Agenda

- Introduction to IMS Consulting Group
  - Introduction to IMS HEOR
  - LifeLink™ Health Plan Claims Database
  - Case Studies
IMS is a global organization operating across Information & Analytics, Services, and Consulting

**Information & Analytics**
- Operating for over 50 years
- IMS sales data includes MIDAS, forecasts, IMS Publications, etc.
- 29,000 suppliers at more than 225,000 sites worldwide
- 400+ Terabytes of information, over 165B data transactions per month
- Tracks over 1m products, 70% of all prescriptions worldwide

**Commercial Effectiveness Services**
IMS Commercial Effectiveness Services is the leading provider of commercial analytics, delivering evidence-based market insights to support critical sales and marketing decisions

**IMS Consulting Group** partners to life sciences executives for specialist advice on critical business issues

**Company-wide Headlines**
IMS to Acquire SDI in the U.S., Combination Addresses Clients’ Need for More Robust Analytics
Published: January 14, 2011
Our consulting group provides specialist advice on critical business issues in the life sciences industry

<table>
<thead>
<tr>
<th>IMS Consulting Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strategy &amp; Portfolio Analysis</td>
</tr>
<tr>
<td>M&amp;A, L&amp;A and due diligence</td>
</tr>
<tr>
<td>Portfolio management</td>
</tr>
<tr>
<td>Therapeutic franchise strategy</td>
</tr>
<tr>
<td>Product development strategy</td>
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<tr>
<td>Emerging market growth strategy</td>
</tr>
</tbody>
</table>

Benefit from our advantages:

- 1,200 experienced consultants globally
- Healthcare segment and therapy area expertise
- Privileged access to IMS data assets
- Unique insights on local markets
As such, we provide consistent strategic information across various business partners

<table>
<thead>
<tr>
<th>Global HQ</th>
<th>Regional HQs</th>
<th>Country Business Units</th>
<th>Co-Marketers</th>
<th>Managed Market Community</th>
<th>Government</th>
<th>Wall Street</th>
</tr>
</thead>
</table>
| • Market Measurement  
• Pricing & Market Access  
• Competitive Intelligence  
• Launch Strategy  
• Health Economics & Outcomes Research  
• Forecasting  
• Executive Briefings | • Market Measurement  
• Sales Force Size & Structure  
• Portfolio Optimization  
• Regional Reporting/Dashboards  
• Post-Merger Integration Activities | • Market Measurement, Prescriber & Patient-level  
• Information Management Strategy & Outsourcing, including PMI  
• KPI Development for NCM  
• Managed Care Contracting  
• Sales Force Reporting & Compensation  
• Targeting & Segmentation | • Bayer (Avelox, Levitra)  
• GSK (Levitra)  
• Nycomed (Daxas)  
• Novartis (Foradil) | • Payers  
• Formularies  
• Health Economics  
• Agencies working on behalf of Payers  
• Academia | • Federal  
• State  
• Local  
• Agencies working on behalf of Government | • UBS  
• HSBC Securities  
• JP Morgan  
• Citigroup  
• Bank of America  
• Prudential  
• Merrill Lynch |

<table>
<thead>
<tr>
<th>Global functions using IMS</th>
<th>Regional functions using IMS</th>
<th>Local affiliates using IMS</th>
<th>Partners using IMS</th>
<th>Heath Plans &amp; PBMs</th>
<th>Government</th>
<th>Financial firms using IMS</th>
</tr>
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Agenda

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- **Introduction to IMS HEOR**
  - LifeLink™ Health Plan Claims Database
- Case Studies
Real world evidence (RWE) will transform the industry into a new era – The “Prove it Works” Era
Developing a new view of RWE requires breaking out of traditional evidence-based value conceptions.

\[
\text{Value} = \Delta \text{Health Benefit} = \Delta \text{Treatment Cost}
\]

\[
= \Delta \text{Life Years} \times \Delta \text{Health Utility} = \Delta \text{Unit Cost} \times \text{Labeled Use}
\]

Superior efficacy, acceptable marginal cost

Equivalent efficacy, lower cost

Few RWE studies will show clearly superior efficacy or effectiveness vs. comparator.
Regardless of the organization belief on the future of RWE, the status quo will not suffice.
The industry’s increasing global focus on demonstrating product value presents numerous opportunities for HEOR/epidemiology and pharmaceutical manufacturers.

*Increasing global challenges driving the need for HEOR...*

- Ever-rising costs
- Public funding shortfalls
- Health policy reforms
- Political desire to improve access
- Rising public expectations of care

...present clear opportunities for competitive success by superior value demonstration

- Product differentiation
- Evidence-based marketing
- Effective value proposition support
- Price setting with price justification
- Additional negotiating levers
Our HEOR expertise is channelled through local experts; we have a strong presence in the US and Asia Pacific...

Canada
• Provincial dossiers
• Health policy / government affairs
• HE model adaptations

China
• Offices in Shanghai and Beijing
• Covers China, India, Asia Pac regional HQ for P&MA
• All local and regional HEOR support services provided
• Strong strategic alignment with US and Europe

US (East & West Coast offices)
• Outcomes Research Centers of Excellence (Retro, Observational & HE Modelling)
• Strategic payer alignment
• US market access
• Payer research
• Health Policy
• Strategic payer alignment

Singapore
• Covers Asia Pac and Japan
• Strong strategic alignment with US and Europe
• Strong local expertise
• Includes ‘satellite’ MA experts based in Tokyo, Japan

Australia
• Local market access services to Australia and New Zealand
• Close links to Asia Pac region

IMS HEOR Consulting employs 170 HEOR specialists worldwide
...as well as an extensive network of consulting and data assets throughout Europe

UK (EU HQ)
- Covers UK affiliate and EU / Global HQ engagements
- Also Middle East and Russia
- Key strengths: HE modelling, Systematic reviews, Value communications
- Good academic links
- Able to overlap on strategic engagements with P&R consulting (Cambridge)

Nordics
- HEOR Office in Sweden to cover Nordic region
- PMA team members also based in Norway and Denmark

Belgium
- Covers Benelux region – local expertise and contacts
- All HEOR services provided
- Strong affiliate focus

Spain
- Outcomes (Retro and Observational) Research Centre of Excellence
- Covers Spain, Portugal and other mid-sized markets

Germany
- Covers Germany, Austria and CE markets
- Observational studies
- Strong SAS / stats skills
- Local Value Dossiers Frické
- Medical writing & Pirk

France
- Observational studies – through IMS panels and ad-hoc
- Local dossiers and HAS submissions
- Health policy / government affairs

Italy
- Local market access
- Expertise on regional payers and negotiations

IMS HEOR Consulting employs 170 HEOR specialists worldwide
Our HEOR Centers of Excellence, created to share global best practices, are instrumental in our approach.

**Health Economics**
- Modelling strategy
- Budget impact
- Cost utility
- Cost effectiveness
- IMS CORE Diabetes Model
- Field-force tools

**Retrospective OR**
- Outcomes research strategy
- APLD-based studies
- Burden-of-illness studies
- Epidemiology
- Patterns of care
- Real-world evidence of value

**Observational OR**
- Outcomes research strategy
- Study design & execution
- Burden-of-illness studies
- Patterns of care
- Evidence of value
- Patient registries
- PROs

**Strategy & Applied HEOR**
- Strategy/trend analysis, incl. VDPs
- Access, incl. local implement. support
- Value communications
- Value dossiers
- Health policy implications of policies
This approach allows us to create a bridge between commercial and medical, identifying value propositions that can be adapted globally and applied locally.

1. Maximize access and adoption for your technology
2. Develop a global value development plan
3. Identify the evidence and tactics to communicate the value
4. Extend the medical communication plan
5. Assess the competition and your technology’s opportunity
IMS has access to an unparalleled repository of longitudinal data...

- **US**
  - Integrated claims (73 million unique covered lives)
    - Former PharMetrics
  - Longitudinal prescription (150 million unique patients)
  - Electronically submitted physician office claims (100,000 physicians, 42.5 million patients)

- **EMEA/AsiaPac**
  - Chart audit-based datasets
    - Stroke, Acute Cardiovascular Analyzers (EU-G5)
    - Oncology Analyzer (EU-G5+Japan and USA)
  - EMR-based datasets
    - Disease Analyzer (UK, Germany, France, Austria)
    - Pediatric Insights (Italy)
  - Longitudinal hospital data (Belgium)

- **Worldwide**
  - Transactional prescription data in 70+ countries
  - Detailed longitudinal prescription data in 8 countries
Yet we have extensive experience working with other data assets as well.

**Other managed care claims data**
- Health Core / Wellpoint
- Humana
- Caremark
- Thomson Reuters MarketScan®
- IHCIS National Managed Care Benchmark Database

**Switch Data**
- NDC Health

**Retail Pharmacy Data**
- Adheris

**Electronic Medical Records**
- GE Medical Systems
- Lovelace Health System

**Hospital Data**
- Premier Hospital Database

**Patient Interview/Survey**
- National Family Opinion
- NHANES
- MEPS

**Public Payer**
- Medicare 5%
- Medicaid (CA, PA, NJ, OH)

**Clinical Trials and Registries**
- Registries
- Phase III Trials

**Primary Data Collection**
- Records Abstraction
- Targeted patient/physician data collection efforts (surveys, interviews, focus groups)
In addition to our data assets, we help our clients gain and sustain market access across the product lifecycle.
Our global budget impact and cost effectiveness models are optimized for field use
Our communications group conducts many types of literature reviews and develops global value dossiers

<table>
<thead>
<tr>
<th>Examples of literature reviews</th>
<th>Recent global value dossiers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indirect comparison of once daily insulin detemir and glargine in reducing weight gain and achieving glycemic control, when administered in addition to conventional oral antidiabetic therapy in the treatment of type 2 diabetes patients; a meta-analysis</td>
<td>AMCP dossiers</td>
</tr>
<tr>
<td>The efficacy of insulin glargine compared to other injectable therapies - A meta-analysis of clinical outcomes in insulin naïve type 2 diabetes patients</td>
<td>• Cardiovascular disease – 5 dossiers (original – 2; updates – 2; economic section only – 1)</td>
</tr>
<tr>
<td>Efficacy of botulinum toxin type A in the treatment of adult spasticity: a meta-analysis of response rate using individual patient data</td>
<td>• Obesity – economic section</td>
</tr>
<tr>
<td>Indirect comparison (or common-comparator) methods for meta-analysis of summary data</td>
<td>Value dossiers with value message development, value slide decks</td>
</tr>
<tr>
<td>A comparison of olanzapine versus risperidone for the treatment of schizophrenia - a meta-analysis of randomized clinical trials</td>
<td>• Non-small cell lung cancer (2)</td>
</tr>
<tr>
<td>Efficacy of gemcitabine plus platinum chemotherapy compared with other platinum-containing regimens in advanced non-small-cell lung cancer: a meta-analysis of survival outcomes</td>
<td>• Colorectal cancer</td>
</tr>
<tr>
<td>Meta-analysis of bleeding rates and costs of bleeding in prophylaxis against venous thromboembolism</td>
<td>• Cardiovascular disease (6)</td>
</tr>
<tr>
<td>A comprehensive league table of cost-utility ratios and a sub-table of “Panel-worthy” studies</td>
<td>• Rheumatoid arthritis</td>
</tr>
<tr>
<td>A systematic overview of cost-utility assessments in oncology</td>
<td>• Psoriasis, psoriatic arthritis (2)</td>
</tr>
<tr>
<td>The quality of reporting in published cost-utility analyses, 1976-1997</td>
<td>• Osteoporosis</td>
</tr>
<tr>
<td>Measuring costs in cost-utility analyses: Variations in the literature</td>
<td>• Osteoarthritis</td>
</tr>
<tr>
<td></td>
<td>• Fibromyalgia</td>
</tr>
<tr>
<td></td>
<td>• Endometriosis</td>
</tr>
<tr>
<td></td>
<td>• Insomnia</td>
</tr>
<tr>
<td></td>
<td>• Schizophrenia</td>
</tr>
</tbody>
</table>
Top tier publications are a common means to communicate the value of our work.
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- Introduction to IMS HEOR
- **LifeLink™ Health Plan Claims Database**
- Case Studies
LifeLink Health Plan Claims Database

- 74+ Data Contributors
  - 72 million patients

Recent 4 Calendar Years of Data (2007 – 2010)
- 52 million enrollees, 43 million patients
- 19 million patients with claims through June 2010

- Integrated enrollment, medical, pharmacy claims
- Complete picture of patient interactions with the healthcare system
- Good longitudinality (2 - 3 years)
- Representative of the national, commercially-insured population on a variety of demographic measures, including age and gender
- Geographically diverse
- Quality controlled/HIPAA compliant
LifeLink Health Plan Claims Database

Data Process

- Health plans contribute claims and enrollment data
- Claims are fully adjudicated
- Fee schedules and benefit rules applied
- Provides full picture of patient care
- Outpatient drug treatment information
- Complete medical procedures and diagnosis information

Health Plan A

Health Plan B

Health Plan Z

Standardization and Quality Control Processes

Health Plan Database

Enrollment and Demographic Details

Healthcare Service Encounters (Claims)
Like the U.S., the database is primarily commercial
Enrollees represented in our database include:
• Employer-sponsored plans, and
• Individuals purchasing coverage in the marketplace, and
• Government sponsored but commercially administered Medicaid and Medicare plans
LifeLink Health Plan Claims Database
Key Distributions

Region
- West: 16%
- Midwest: 31%
- Northeast: 20%
- South: 33%

Payer Type
- C: Commercial Plan
- K: State Child Health Insurance
- M: Medicaid
- R: Medicare Risk
- S: Self-Insured
- T: Medicare Cost
- U: Unknown

Distribution of Enrollees Compared to 2009 U.S. Census by Age/Sex

<table>
<thead>
<tr>
<th>Age Group</th>
<th>U.S. Census All</th>
<th>U.S. Census Females</th>
<th>U.S. Census Males</th>
<th>Health Plan Data All</th>
<th>Health Plan Data Females</th>
<th>Health Plan Data Males</th>
</tr>
</thead>
<tbody>
<tr>
<td>00-17</td>
<td>25%</td>
<td>25%</td>
<td>25%</td>
<td>25%</td>
<td>25%</td>
<td>25%</td>
</tr>
<tr>
<td>18-34</td>
<td>20%</td>
<td>20%</td>
<td>20%</td>
<td>20%</td>
<td>20%</td>
<td>20%</td>
</tr>
<tr>
<td>35-44</td>
<td>15%</td>
<td>15%</td>
<td>15%</td>
<td>15%</td>
<td>15%</td>
<td>15%</td>
</tr>
<tr>
<td>45-54</td>
<td>10%</td>
<td>10%</td>
<td>10%</td>
<td>10%</td>
<td>10%</td>
<td>10%</td>
</tr>
<tr>
<td>55-64</td>
<td>5%</td>
<td>5%</td>
<td>5%</td>
<td>5%</td>
<td>5%</td>
<td>5%</td>
</tr>
<tr>
<td>65+</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
</tbody>
</table>
Enrollment status is important as it provides a reasonable expectation that all of the patient’s treatments are present in the data time period.

35.9 million enrollees have at least 18 months of continuous enrollment, which accounts for 69% of the data.
LifeLink Health Plan Claims Database

Key Data Elements

- The database contains fully integrated patient, medical and pharmacy service claims information, providing a complete view of patient care
- Multiple sites of service are captured such as retail pharmacy, physician office visits and outpatient hospital
- Date of service allows for chronological ordering of patient events and patient treatment patterns
- Diagnoses allow for determination of co-morbidities and adverse events
- Inpatient details include diagnoses, length of stay and physician billed services, including surgical procedures

- Prescriptions (NDC code)
  - Product form and strength
  - Days supplied and quantity dispensed
  - Key channels include all out-patient drug usage including retail, mail-order, clinics, and specialty pharmacy
- Medical Services
  - Hospitalizations
  - ER visits
  - Office visits
  - Home care
  - Diagnostic tests
  - Procedures (CPT)
  - Injections (HCPCS code)
- Diagnoses (ICD-9 code)
- Provider Specialty
- Health Plan Type
- Charges and Payments
- Patient Level Details
  - Region
  - Year of birth
  - Gender
  - Enrollment Information
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Study: Vytorin Switch; Data source: LRx

Patients were more likely to be switched to a statin monotherapy as compared to Statin + Zetia or Zetia alone following the release of the ENHANCE data.

Followed the release of the ENHANCE data, patients were 1.7x more likely to switch from Vytorin to Simvastatin.

Compared to Vytorin switches pre-ENHANCE, LDL-C reduction ability post-ENHANCE increased 2.4%.

Following ENHANCE, switchers from Vytorin to Simvastatin were 1.2x more likely to be on 80mg of Simvastatin than prior to ENHANCE.
Study: Deploying an HEOR Field Force

Current Environment

The dossier continues to have some influence on decisions, particularly if it contains the features that payers want and need.

<table>
<thead>
<tr>
<th>Influence of average dossier*</th>
<th>Medical director</th>
<th>Pharmacy director</th>
<th>Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Influence if it is done well*</td>
<td>4.3</td>
<td>3.5</td>
<td>3.0</td>
</tr>
<tr>
<td>Comments</td>
<td>Clear presentation of clinical compared to class and non-class drugs. Do as much of the work for the payer as possible (like NICE).</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

If dossier poorly developed: 
- Could hold a grudge but due diligence is still required. 
- It is part of a pattern. 
- Source of frustration/company has not pulled together

* "1" represents low influence and "5" represents high influence

Future Partnership

...but stakeholders remain interested in several areas of research, with the idea of potentially partnering with pharma varying by stakeholder.

<table>
<thead>
<tr>
<th>Area of Research</th>
<th>KOL*</th>
<th>Medical director</th>
<th>Pharmacy director</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health Technology Discussions</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
</tr>
<tr>
<td>Pharmacoeconomics</td>
<td>5.0</td>
<td>5.0</td>
<td>4.5</td>
</tr>
<tr>
<td>Clinical Outcomes Research</td>
<td>4.5</td>
<td>4.5</td>
<td>4.5</td>
</tr>
<tr>
<td>Health Policy Research</td>
<td>4.0</td>
<td>4.0</td>
<td>4.0</td>
</tr>
</tbody>
</table>

KOL-based detailing may provide the "credibility bridge" for key KCO accounts

* "1" represents low level of interest and "5" represents high level of interest
  * Includes responses from 3 pharmacy directors

Ideal Relationship

Overwhelmingly, across all stakeholders, a hub-and-spoke model is the preferred structure of the ideal consultative service:

- Familiarity with new guidelines, compliance, practice management, institutional knowledge, industry trends
- Serve as a facilitator – Bi-directional information flow
- Share information about the financial climate of the clinical specialty
- Empowered to make decisions
- Shouldn’t be limited to one product

Conclusions and Recommendations

The 'next generation' dossier should focus on its contents and manner of presentation – IMS recommends convening an internal Merck team to refine and enhance the current process.

Emphasis on certain sections

Presentation to payer clinical pharmacy staff by a Merck physician

More side-by-side comparisons
Study: TRA HEOR Value Development Plan

Tactic
- Modeling – burden of incremental bleeds and additional adverse events

Messages
- Quantity: the impact of different types of bleeds (major and minor) and their impact on payer/hospital budget and resources/operation (LOS, rehospitalization)
  - Sensitivity analysis: shows the impact of increase in bleeds on resource utilization
- Potential cost savings from avoidance of adverse events

Uses
- Discussions with hospital and payer decision makers (both administrative and clinical)
- Managed care and hospital publication opportunities
- Value relative to competitors

Environmental assessment grid

<table>
<thead>
<tr>
<th>Rank</th>
<th>Tactic/study</th>
<th>Priority</th>
<th>Setting of case</th>
<th>1 year pre-launch</th>
<th>2 years pre-launch</th>
<th>Gap</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Cost of incremental bleeds and additional adverse events</td>
<td>1-2</td>
<td>IMSOP</td>
<td>1 year pre-launch</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>Disease management</td>
<td>1-2</td>
<td>IMSOP</td>
<td>1 year pre-launch</td>
<td>1</td>
<td>1</td>
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<tr>
<td>3</td>
<td>Drug safety</td>
<td>2</td>
<td>IMSOP</td>
<td>1 year post-launch</td>
<td>2</td>
<td></td>
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<tr>
<td>5</td>
<td>Drug safety</td>
<td>2</td>
<td>IMSOP</td>
<td>1 year post-launch</td>
<td>2</td>
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<tr>
<td>6</td>
<td>Drug safety</td>
<td>2</td>
<td>IMSOP</td>
<td>1 year post-launch</td>
<td>2</td>
<td></td>
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<tr>
<td>7</td>
<td>Drug safety</td>
<td>2</td>
<td>IMSOP</td>
<td>1 year post-launch</td>
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<td></td>
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<tr>
<td>8</td>
<td>Drug safety</td>
<td>2</td>
<td>IMSOP</td>
<td>1 year post-launch</td>
<td>2</td>
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<tr>
<td>9</td>
<td>Drug safety</td>
<td>2</td>
<td>IMSOP</td>
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<td>Drug safety</td>
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<td>IMSOP</td>
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<tr>
<td>11</td>
<td>Drug safety</td>
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<td>IMSOP</td>
<td>1 year post-launch</td>
<td>2</td>
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<tr>
<td>12</td>
<td>Drug safety</td>
<td>2</td>
<td>IMSOP</td>
<td>1 year post-launch</td>
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<tr>
<td>13</td>
<td>Drug safety</td>
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<td>IMSOP</td>
<td>1 year post-launch</td>
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<td>14</td>
<td>Drug safety</td>
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<td>IMSOP</td>
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<td>IMSOP</td>
<td>1 year post-launch</td>
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<td></td>
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<tr>
<td>16</td>
<td>Drug safety</td>
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<td>IMSOP</td>
<td>1 year post-launch</td>
<td>2</td>
<td></td>
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<tr>
<td>17</td>
<td>Drug safety</td>
<td>2</td>
<td>IMSOP</td>
<td>1 year post-launch</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>Drug safety</td>
<td>2</td>
<td>IMSOP</td>
<td>1 year post-launch</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

Stakeholders identified several tactics and OR materials of interest to assist in their decision making:

<table>
<thead>
<tr>
<th>Stakeholder</th>
<th>Tactic</th>
<th>OR material</th>
<th>EU value</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>OR program around medication reconciliation</td>
<td>2.7</td>
<td>4.6</td>
<td>Would be very happy with current case management programs and on the expert. This is a high value.</td>
<td></td>
</tr>
<tr>
<td>Hospital communication</td>
<td>3.1</td>
<td>3.8</td>
<td>Difficult to evaluate value.</td>
<td></td>
</tr>
<tr>
<td>Provider communication</td>
<td>3.9</td>
<td>4.6</td>
<td>&quot;Strong - Enhancement of academic value&quot;. Must be used alone but still targeted to design</td>
<td></td>
</tr>
<tr>
<td>ARUP reference</td>
<td>3.8</td>
<td>4.6</td>
<td>&quot;Strong - Enhancement of academic value&quot;.</td>
<td></td>
</tr>
<tr>
<td>We do our independent research.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PASG intervention with doctors</td>
<td>2.5</td>
<td>3.4</td>
<td>Clinical trials for a licensed system for us. You can combine with others of not testing the condition.</td>
<td></td>
</tr>
<tr>
<td>Test with a big juice.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R&amp;D outcomes</td>
<td>3.8</td>
<td>4.6</td>
<td>Difficult to evaluate value.</td>
<td></td>
</tr>
<tr>
<td>Quality of life data</td>
<td>2.9</td>
<td>2.0</td>
<td>Value of data.</td>
<td></td>
</tr>
</tbody>
</table>

* On a scale of 1-5, with "E" representing low value and "S" representing high value.
Study: Estimated Prevalence of Uncontrolled HTN and Multiple CV Risk Factors; Data source: NHANES III

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Estimated Population</th>
<th>Weighted Percent</th>
<th>4-year CHD Risk</th>
<th>SE</th>
<th>Upweighted Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>With CHD</td>
<td>81</td>
<td>951,029</td>
<td>1.26%</td>
<td>0.1448</td>
<td>0.0113</td>
<td>1,384,724</td>
</tr>
<tr>
<td>No CHD</td>
<td>484</td>
<td>7,480,871</td>
<td>9.88%</td>
<td>0.0632</td>
<td>0.0041</td>
<td>10,892,347</td>
</tr>
<tr>
<td>No CV Risk Factors</td>
<td>20</td>
<td>488,546</td>
<td>0.65%</td>
<td>0.0258</td>
<td>0.0032</td>
<td>711,335</td>
</tr>
<tr>
<td>1 Risk Factor</td>
<td>122</td>
<td>1,845,215</td>
<td>2.44%</td>
<td>0.0332</td>
<td>0.0022</td>
<td>2,686,682</td>
</tr>
<tr>
<td>2 Risk Factors</td>
<td>158</td>
<td>2,489,669</td>
<td>3.29%</td>
<td>0.0589</td>
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</tr>
<tr>
<td>3+ Risk Factors</td>
<td>184</td>
<td>2,657,441</td>
<td>3.51%</td>
<td>0.0950</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>565</td>
<td>8,431,900</td>
<td>11.14%</td>
<td>0.0724</td>
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<td></td>
</tr>
</tbody>
</table>

Mean 4-Year Predicted Risk of Any CHD Event in Adults Aged 40-79 Years by Hypertension and Lipid Status
Study: Risk of Esophageal Cancer in Relation to the Treatment and Prevention of Osteoporosis in Women; Data source: GPRD

**STUDY TASKS**

- **Initial phase:** case-cohort study of adenocarcinoma of the esophagus, nested in the GPRD population of women aged born in the years 1922 through 1953, for such time as they are 55 years of age or older and represented in the GPRD during the period 1996 through 2008.
  - Lagged cumulative doses for high- and low-dose alendronate, ibandronate, risedronate, raloxifene, calcitonin and Vitamin D plus calcium were the primary exposures of interest, and information on possible confounding factors was drawn from the GPRD records.
  - “Standard” epidemiologic analysis, in which the distortions potentially arising from risk-dependent cohort exit and delayed effects were handled through the time-varying exposure variables and covariates.

- **Second phase:** intention-to-treat cohort analysis, in which subjects were allowed to enter new cohorts without leaving their initial ones as they begin treatments. For each calendar quarter from 1996 through 2008, each woman in the universe described in the preceding paragraph who began treatment for osteoporosis was matched on year of birth to two women represented in the database at that time, drawn at random and with replacement from the full GPRD population.

Results currently reside with the FDA
We need help! Analysts/Consultants

Location: Alexandria, VA; Redwood City, CA

- **Position Description**
  In the HEOR practice, Analysts/consultants are primarily responsible for implementation of consulting and research projects. Analysts/consultants work in teams of 2-4, are guided by a Consultant, Engagement Manager or Principal on each project, and play a key role in production of high-quality and on-time deliverables. Occasional travel may be required. Responsibilities can include:
  - Perform literature and Internet searches and synthesize that information for use in proposals and project deliverables
  - Prepare, manage, and analyze research data sets
  - Develop models to forecast the clinical and/or economic impacts of healthcare technologies or interventions
  - Prepare high-quality project reports and presentations of study findings, including the creation of graphical output directly from study data
  - Develop and implement quality-assurance and error-checking procedures

Analysts/consultants work across clients, therapy areas and projects, ensuring a cohesive professional environment and a deep and thorough understanding at all levels of the broad discipline of HEOR. In addition, Analysts/consultants will experience the following:
  - Flexible and diverse work environment with a multidisciplinary team of researchers/consultants with backgrounds in medicine, pharmacy, health economics, health policy, health services research, outcomes research, pricing and market access
  - Formal and informal training opportunities in consulting fundamentals, statistical analyses, economic modeling, and scientific communications
  - A dedicated development coach and mentor to advise on career goals and personal objectives
  - Opportunity for advancement to Consultant based on individual contributions and impact

**Qualifications:**
The ideal candidate is bright, motivated, and eager to deliver top-quality research, consulting, and solutions to clients in the pharmaceutical/biotech/device industries. In general, an undergraduate degree (e.g., BS, BA) in a scientific or technical field is required. Work experience in an applied research or consulting environment is helpful but not required. Other qualifications include:
  - Superb oral and written English communication skills
  - Strong quantitative and analytical skills
  - Excellent organizational skills (attention to detail, multi-tasking, ability to prioritize tasks)
  - Ability to work effectively both independently and with peers and managers
  - Strong working knowledge of Microsoft Office programs
  - Working knowledge of SAS® statistical-analysis software is desirable but not required
Thank you.

Questions?
Contact information

Mitch DeKoven, MHSA
Director – Health Economics and Outcomes Research
(703) 837 – 5153
mdekoven@imscg.com