Medical Affairs

The Medical Affairs function within Life Sciences companies has significantly broadened and increased in importance in recent years. This is the result of forces both inside and outside of the industry, which have driven change in nearly every aspect of business. These forces include rising healthcare costs and changing payment structures; world population dynamics; environmental factors; and transformations along the entire value chain of the Life Sciences industry.

This report examines the trends that have led to the increased significance of Medical Affairs. It also offers some best practices for addressing the growing demands on the Medical Affairs function, which now encompasses the many facets of liaising with scientific peers, experts and healthcare professionals; authorities and health institutions; and patients and communities.

The valuable information included in this report is a compilation and analysis of research executed using publicly available data; as well as a comprehensive study conducted by Cegedim, including interviews with industry stakeholders on their pain points, objectives and current capabilities within the space. This report is the first in a planned series of white papers on the topic of Medical Affairs.
Introduction

Mega Trends Driving Change

As the Life Sciences industry (hereinafter referred to as the Industry) continues to be affected by a host of macro trends, it has become increasingly imperative for today’s industry leaders, managers, partners and investors to grasp the full impact of these mega trends.

Healthcare Costs

First and foremost, economic tensions represent obvious challenges for authorities and payers—and, as a consequence, affect the way the industry operates. The share of healthcare costs in the real economy continues to increase, driven by the “cost disease” linked to the very nature of care procurement, which is requiring a personalized intervention of skilled professionals to address the needs of each patient. Even in emerging countries generating sizeable economic growth, the incremental wealth is not sufficient for governments to ignore the surge of the share of healthcare costs in the real economy. In OECD countries, the cost of healthcare as a share of GDP averages 9.3% based on data from either 2011 or 2013, depending on availability. That cost ranges from 6.6% in Luxembourg to a whopping 17.7% in the US. These expenses increase at an average of 4% and the public share of the funding is on average 72.2%. Yet, there are considerable variations. In the US, it is as low as 47.8%. In the Netherlands, the public share reaches its highest point at 85.6% and is growing slightly faster than the average 4.1% (*1)
In this environment, the share of the total healthcare costs absorbed by the pharmaceuticals and other medical supplies (non-durables) represents a meager 16.4% on average, yet there are wide disparities—from an extreme low in Norway (6.8%) to its highest point in Hungary (33.4%). This important fact has an obvious impact on government funding and reimbursement policies—also having an influence on the industry’s approach to market access. Additionally, this average has been declining over the past decade, prompting the Life Sciences industry’s recommendation that a more holistic and transparent view of healthcare costs is warranted—beyond the sole focus on cost of the drugs. (*2)

World Population Dynamics

Second, the world population is simultaneously expanding and aging. The growth of the middle class in emerging economies creates new customers seeking quality healthcare at affordable prices—representing challenges for the authorities, the payers and the industry. The impact of this trend is reflected in the approaches aiming to maximize access to care in an affordable manner, such as tiered pricing. (*3)

Third, as the world population is increasingly concentrated in urban areas, it facilitates greater access to care, scientific information, and medical information through digital media. As a consequence, the population is more aware, demanding, and willing to challenge the medical authority. The population now seeks more accurate, comprehensive, reliable and trustworthy information. Thus, today’s industry must ensure that the patient represents a pivotal stakeholder in its communication and educational initiatives. (*4)
Environmental Factors

Fourth, the environment is now characterized by change. Decreasing water and air quality as well as climate change result in conditions that promote the spread of infectious and vector-borne diseases; the rise of respiratory disorders; and, in some cases, certain forms of cancer, which has been recently demonstrated. This macro trend challenges public health authorities, which are driven to arbitrate between the various healthcare priorities to allocate their resources. Increasingly, these public priorities must now be factored into the development strategies of the Life Sciences industry.

The Impact of Transformation

Enterprises now deal with the impact of these macro trends in combination with their own intrinsic challenges to maintain profitable growth and ensure their reputation of a trusted provider with consumers.

The Industry has experienced considerable decline in R&D output as all the low hanging fruits have long been harvested [see graph below, ]. The most recent products to be launched are specialty care products that address more targeted indications. The ancient blockbuster model is now being modified since large primary care products are falling prey to the generics. As such, products are evolving towards smaller, and sometimes niche, market segments. These products are characterized by the larger amount of complex scientific and medical information that support the regulatory submission and, by their more focused scope of indications, reflect the fact that they address better defined unmet medical needs.

As fundamental science linked to genomics and proteomics is increasingly leveraged by the Industry, the resultant products for specific patient sub groups now better address the patients’ aspiration for more tailored—if not personalized—medicine. These newer products are also raising issues of affordability even in developed economies. This

“In the summer of 2012, the mosquito-borne West Nile virus made a surprising comeback in America. In Dallas, the most affected region, 400 people contracted the disease and 19 of them died. That came as a shock to public health officials, since the West Nile virus was thought to be in such precipitous decline that it was practically eradicated.”

http://thinkprogress.org/health/2013/07/17/2317471/climate-change-deadly-diseases/
trend will most likely lead to new approaches towards pricing and reimbursement (i.e. coverage by public or private payers) to ensure an appropriate level of access to these therapeutic novelties.

The combination of the R&D drought and the deflation of revenues caused by patent expiration (see graph, from PWC, From Vision to Decision, Pharma 2020, *13) has prompted the industry to focus on minimizing the time to market and the time to peak sales for any new product launch. Yet, this strategic intent is hindered by the strengthening of the regulatory requirements that complicate—through costs and possible delays—various steps all along the value chain, from research to development to manufacturing and all the way to commercialization.

The evolving nature of how companies replenish their portfolios, increasingly with more specialty care and biological products, is impacting the industry’s approach to arbitration along the clinical development path—especially the need to terminate the development of the least promising drug candidates as early as possible. This evolution also affects enterprises’ ability to document the payer value
proposition and ensure the sustainability of the demonstration of its innovation value. This is especially true as the bulk of the profitability comes from mature economies where the healthcare systems are cash-strapped and increasingly cost-conscious (see graph, from PWC, From Vision to Decision, Pharma 2020, *13). As the industry is challenging the public payer authorities’ approach to drug cost-cutting, recommending a more holistic approach to simultaneously deal with healthcare costs and reach better health outcomes, this trend is increasingly critical.

Positively, the focus of all stakeholders is increasingly on the patient. More specifically, this focus is directed on the patient’s experience as a consumer of care. All entities involved are learning that patient satisfaction is likely to become one of the most crucial key performance indicators (KPI).

Reaching such a goal will require optimizing technologies, information and health provider options to reach effective and sustainable diagnosis, treatment and follow-up implementation. This will be achieved through a more efficient allocation of resources in which patients, nurses, health centers, patient associations and others are increasingly involved in supporting the higher cost actors (specialists, hospitals, etc.). This will hopefully lead to improved outcomes due to factors such as proximity, and the ability to have a closer, more personalized follow up to promote adherence to the treatment following diagnosis. The underlying idea is to have each stakeholder focus on what he can do better—at an affordable cost for the system.

![Percentage of Sales in 2011](image-url)
In light of the intensification of the competitive pressures (*) and of the ever-increasing downstream hurdles along the value chain, from clinical development, to registration, to market access, to product launch and commercialization (including drug utilization studies, risk management plans and observational trials), the Industry has been adjusting its organization and functions to successfully address these challenges.

A relevant example is the growing use of patient registries to accelerate translational research as well as to assess the benefit-risk equation during the registration phase. This phase is of growing importance as it serves the stage at which a company calibrates its commitments with respect to the health authorities. (*)

In regards to the market access phase, it’s noteworthy that this phase in stretching beyond the post-regulatory period to the entire product lifecycle, hence affecting the corresponding Industry’s resource allocation. The phase begins with a negotiation based on indicators of clinical utility, savings and efficiency—forming the basis of the commitments made by companies that must be delivered during the commercial life of the product.

Drug Economic Life Cycle

- 80’s
- Today

- Faster Time to Market
- Faster Peak to Sales
- Faster Onset of Generics
- Access Acceleration
- Earlier Launch
- Increase of R&D cost
- Financial Flows
- Manufacturing
- Commercialization
- 10 years
- 20 years

R&D (800 million E)
“The goal is launching sooner without compromising how society values the drug.”

“Even when more drugs become available in a particular therapeutic space suggesting a potential for increased competition surrounding the choice of agents, prices seem to remain high; similarly, there is no clear correlation between the actual efficacy of a new drug and its price.”
http://jco.ascopubs.org/content/31/28/3487.full

In the context of science-driven specialty care and progressively cost-conscious ecosystems, the Industry is also adopting a new approach towards partnerships and information management—shifting its emphasis to delivering results. With patient satisfaction becoming the ultimate KPI, all stakeholders involved are seeking positive outcomes and overall savings along the care procurement pathway. Further, the degree of consumer/patient engagement is strongly correlated with the perceived degree of satisfaction (*7).

With patients now footing an increasing share of the healthcare bill, this trend expands in its significance. Thanks to the ubiquitous connectivity that allows easier access to information and the inquisitive attitude directed towards prescribers, patients are evolving into responsible partners in the management of their own health, and the Industry is adjusting its approach to the patients accordingly.

Today’s partnerships are increasingly innovative and include the academic world, government agencies and nonprofits. The common currency is a focus on accurate, comprehensive, reliable and trustworthy information about the product, the disease, care procurement and patient management.

Additionally, the industry now demonstrates a more holistic stance in the way it handles market access. Beyond the focus of understanding and rationalizing the patient journey, ensuring the outcomes that it committed to in its negotiations with payers, the industry is exploring and experimenting with new approaches to deal regarding affordability or “willingness to pay”(*8 &*9). This is exemplified by the increasing number of risk-sharing agreements, especially in the fields of specialty care where the voices of healthcare providers are adding to the chorus of patient advocacy groups demanding lower prices and affordability for all clinically eligible patients (*10).
The industry has to completely reset its approach to the current ecosystem, as seen in specific areas, to be better prepared in the eminent evolution of the rapidly changing, evidence-driven and cost-conscious healthcare environment.

Strategically fit enterprises must be able to manage fragmented patient flows and provide products and services in new settings. They must open early lines of trustworthy communication with key stakeholders to be regarded by payers as reliable partners in the decisions leading to negotiation and trade-offs. Companies must master their internal processes to ensure information quality across multiple channels, both traditional and digital, irrespective of the data source and the target audience. They must be able to assist stakeholders in managing small and well-defined population segments to deliver specific outcomes. It’s critical that enterprises understand how to engage successfully with healthcare consumers. If the Industry as a whole could deliver on all the above mentioned ideals, companies would be better positioned to build lasting rapport and trust—fostering the belief among the stakeholders that enterprise interests are aligned with their own.

Yet, to execute such changes successfully, does the industry need a mere reboot or a much more substantial DNA change?

**Selected Recent Risk-Sharing Agreements**

<table>
<thead>
<tr>
<th>Drug</th>
<th>Indication</th>
<th>Company</th>
<th>Year</th>
<th>Agreement with</th>
<th>Market Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cimzia (certolizumab pegol)</td>
<td>Rheumatoid arthritis</td>
<td>UCB</td>
<td>2010</td>
<td>NHS/UK</td>
<td>UCB pays for the first 12 weeks of therapy for all patients, after that, NHS pays for responding patients.</td>
</tr>
<tr>
<td>Vidaza (azacitidine)</td>
<td>Myelodysplastic syndromes/chronic myelomonocytic leukemia/acute myeloid leukemia</td>
<td>Celgene</td>
<td>2010</td>
<td>AIFA Italy</td>
<td>Celgene offers 1% rebate for patients not responding to three cycles of treatment.</td>
</tr>
<tr>
<td>Votrient (patupilib)</td>
<td>Kidney cancer</td>
<td>GlaxoSmithKline</td>
<td>2011</td>
<td>NHS/UK</td>
<td>10% discount to match price of Pfizer’s Tarceva (erlotinib) if patient is intolerant to Tarceva in ongoing head-to-head trials.</td>
</tr>
<tr>
<td>Beleodaq (eribulin)</td>
<td>Multiple cancers</td>
<td>EMD Serono</td>
<td>2011</td>
<td>AIFA US</td>
<td>EMD Serono offers rebates based on outcomes (e.g., drug adherence, reduced ER rates).</td>
</tr>
<tr>
<td>Mozobil (plerixafor)</td>
<td>Stem cell mobilization</td>
<td>Genzyme</td>
<td>2011</td>
<td>AIFA Italy</td>
<td>Genzyme refunds entire treatment cost upon its failure.</td>
</tr>
<tr>
<td>Autologous platelet-rich plasma gel</td>
<td>Chronic non-healing wounds</td>
<td>CytoriMedix</td>
<td>2012</td>
<td>CMS US</td>
<td>CMS* Coverage with Evidence Development program provides coverage while collecting clinical evidence on health outcomes.</td>
</tr>
<tr>
<td>Rebif (interferon beta-1a)</td>
<td>Multiple sclerosis</td>
<td>EMD Serono</td>
<td>2011</td>
<td>Cigna US</td>
<td>EMD Serono offers rebates based on outcomes (e.g., drug adherence, reduced ER rates).</td>
</tr>
</tbody>
</table>

*Source: Ernst & Young press releases and media reports.

Medical Affairs: The Keystone

For background on the industry’s organization, the operational functions of the Life Sciences include research, manufacturing, licensing and commercialization—all of which the value chain is built upon. The control-focused functions include departments such as finance, human resources and legal. But owing to the specific nature of its products, the Industry requires an additional layer of control-focused functions including regulatory, medical, global marketing and compliance.

The Medical Affairs function is at the crossroads of operations and control. Historically, it has served as the bridge between the industry and its stakeholders via the medical community. This function is uniquely tasked with managing external relationships with the scientific community as well as with patient groups, authorities and beyond. (*11) Medical Affairs teams deal with added complexity due to the more stringent transparency regulation across the markets that affect the industry globally. For example, from the moment a company begins operations in the US, all its activities, including those outside the national territory, must comply with US regulations. To this point, a report published by First Word in May 2013 takes a deep dive into the impact compliance is having on MSL activity. (*12)

Learnings from our Collaboration Event

Acknowledging the critical role of Medical Affairs in value creation, effectiveness and impact regarding the healthcare industry, Cegedim is currently endeavoring to design a tailored solution to address these expectations. To that end, we have initiated a process of exploration and co-creation, starting with an in-depth assessment of the needs as expressed by the industry experts.

We searched the available literature and organized a live seminar under the format of an advisory board meeting. We collected insights

“We need to ensure that Medical Affairs delivers credibility and subsequently contributes to boosting company reputation.”
General Manager, Europe, Global Life Sciences Company
from knowledgeable professionals with firsthand experience: local and regional Medical Affairs directors, heads of MSL teams, MSLs and Medical Affairs consultants. Additionally, industry executives provided their management perspective and shared their expectations from the medical departments. The remainder of this paper summarizes the meeting’s outcome and includes testimonials from the attendees.

In a series of interactive workshops, the group looked at the new challenges and priorities: short-term versus long-term goals as well as shared experiences. Attendees brainstormed on how to best address the changing and increasingly demanding tasks of Medical Affairs: by either continuing to use internal resources or beginning to leverage external services. The ability to effectively enable internal collaboration between Medical Affairs and other internal teams and managers on the one hand, and external collaboration with traditional and new stakeholders on the other hand, was identified as a key driver to positively influence the company perception held all the way from the scientific expert community to the patient.

The impacts of the megatrends-induced transformations presented earlier in this paper were analyzed in detail.

 contiene el grado de técnica (antes del ámbito de actuación de CEGEDIM, i.e. durante los primeros etapas de R&D) proporciona la base para el éxito del lanzamiento del producto a través de las siguientes habilidades:

• Mejor reconozca a los stakeholders durante la etapa R&D.
• Identifique las mejores respuestas de calidad sobre las vías de tratamiento y las redes de la comunidad científica tan rápidamente como sea posible.
• Mejorar la compilación de información médica integral, precisa y transparente, que hoy es una herramienta clave para toda la organización.
• Rigorosamente prepare las pruebas de evidencia en el mercado que permitan al producto superar con éxito los siguientes pasos: regulación, acceso al mercado y lanzamiento.
• Esté preparado para liderar y apoyar la implementación real de la solución médica, incluyendo el trabajo en comités y la presentación del dossier de regulación para demostrar valor que eventualmente se traducirá en precios, lista en formulario o reembolso.
• Muestra la capacidad de la organización para responder a las demandas de apoyo médico de hoy en formas innovadoras para lograr mejores, más rápidos y efectivos programas de educación médica.
• Ilustre la necesidad de que las ofertas de información operen con agilidad y precisión; apoyando a las equipos comerciales al mismo tiempo que maneja el riesgo; y asegurando que la actividad de comunicación permanece conforme a los estándares de toda la organización, desde el nivel global hasta el local local.
Redefining skills related to the transversal expertise. Cross-functional collaboration and support from the senior management with the goals which include:

- Delivering deep understanding of product value to stakeholders throughout the drug life cycle while ensuring compliance with regulations in every market place.
- Ensuring that the commercial organization masters the required level of product understanding through effective training planned to achieve an adequate level of knowledge in a timely manner.
- Providing communication flows across departments and that are efficiently shared to mitigate risk, seize opportunities and better cater to customer needs.
- Effectively providing the right scientific input to access the market and develop the accounts.

Practically speaking, these skill sets translate into activity. Medical Affairs generate data, whether clinical, epidemiological or outcomes research. Moreover, Medical Affairs manages information flows, both inbound and outbound. Inbound flows refer to medical information and pharmacovigilance. Outbound flows refer first to the most constrained channels including detailing, marketing initiatives, and in general terms, the resources linked to commercialization functions; second, for those outbound flows exclusively targeting the scientific and medical community, they are handled by the Medical Affairs function in the form of publications, medical conferences, etc.

In all cases, information management is strongly affected by regulation, adding an extra layer of complexity as while regulation principles tend to be common, implementation differs from country to country. Therefore, local knowledge and coordination is of paramount importance to align with the specific categories, thresholds and definitions of the different methodologies to communicate.
Data generation and maintenance is critically important:

In regards to data generation, the medical plan execution that requires the following:

- Identifying and profiling of scientific peers
- Decision-making on the best possible role is for each scientific peers
- Understanding of the patient flow
- Characterizing of the risks associated with the product and design via a risk management plan
- Producing clinical and observational studies, drug utilization studies, outcome research and epidemiological data

In regards to data presentation:

- Prepare of the market access plan at the end of the research and development phase.
- Market access success will be based on clinical evidence of efficacy and tolerability, as well as the epidemiological data uncovering the unmet medical need.
Among the faces that the industry presents to its stakeholders, commercial organizations in the Life Science companies are changing; shifting from large sales forces to smaller, more specialized teams designed to respond to the needs of each specific therapeutic area—each requiring the management of more complex, voluminous scientific and medical information. Simultaneously, commercialization budgets are squeezed by the overall effort to maintain profitability. Yet, the need for dedicated resources is expanding, driving the search for alternative and more cost-effective media channels, without compromising on information quality and compliance requirements.

As these interface changes take place, some functions are gaining in importance, especially those with some form of control. Among those, the Medical Affairs role is playing a pivotal role, as it is tasked with ensuring the integrity, comprehensiveness and reliability of the medical and scientific information. As such, Medical Affairs accounts for a sizeable share of the company image and intangible value.

"Leveraging an organization network is key to accelerate launch. For instance, when the global team requests support for a global clinical trial and the affiliate has to recruit 400 patients for a drug utilization study, we had to call on around 5,800 stakeholders. Having critical knowledge on which stakeholders can bring the qualifying patients into the investigation journey makes organizations more productive and helps healthcare systems cover unmet medical needs faster: it is a win-win situation achieved through collaboration."

General Manager, Specialty Pharma Company

"Do we increasingly need a new position in Medical Affairs, such as medical intelligence?"

Medical Affairs Director, EU Affiliate, Mid-size Pharma Company
The industry, along with all its stakeholders, is rightly concerned by the additional risk of product misuse or inadequate patient adherence fostered by incomplete or inadequate information content or dysfunctional information flows. In addition to the possibly dire consequences for the individual patient, the impact on the company reputation can be far reaching. In extreme cases, the financial consequences can reach catastrophic proportions. An example being the case of market authorization cancellation with the inevitable domino effect on company profitability and stock valuation, as well as affecting the level of trust in the company from both authorities and consumers. A case sponsored by the scientific community and supported by scientific evidence presented in a suitable way to meet the different stakeholders’ needs and to address both medical and socio-economic parameters will demonstrate the value of the product and thus provide the foundation towards its approval, pricing negotiation and use implementation.

Agile, efficient information management flow ensuring content quality—up to date, accurate, complete and adapted to the audience’s need—becomes a complex task.

“Do commercial organizations understand the medical aspects of the selling proposition? Oftentimes, there isn’t a shared understanding of the drivers of the value of the product.”
Medical Affairs Director, Europe, Global Healthcare Company

“All the intelligence collected by Market Access, Medical and Marketing teams should be fully integrated.”
Medical Affairs Director, Eastern Europe, Global Healthcare Company

“Data is evidence. We need to move to outcomes from our data repositories, to support the risk mitigation tactics.”
Medical Affairs Director, Europe, Global Healthcare Company
As organizations increasingly demand that their medical departments take a leading position throughout the drug life cycle, the development of transversal cooperation takes on a greater importance. Medical teams can offer precious insights and calls to action to support other functions in presenting the product scientific core value adapted to the regulatory, market access and launch key stakeholders. The key to success is:

- Anticipation to ensure compliant delivery
- Readiness of teams’ expertise
- Adaptation of content
- Readiness of the communication process

“Medical Affairs should be the internal bridge, starting with their R&D colleagues, and all the way to commercialization, always bringing the medical data into the action.”

Medical Affairs director, EU affiliate, Mid-size Pharma Company

“Medical Affairs is not a support function! It’s an acting function, a full partner of the plan execution, with a complete set of accountabilities.”

Medical Affairs director, EU Affiliate, Mid-size Pharma Company
"We are down to P&L by territory, ensuring we achieve these is a shared responsibility in which medical also participates ensuring the right scientific evidence is effectively presented.”
General Manager, EU Country, Mid-size Company

Conclusion

To effectively implement best-in-class processes, Medical Affairs need to be able to measure and monitor its activity and outcomes. Organizations must define clear performance indicators for the medical function and the collaboration with others. These measures should bring insights into strategy fulfillment, the level of success and be linked to a set of triggers that alert the medical function to take timely action when deviations and risks are spotted. Considering the massive investments and efforts in new drug development, healthcare companies cannot afford mishaps in communication management and execution delays that would negatively affect the success of a product launch.

We will be following up with a subsequent white paper, exploring the KPIs and the supportive tools and processes to back the full execution of the mandate of Medical Affairs. Cegedim will be deploying and further evolving our new solution to address the cited needs and expectations. Future white paper editions will report on the actual benefits brought to our customers after real life implementation of our solutions and recommended best practices, and co-creation, starting with an in-depth assessment of the needs as expressed by the industry experts.
Appendix, References & Bibliography:


<table>
<thead>
<tr>
<th>Country</th>
<th>00</th>
<th>01</th>
<th>02</th>
<th>03</th>
<th>04</th>
<th>05</th>
<th>06</th>
<th>07</th>
<th>08</th>
<th>09</th>
<th>10</th>
<th>11</th>
<th>12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>8.1</td>
<td>8.2</td>
<td>8.4</td>
<td>8.3</td>
<td>8.6</td>
<td>8.5</td>
<td>8.5</td>
<td>8.6</td>
<td>8.8</td>
<td>9.0</td>
<td>9.0</td>
<td>9.0</td>
<td></td>
</tr>
<tr>
<td>Austria</td>
<td>10.0</td>
<td>10.1</td>
<td>10.1</td>
<td>10.3</td>
<td>10.4</td>
<td>10.4</td>
<td>10.2</td>
<td>10.3</td>
<td>10.5</td>
<td>11.2</td>
<td>11.0</td>
<td>10.8</td>
<td></td>
</tr>
<tr>
<td>Belgium</td>
<td>8.1</td>
<td>8.3</td>
<td>8.5</td>
<td>10.0</td>
<td>10.0</td>
<td>10.0</td>
<td>9.5</td>
<td>9.5</td>
<td>9.9</td>
<td>10.6</td>
<td>10.5</td>
<td>10.5</td>
<td></td>
</tr>
<tr>
<td>Canada</td>
<td>8.8</td>
<td>9.3</td>
<td>9.6</td>
<td>9.8</td>
<td>9.8</td>
<td>9.8</td>
<td>10.0</td>
<td>10.0</td>
<td>10.3</td>
<td>11.4</td>
<td>11.4</td>
<td>11.2</td>
<td>11.2</td>
</tr>
<tr>
<td>Chile</td>
<td>6.4</td>
<td>6.6</td>
<td>6.5</td>
<td>7.2</td>
<td>6.8</td>
<td>6.6</td>
<td>6.3</td>
<td>6.5</td>
<td>7.1</td>
<td>7.9</td>
<td>7.4</td>
<td>7.5</td>
<td>7.6</td>
</tr>
<tr>
<td>Czech R.</td>
<td>6.3</td>
<td>6.4</td>
<td>6.4</td>
<td>7.1</td>
<td>6.9</td>
<td>6.9</td>
<td>6.7</td>
<td>6.5</td>
<td>6.8</td>
<td>8.0</td>
<td>7.4</td>
<td>7.5</td>
<td></td>
</tr>
<tr>
<td>Denmark</td>
<td>8.7</td>
<td>9.1</td>
<td>9.3</td>
<td>9.5</td>
<td>9.7</td>
<td>9.8</td>
<td>9.9</td>
<td>10.0</td>
<td>10.2</td>
<td>11.5</td>
<td>11.1</td>
<td>10.9</td>
<td></td>
</tr>
<tr>
<td>Estonia</td>
<td>5.3</td>
<td>6.9</td>
<td>8.4</td>
<td>8.1</td>
<td>9.0</td>
<td>10.0</td>
<td>9.2</td>
<td>10.1</td>
<td>10.2</td>
<td>10.2</td>
<td>10.2</td>
<td>10.2</td>
<td></td>
</tr>
<tr>
<td>Finland</td>
<td>7.2</td>
<td>7.4</td>
<td>7.8</td>
<td>8.2</td>
<td>8.2</td>
<td>8.4</td>
<td>8.3</td>
<td>8.0</td>
<td>8.3</td>
<td>9.2</td>
<td>9.0</td>
<td>9.0</td>
<td>9.1</td>
</tr>
<tr>
<td>France</td>
<td>10.1</td>
<td>10.2</td>
<td>10.6</td>
<td>10.8</td>
<td>11.0</td>
<td>11.0</td>
<td>10.4</td>
<td>10.9</td>
<td>11.0</td>
<td>11.7</td>
<td>11.7</td>
<td>11.6</td>
<td></td>
</tr>
<tr>
<td>Germany</td>
<td>10.4</td>
<td>10.5</td>
<td>10.7</td>
<td>10.9</td>
<td>10.7</td>
<td>10.8</td>
<td>10.6</td>
<td>10.5</td>
<td>10.7</td>
<td>11.8</td>
<td>11.5</td>
<td>11.3</td>
<td></td>
</tr>
<tr>
<td>Greece</td>
<td>8.0</td>
<td>8.9</td>
<td>9.2</td>
<td>9.0</td>
<td>8.8</td>
<td>9.7</td>
<td>9.7</td>
<td>9.8</td>
<td>10.1</td>
<td>10.2</td>
<td>9.5</td>
<td>9.3</td>
<td></td>
</tr>
<tr>
<td>Hungary</td>
<td>7.2</td>
<td>7.2</td>
<td>7.6</td>
<td>8.6</td>
<td>8.2</td>
<td>8.4</td>
<td>8.3</td>
<td>7.7</td>
<td>7.5</td>
<td>7.7</td>
<td>8.0</td>
<td>7.9</td>
<td>7.8</td>
</tr>
<tr>
<td>Iceland</td>
<td>9.5</td>
<td>9.3</td>
<td>10.2</td>
<td>10.4</td>
<td>9.9</td>
<td>9.4</td>
<td>9.1</td>
<td>9.1</td>
<td>9.1</td>
<td>9.6</td>
<td>9.3</td>
<td>9.0</td>
<td>8.9</td>
</tr>
<tr>
<td>Ireland</td>
<td>6.1</td>
<td>6.7</td>
<td>7.0</td>
<td>7.3</td>
<td>7.5</td>
<td>7.6</td>
<td>7.5</td>
<td>7.9</td>
<td>9.1</td>
<td>10.0</td>
<td>9.3</td>
<td>8.9</td>
<td></td>
</tr>
<tr>
<td>Israel</td>
<td>7.5</td>
<td>8.1</td>
<td>8.0</td>
<td>7.9</td>
<td>7.8</td>
<td>7.9</td>
<td>7.6</td>
<td>7.6</td>
<td>7.7</td>
<td>7.7</td>
<td>7.6</td>
<td>7.6</td>
<td></td>
</tr>
<tr>
<td>Italy</td>
<td>7.9</td>
<td>8.1</td>
<td>8.2</td>
<td>8.2</td>
<td>8.5</td>
<td>8.7</td>
<td>8.8</td>
<td>8.5</td>
<td>8.9</td>
<td>9.4</td>
<td>9.4</td>
<td>9.2</td>
<td>9.2</td>
</tr>
<tr>
<td>Japan</td>
<td>7.6</td>
<td>7.8</td>
<td>7.9</td>
<td>8.0</td>
<td>8.0</td>
<td>8.2</td>
<td>8.2</td>
<td>8.2</td>
<td>8.6</td>
<td>9.5</td>
<td>9.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Korea</td>
<td>8.3</td>
<td>5.0</td>
<td>4.8</td>
<td>5.2</td>
<td>5.2</td>
<td>5.6</td>
<td>6.1</td>
<td>6.4</td>
<td>6.6</td>
<td>7.3</td>
<td>7.3</td>
<td>7.4</td>
<td>7.5</td>
</tr>
<tr>
<td>Luxembourg</td>
<td>7.5</td>
<td>7.4</td>
<td>8.1</td>
<td>7.7</td>
<td>8.2</td>
<td>7.9</td>
<td>7.7</td>
<td>7.1</td>
<td>7.2</td>
<td>8.0</td>
<td>7.2</td>
<td>6.6</td>
<td></td>
</tr>
<tr>
<td>Mexico</td>
<td>5.1</td>
<td>5.5</td>
<td>5.6</td>
<td>5.8</td>
<td>6.0</td>
<td>5.9</td>
<td>5.7</td>
<td>5.8</td>
<td>5.8</td>
<td>6.4</td>
<td>6.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Netherlands</td>
<td>8.0</td>
<td>8.3</td>
<td>8.9</td>
<td>9.8</td>
<td>10.0</td>
<td>10.9</td>
<td>10.7</td>
<td>10.8</td>
<td>11.0</td>
<td>11.8</td>
<td>12.1</td>
<td>11.9</td>
<td></td>
</tr>
<tr>
<td>New Zealand</td>
<td>7.6</td>
<td>7.7</td>
<td>8.0</td>
<td>7.9</td>
<td>8.0</td>
<td>8.4</td>
<td>8.8</td>
<td>8.5</td>
<td>9.1</td>
<td>10.0</td>
<td>10.2</td>
<td>10.3</td>
<td></td>
</tr>
<tr>
<td>Norway</td>
<td>8.4</td>
<td>8.8</td>
<td>9.8</td>
<td>10.0</td>
<td>9.6</td>
<td>9.0</td>
<td>8.6</td>
<td>8.7</td>
<td>9.6</td>
<td>9.4</td>
<td>9.3</td>
<td>9.4</td>
<td></td>
</tr>
<tr>
<td>Poland</td>
<td>5.5</td>
<td>5.9</td>
<td>6.3</td>
<td>6.2</td>
<td>6.2</td>
<td>6.2</td>
<td>6.2</td>
<td>6.3</td>
<td>6.9</td>
<td>7.2</td>
<td>7.0</td>
<td>6.9</td>
<td></td>
</tr>
<tr>
<td>Portugal</td>
<td>9.3</td>
<td>9.3</td>
<td>9.5</td>
<td>9.7</td>
<td>10.0</td>
<td>10.4</td>
<td>10.0</td>
<td>10.0</td>
<td>10.2</td>
<td>10.8</td>
<td>10.8</td>
<td>10.2</td>
<td></td>
</tr>
<tr>
<td>Slovak R.</td>
<td>5.5</td>
<td>5.5</td>
<td>5.6</td>
<td>5.8</td>
<td>7.2</td>
<td>7.0</td>
<td>7.3</td>
<td>7.8</td>
<td>8.0</td>
<td>9.2</td>
<td>9.0</td>
<td>7.9</td>
<td></td>
</tr>
<tr>
<td>Slovenia</td>
<td>8.3</td>
<td>8.6</td>
<td>8.6</td>
<td>8.6</td>
<td>8.4</td>
<td>8.4</td>
<td>8.1</td>
<td>8.3</td>
<td>9.2</td>
<td>9.2</td>
<td>8.9</td>
<td>8.9</td>
<td>8.8</td>
</tr>
<tr>
<td>Spain</td>
<td>7.2</td>
<td>7.2</td>
<td>7.3</td>
<td>8.2</td>
<td>8.2</td>
<td>8.3</td>
<td>8.4</td>
<td>8.5</td>
<td>8.9</td>
<td>9.6</td>
<td>9.6</td>
<td>9.3</td>
<td></td>
</tr>
<tr>
<td>Sweden</td>
<td>8.2</td>
<td>8.9</td>
<td>9.2</td>
<td>9.1</td>
<td>9.1</td>
<td>9.1</td>
<td>8.9</td>
<td>8.9</td>
<td>9.2</td>
<td>9.9</td>
<td>9.5</td>
<td>9.5</td>
<td></td>
</tr>
<tr>
<td>Switzerland</td>
<td>9.9</td>
<td>10.3</td>
<td>10.6</td>
<td>10.9</td>
<td>11.0</td>
<td>10.9</td>
<td>10.4</td>
<td>10.2</td>
<td>10.3</td>
<td>11.0</td>
<td>11.0</td>
<td>11.3</td>
<td></td>
</tr>
<tr>
<td>Turkey</td>
<td>4.9</td>
<td>5.2</td>
<td>5.4</td>
<td>5.3</td>
<td>5.4</td>
<td>5.4</td>
<td>5.8</td>
<td>6.0</td>
<td>6.1</td>
<td>6.6</td>
<td>7.1</td>
<td>8.0</td>
<td></td>
</tr>
<tr>
<td>UK</td>
<td>7.0</td>
<td>7.3</td>
<td>7.6</td>
<td>7.8</td>
<td>8.0</td>
<td>8.3</td>
<td>8.4</td>
<td>8.5</td>
<td>9.0</td>
<td>9.9</td>
<td>9.6</td>
<td>9.4</td>
<td></td>
</tr>
<tr>
<td>United States</td>
<td>13.7</td>
<td>14.3</td>
<td>15.2</td>
<td>15.7</td>
<td>15.8</td>
<td>15.9</td>
<td>16.2</td>
<td>16.6</td>
<td>17.7</td>
<td>17.7</td>
<td>17.7</td>
<td>17.7</td>
<td>17.7</td>
</tr>
</tbody>
</table>

Source: OCDE - Health Data - 2013

[*9] http://jco.ascopubs.org/content/31/28/3487.full
[*10] Ernst & Young, Biotechnology Industry report 2013, Beyond borders – Matters of evidence
[*11] BCG Perspectives, Raising the bar in biopharma medical affairs
Cegedim is dedicated to making healthcare businesses run more efficiently, most notably fostering faster Time to Market and Time to Peak Sales. Cegedim is the only innovative and agile global Information Services company specialized in healthcare, providing a unique breadth of offering and depth of knowledge of the healthcare ecosystem.

To learn more, please visit: www.cegedim.com and follow Cegedim on Twitter: @CegedimGroup.

Solutions & Services include:

**Life Sciences**
- CRM Solutions
- Customer Insights
- Compliance
- Marketing
- Databases
- Market Research
- Sales Statistics
- Support Services

**Healthcare Professionals**
- Solutions for Doctors
- Solutions for Pharmacists
- Solutions for Paramedics
- Medication Database
- Customized Statistics
- Medical Financial Leasing

**Healthcare Insurance**
- Solutions for Healthcare Insurers
- Flow and Electronic Payment Management Services

**All Sectors**
- e-Business Solutions
- Business Intelligence
- HR and Payroll Solutions
- Direct Marketing
- Hosting