNATURE:

[ ] Yes [ ] No [ ] Not Applicable

DATE OF BIRTH: (yyyy)-M-D
SEX: [ ] Male [ ] Female
RACE: [ ] African American [ ] Asian [ ] Black [ ] Caucasian [ ] Hispanic [ ] Native American Indian or Alaska Native [ ] Other

AGE GROUP:

18-21

21-24

24-27

27-30

30-33

33-36

36-39

40-43

43-46

46-49

50-53

53-56

56-59

60-63

63-66

66-69

70-73

73-76

76-79

80+

COHORT:

[ ] Caucasian [ ] African American [ ] Hispanic [ ] Native American Indian or Alaska Native [ ] Other

MEDICAL HISTORY:

[ ] Yes [ ] No [ ] Not Applicable

SIGNATURE:

[ ] Yes [ ] No [ ] Not Applicable
Marketing Data

- Related to market related information
- Used to generate:
  - Market Assessment
  - Clinical, Competitive and Business Intelligence
  - Forecasting
  - Epidemiology
  - Market Access
  - White Papers
  - Patent Analysis

Marketing Data (General)

- Secondary Research
  - Subscription Databases
    - TrialTrove
    - ADIS
  - Primary Market Research
    - Instruments
    - Questionnaires
- Primary Market Research
  - Instruments
    - Questionnaires
- Analysis
  - Statistical Models
  - Analytical Models
  - Graphs
  - Human Intelligence
- Dissemination & Storage
  - Analytical Software
    - SPSS (Statistical Package for the Social Sciences)
    - SAS
  - Rating Matrices

Sales Data

- Product related information of sales, prescriptions and dispatch
- Used for:
  - Sales force sizing
  - Sales force effectiveness
  - Forecasting
  - Strategic Intelligence

Rating Matrix

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Study design</td>
<td>Review</td>
<td>Retrospective Study</td>
<td>Population based studies, prospective studies</td>
</tr>
<tr>
<td>Study setting</td>
<td>Primary Care Centre</td>
<td>Secondary Care Centre</td>
<td>Tertiary Care Centre/Multi centric</td>
</tr>
<tr>
<td>Sample size</td>
<td>&lt;30</td>
<td>30-100</td>
<td>Above 100</td>
</tr>
<tr>
<td>Type of publication</td>
<td>Scientific Newsletter/Blog/email communication</td>
<td>Scientific Abstract</td>
<td>Scientific Full text</td>
</tr>
<tr>
<td>Recruitment</td>
<td>District/State</td>
<td>County/state</td>
<td>Entire country</td>
</tr>
<tr>
<td>Randomization</td>
<td>Done</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Study Population</td>
<td>Defined</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Survey design</td>
<td>Explained</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Score</th>
<th>Quality</th>
</tr>
</thead>
<tbody>
<tr>
<td>15 and above</td>
<td>High</td>
</tr>
<tr>
<td>8-14</td>
<td>Medium</td>
</tr>
<tr>
<td>&lt;7</td>
<td>Low</td>
</tr>
</tbody>
</table>
Case Study - American Society of Clinical Oncologists

Business Need
- A leading bio-pharmaceutical company needs to update its decision makers with real time intelligence from a leading medical congress

Approach
- Data Mining: Semi-automated excel tools
- Data Storage: MOSS
- Processing: Semi-automated excel tools, human intelligence
- Analysis: Analytical Software
- Deployment: Online MOSS

Solution
- Online database that provides a real time update on events integrating both secondary and primary data points

Benefits
- Early Alert Mechanism
- Competitor Trends and Intelligence
- Aids Strategic Decision Making

Technology has Proven to be a Powerful Enabler Throughout the Life Cycle

Certifications
- HIPAA
- ISO
- BS
Companies

R&D
- Oracle
- Accenture
- Quintiles

Marketing
- Synovate
- TNS
- GFK

Sales
- IMS (Intercontinental Medical Statistics)

Data Analytics
- Pennside
- PharmARC
- Genpact
- TCS

Questions???

Thanks for Paying Attention

Good Luck!!!