



Cash on the prescription

Pharmaceutical companies and
working capital management 2010



Foreword

Cash on the prescription is the latest in a series of working capital management reports published by Ernst & Young

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In this report, we examine the current working capital (WC) performance and practices of the leading pharmaceutical companies.

Historically, research-based pharmaceutical companies have not focused rigorously on cash management, as the industry enjoyed high operating margins and strong balance sheets. As a result, a cash culture has been far from prevalent.

Today, companies in every sector are increasingly focused on the need to skillfully manage capital, and pharmaceutical companies are no exception. The pharmaceutical industry has been embracing a more sustainable and cost-effective business model that not only preserves and optimizes capital but positively grows shareholder value. Cash and WC management are critical elements. Companies have come to realize that WC is not only the cheapest form of capital, but also a valuable and largely untapped source of liquidity.

Even so, our analysis reveals that the industry overall has failed to reduce WC levels since 2000. Collectively, the top 14 US and European pharmaceutical companies (by sales) may have up to US\$37b tied up unnecessarily in WC. This is equivalent to 7% of their combined sales.

Companies that excel in WC management will not only be in a position to generate more cash from their businesses, but will also be less dependent on external financing and have greater flexibility to take advantage of capital opportunities as they arise. We believe our analysis of WC performance in the pharmaceutical industry can help companies reach a better understanding of how to effect WC improvements that will help enable their capital agendas and secure their futures.

Key findings

The pharmaceutical industry is in the midst of a substantial transformation, with WC management frequently cited as a critical element of this change.

Yet our latest findings for 2009 reveal an overall deterioration in WC performance compared with 2008. This means that the WC gains achieved between 2000 and 2005 have been fully reversed in the last four years. Remarkably, out of the 14 companies in our survey, only six companies reported improved performance since 2000.

Much of the deterioration in WC performance between 2005 and 2009 came as a result of higher receivables and inventories.

Several factors – some of them conflicting – may explain the reported variations in performance over the different periods under review.

- ▶ The effects of some of the industry’s recent WC initiatives are only expected to manifest themselves gradually, assuming changes are sustainable.
- ▶ A contributing factor to the weakness in receivables performance was the rising proportion of non-US sales in the total, as payment terms with customers are longer in most countries than with US-based customers. Change to the distribution arrangements taking place in many countries have also played a part. Ongoing consolidation in the European wholesale market may have been a negative influence. More recently, performance appears to have suffered from the decision of US wholesalers to stretch terms with their suppliers.
- ▶ Recent inventory performance has been more varied, adversely affected by large variations in levels of specialty chemicals inventories. Since 2000, disciplined inventory management, leaner supply chains and more effective collaboration with wholesalers and pharmacies have delivered major benefits.
- ▶ Improved payables performance was primarily the result of a stronger focus on procurement and sourcing.
- ▶ Other factors that influenced WC performance include changes in the revenue mix of products, as well as industry consolidation and currency movements.

Comparing the findings between pharmaceutical companies also continue to show a wide disparity in WC performance. While part of this may reflect differences in product and country sales mix, along with the various ways manufacturing and distribution strategies have been proposed, we believe this is also explained by some fundamental differences between companies in management focus on cash and process efficiency.

Our report indicates that leading pharmaceutical companies have an aggregate total of at least US\$18b and possibly as much as US\$37b of cash unnecessarily tied up in WC. This is equivalent to between 3.5% and 7.0% of sales and entirely consistent with the level of benefits that can be achieved when we work with clients where WC has not been a primary focus.

In combination, all the factors listed above will intensify the pressure on the industry to pay even more attention to WC management, especially when planning and executing its responses to a challenging environment.

Against this backdrop, who will be appropriately placed to outperform their industry peers and seize opportunities? It will be those companies that work even more closely with key customers and suppliers, drive ever greater efficiency out of the supply chain, share real-time information about supply and demand, and have robust risk management policies in place.

Table 1: change in WC in 2009 compared with 2008, 2005 and 2000

Global	Change 2009/08	Change 2009/05	Change 2009/00
DSO	5%	10%	8%
DIO	-1%	3%	-7%
DPO	3%	6%	5%
C2C	3%	7%	0%

Source: Ernst & Young analysis, based on publicly available annual financial statements

NB: DSO (days sales outstanding), DIO (days inventory outstanding), DPO (days payable outstanding) and C2C (cash-to-cash), with metrics calculated on a sales-weighted basis



In the midst of a substantial transformation

In the last 12-24 months, several research-based pharmaceutical companies have reported strategic initiatives that have the potential to transform their businesses.

Many of these actions have been designed to drive future growth, address the cost structure and prepare organizations for the unprecedented challenges confronting this industry. The changes cover patent expirations, pricing and regulatory pressures, thin late-stage pipelines, shifting demographics, efficacy issues and globalization.

For a number of companies, these actions have been prompted by the prospect of large revenue reductions as major drugs go off patents during the next two to three years. In a few other cases, they have been triggered by the changing macro-economic environment or the Obama plan to reform US healthcare.

Pharmaceutical companies have responded to these challenges in a variety of ways. Some have chosen to pursue mergers as a means of both enhancing revenue and boosting the capacity to bring new products to the market. These transactions also have the potential to generate significant cost reductions and reduce R&D risk. Others have opted for a more diversified and less risky sales growth strategy through bolt-on acquisitions in areas such as consumer and animal healthcare, generics and vaccines, coupled with aggressive expansion in emerging markets (with the intention to grow sales, serve local demand and improve sourcing). A third strategy has been strengthening patented drugs portfolios through partnerships, licensing deals and small-scale acquisitions.

All companies have continued or, in some cases, intensified their cost-reduction efforts, primarily by lowering headcount, simplifying and consolidating manufacturing, research and support functions, streamlining supply chains and globalizing procurement.

These actions will lead to significant changes in the operating business model, with managements aiming to bolster shareholder value while at the same time achieving a balance between expected returns and related regulatory, market, partnership and operational risks.

“Free cash flow had a very positive development, and that has also to do with our capital and inventory management, into which we are putting more attention now and in the future than we did in the recent past.”

Daniel Vasella,
Chairman & Chief Executive Officer, Novartis
† 22 October 2009, Q3 2009 earnings conference call

Deterioration in WC performance in 2009

A review of the WC performance of 2009 of the 14 largest US and European pharmaceutical companies (by sales), reveals a deterioration compared with 2008. Cash-to-cash (C2C) increased by 3%. Among the peer group, eight companies reported weaker performance.

These results occurred in the context of a mid-single digit sales growth in the pharmaceutical market and moderate expansion for consumer healthcare and medical devices products (sales of which were adversely affected by the economic downturn). There was also a recovery in demand for specialty chemical products in the final quarter of the year. Other factors included the number of mergers and acquisitions by which was exceptionally high and currency movements.

Table 2: change in WC, 2009 and 2008

Global	2009	Change 2009/08
DSO	67.2	5%
DIO	44.4	-1%
DPO	25.7	3%
C2C	85.9	3%

Table 3: number of companies and % change in WC, 2009 compared with 2008

		DSO	DIO	DPO	C2C
Reduction	>5%	1	3	3	3
	0-5%	1	3	0	3
Increase	>5%	7	7	9	6
	0-5%	5	1	2	2

Source: Ernst & Young analysis, based on publicly available annual financial statements

NB: DSO (days sales outstanding), DIO (days inventory outstanding), DPO (days payable outstanding) and C2C (cash-to-cash), with metrics calculated on a sales-weighted basis

This weak 2009 WC performance was primarily due to higher receivables (DSO up 5%), which was partially offset by an increase in payables (DPO up 3%) and to a lesser extent by a reduction in inventories (DIO down 1%). It should be noted that an alternative measure using spend (excluding staff costs) rather than sales would have resulted in a bigger increase of 6%.

Specifically, overall WC performance in 2009 was influenced by several factors, each with varying impacts on different companies.

A number of pharmaceutical companies reported major strategic initiatives (such as mergers, bolt-on acquisitions of non-pharmaceutical assets, expansion in emerging countries, and new partnerships and licensing agreements) that had a significant impact on the measure of WC performance.

Receivables performance seems to have suffered from the decision of US wholesalers to stretch terms with their suppliers, as they moved away from a policy of favoring rebates rather than terms (see below). Only two companies avoided a year-on-year deterioration in DSO.

The effect of the crisis on customers' credit quality appears to have remained limited, with overall provisions for bad debt in income statements and related balance sheet reserves remaining almost unchanged in 2009 compared with 2008. In some cases, however, there has been an increase in the specific levels of allowances for receivables on some countries, such as Greece (due to delayed payments by hospitals as the Greek government withheld payments from its government institutions) and Venezuela (following the devaluation of the bolivar).

Overall, inventory levels declined slightly. However, there were significant variations in performance across companies, with only six companies reporting a lower DIO. We should provide a word of caution here, since companies involved in the production of specialty chemicals saw revenues recover in the final quarter of the year. This led to a significant improvement in inventory performance compared with the year before. If you were to exclude two companies particularly exposed to that business, inventories would have been marginally up.

Payables performance continued to benefit from a stronger focus on procurement and sourcing, as companies seek to improve operational efficiency and outsource more of their manufacturing and logistics operations. The reported changes also reflected the deployment of different strategies and tactics. For example, some companies have been stretching terms with their main suppliers, or reducing their supplier base to achieve greater leverage in negotiations. Others have been choosing to pay faster in return for enhanced cash discounts. Overall, eleven companies reported a year-on-year improvement.

Currency movements had a major impact on WC for some companies

2009 was another year marked by large year-on-year and year-end currency fluctuations. These had a significant impact on WC performance.

Table 4: exchange rates and year-on-year/average changes, 2009 and 2008

US\$ per unit	Change year-end/average	
	2009	2008
€	3%	-4%
£	2%	-22%
CHF	5%	2%
Yen	1%	14%

Source: Ernst & Young analysis

Because international transactions are translated by using the exchange rates prevailing at the date of the transaction and assets and liabilities using the year-end exchange rates, any difference during the year between the two conversion rates affects the measurement of the WC metrics and, accordingly, understanding of the underlying performance.

For the companies reporting in US dollars (i.e. two-thirds of total sales of the peer group in the study), the relative weakness of the US dollar against the euro, the Swiss franc and the Japanese yen at the 2009 year-end conversion of the balance sheet compared with its average during the year for the P&L weighted negatively on C2C performance.

For those companies reporting in euros (18% of total sales), the relative strength of the euro against the US dollar at the 2009 year-end conversion of the balance sheet compared to its average during the year for the P&L had a beneficial impact on C2C performance. For the companies reporting in GB pounds (8% of total sales), currency movements had a positive impact on performance. Those companies reporting in Swiss francs (9% of sales) did not see any material impact of currency translations on C2C performance.

In summary, we would expect currency translations to have had a small negative impact on C2C performance for the industry as a whole. In light of this, exchange rate fluctuations need to be considered when assessing the underlying WC performance of any company with foreign sales.

US wholesalers may have chosen to stretch terms with suppliers

Big Pharma's sales to the three US biggest wholesalers amounted to approximately one-third of their total sales in 2009, with proportions ranging between 20% and 50%, depending on the relevant country sales, product mix exposure and commercial strategies.

Compared with 2008, an analysis of the payables performance of these three wholesalers indicates a year-on-year rise of 5% in DPO based on cost of sales (COS), with each one reporting an increase (2%, 3% and 9%, respectively). The last of these figures more than reversed the reduction of 2% reported in 2008. This finding suggests that wholesalers may have chosen to stretch terms with the pharmaceutical industry, moving away from favoring rebates rather than terms.

An analysis of the inventory performance of the same wholesalers also offers interesting insights. Inventories were down 7% year-on-year over the same period, with two wholesalers posting a reduction of 7% and 11%, respectively, and the third one reporting an increase of 3%. Part of this overall reduction may have come from improved inventory management, notably on the back of the spread of IMAs across the industry. In one case, US wholesalers have agreed to carry lower levels of inventory than before under revised distribution terms. In another US example, wholesaler inventory levels have been reduced in several markets, following a post-merger review of channel exposure and the harmonization of distribution systems.

"We are delivering significant savings through implementation of best practice in procurement and working capital management and will continue those efforts."

Simon Lowth, Chief Financial Officer, AstraZeneca

18 January 2010, Full Year 2009 earnings conference call

Weak WC results in the last four years wiped out previous gains

These latest findings for 2009 mean that since 2005, the pharmaceutical industry's levels of WC have increased by 7% (reaching 86 days, or 23.5% of sales), fully reversing the gains achieved in the previous five years. Only six companies reported improved performance since 2000.

Table 5: change in WC in 2009 compared with 2005 and 2000

Global	Change 2009/05	Change 2009/00
DSO	10%	8%
DIO	3%	-7%
DPO	6%	5%
C2C	7%	0%

Table 6: number of companies and % change in WC, 2009 compared with 2000

		DSO	DIO	DPO	C2C
Reduction	>10%	0	6	5	4
	0-10%	1	1	0	2
Increase	>10%	6	5	8	4
	0-10%	7	2	1	4

Source: Ernst & Young analysis, based on publicly available annual financial statements

These results appear to be in sharp contrast with the industry's reported stronger focus on cash and WC management and the high number of ongoing and new initiatives in these areas.

Much of the deterioration in WC performance between 2005 and 2009 came as a result of higher receivables and inventories.

Several factors - some of them conflicting - may explain the reported variations in performance over the different periods under review.

The effects of some of the industry's recent WC initiatives are only expected to manifest themselves gradually, assuming changes are sustainable.

A contributing factor to the weakness in receivables performance was the rising proportion of non-US sales in the total (58% of sales in 2009 against 53% in 2000), as payment terms with customers are longer in most countries than with US-based customers. Another cause was the change to the distribution arrangements in many countries. Ongoing consolidation in the European wholesale market have also played a part. More recently, performance appears to have suffered from the decision of US wholesalers to stretch terms with their suppliers.

Inventories performance has been more varied lately, adversely affected by large variations in levels of specialty chemicals inventories. Since 2000, performance benefited from disciplined inventory management and leaner supply chains. In addition, manufacturers have been collaborating much more effectively with wholesalers and pharmacies, resulting in significant cash and cost efficiencies across the supply chain.

Improved payables performance has been primarily the result of a stronger focus on procurement and sourcing.

Another factor that influenced WC performance overall and for each individual company was the change in the revenue mix by products, with non-pharmaceutical and vaccines now representing 29% of total sales. As shown in the table below, the WC business models and dynamics of each non-pharmaceutical activity (primarily consisting of consumer healthcare, medical devices, specialty chemicals and animal health) differ widely. For vaccines, the manufacturing is complex and can take quite a long time (six to nine months), with high up-front capital investments.

Industry consolidation and currency movements have had also a large impact on WC.

Table 7: WC metrics per segment, 2009

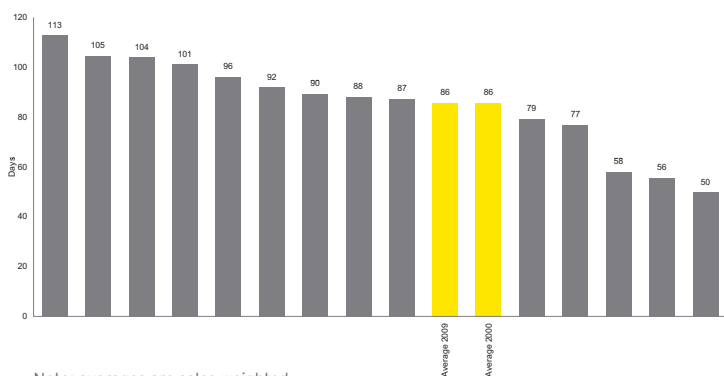
Segment	DSO	DIO	DPO	C2C	TWC/Sales
Consumer healthcare	34.7	35.7	32.1	38.3	10.5%
Medical devices	62.5	49.1	15.9	95.7	26.2%
Chemical	44.8	47.0	27.7	64.2	17.6%
Pharmaceutical	67.2	44.4	25.7	85.8	23.5%

Source: Ernst & Young analysis

Overall industry WC performance

Current WC performance

Table 8: C2C per company, 2009



Note: averages are sales-weighted
Source: annual accounts

C2C performance varies widely across the pharmaceutical industry. The standard deviation of the C2C performance was, on average, 20 days partly due to differences in product and country sales mix and in the manufacturing and distribution strategies deployed.

Yet even when we take all these factors into account, they are not enough to explain the size of the gap between companies. This implies that there are fundamental differences in their cash and process efficiency.

Sales and distribution

Different sales and distribution methods and channels by product and region

Pharmaceuticals and human vaccines are sold either directly through a sales force, or through alliances and licensees throughout the world. Prescription products are sold principally to wholesale distributors, as well as to independent and chain retail drug outlets, hospitals, pharmacies, managed-care organizations and government agencies and via mail order. With the exception of OTC products, these drugs are typically dispensed to the patients by pharmacies upon a presentation of a doctor's prescription.

Over 90% and 80% of sold prescription pharmaceutical products are delivered by wholesalers in the US and Europe, respectively. In both regions, there has been significant consolidation in the wholesale distribution market in the last decade, with the top three wholesalers now commanding a share in excess of 95% in the US and 65% in Europe. In the latter, the market share of the three

largest wholesalers varies considerably by country: it is 40% in Spain, 50% in Italy and 60% in Germany, while in France, Scandinavia and the UK, it is more than 80%.

Alliance agreements include marketing and financial arrangements that vary by country. There are three principal types of marketing arrangements: 'co-marketing' (under which each company markets the products independently under its own brand names); 'exclusive marketing' (under which a company has the exclusive right to market the products); and 'co-promotion' (under which the products are marketed through the alliance arrangements under a single brand name). Under the co-marketing and exclusive marketing systems, sales and costs are fully recorded in the consolidated financial accounts, while under the co-promotion system, the accounting treatment depends upon who has majority ownership and operational management in that territory. The alliance arrangements include two royalty streams, discovery royalty (as inventor of the molecule) and development royalty (when related to certain know-how and other intellectual property related to the molecule).

Distribution of OTC products is closely regulated in Europe, with variable levels of regulation across countries which affect its organization. Following a recent directive by the European Commission, some countries are exploring ways to open up the pharmacy market and liberalize the ownership of pharmacies. In most EU states, pharmacists still retain a strict monopoly over the supply of these products. Some countries, such as the Netherlands allow pharmacists to supply a full range of OTC medicines. In the UK, OTC medicines on a general sales list can be supplied by any retailer, but other OTC medicines have to be supplied under the supervision of a pharmacist. In the US, OTC products can be sold by all retailers.

Personal care products are mostly sold through mass merchandisers and drugstores. Animal health products are sold to wholesale distributors and, to a lesser extent, to a large, diverse customer base of vets, production animal operators and animal health product retailers. A rising proportion of them are also sold directly over the internet. Animal health businesses use their own sales organizations and, in some countries, agents and distributors. Medical devices are sold through direct sales representatives and/or independent distributors. The largest customers for medical devices are the public and private hospitals in the US and government organizations in Europe and Japan.

Changes in distribution arrangements with wholesalers

In recent years (especially since 2007), most manufacturers have altered their distribution arrangements, moving from the traditional wholesale model to fee-for-service and 'direct to pharmacy' (dtp) schemes. In the US, fee-for-service arrangements now account for over 80% of the top three wholesalers' sales. In Europe, these schemes represent 15-20% of total pharmaceutical sales, with wide variations across countries (below 5% in Spain and Portugal, 5-10% in Italy and Switzerland, 10-15% in France and Germany, and 40-45% in the UK).

Under a fee-for-service scheme, manufacturers make use of wholesalers' distribution and order processing facilities. Under a DTP distribution scheme, the manufacturer sells directly to pharmacies, using the wholesaler as a logistics service provider (LSP) in exchange for a fee. Both schemes allow manufacturers to retain ownership of the goods until they reach the end-user.

Such schemes enable the manufacturer (i) to get far greater visibility and control in where its products are sold and how much each end-user is ordering, (ii) to manage the supply chain more effectively and (iii) to capture a higher share of the supply value chain. Other benefits include closer alignment between compensation and performance, more transparent rebate policies, tighter control of excess inventories and lower fluctuations in order patterns.

However, there is a significant risk for the pharmaceutical supply system that such schemes may also result in higher costs for distribution, longer delivery times, reduced levels of services and higher customer transaction costs and activity needed to maintain timely payments. Another implication is that this might also lead to increased concentration in the wholesale sector.

Current receivables performance

Wide range of payment terms across products and by country

Payment terms vary widely across products and by country, reflecting the nature of each activity, the distribution structure of each market and the local practices.

For pharmaceutical products, payment periods are generally shorter with wholesalers and longer with hospitals and government agencies. Payment by pharmacies sits in between.

For US wholesalers, the average payment period (DSO) is 40-45 days, according to the latest figures from AmerisourceBergen, Cardinal Health and McKesson. In Europe, wide variations in payment terms exist across wholesalers, with cash terms agreed with a small group of them dictating the overall country level. Germany and Scandinavia exhibit the lowest DSO (25-35 days), reflecting the prevalence of early-payment discounts. In the UK, the range of payments widened to 40-60 days, as one large wholesaler chose longer payment terms as part of its drive to reduce debt. In Belgium and France, DSO range is 35-45 days. In Japan, DSO is higher at 90-120 days, while in the rest of the world, there is a wide distribution of DSO performance.

It is worth noting that part of the DSO performance gap across countries may be due to varying levels of market maturity and commercial strategies, but also may reflect fundamental differences in local payment practices (terms) and cash collection effectiveness.

Outside wholesalers, Europe deals with a complex mix of doctors, pharmacies, hospitals and government buying agencies that result in extended payment terms, high levels of overdue payments, and high logistics and distribution costs. Overall, we believe the DSO of this segment in Europe is around 70-80 days. Note that there are wide variations in payment terms across categories and within each country. For instance, in countries such as Greece, Italy and Spain, payments by hospitals and government agencies regularly exceed six to nine months.

Among other businesses, consumer healthcare carries the lowest level of receivables (for OTC products, related levels are higher than the segment's average, as the customer base includes a high number of pharmacists in Europe that generally have more favourable payment terms). Medical devices have the highest level of receivables, as a significant portion of sales is done with hospitals and government organizations. For chemicals, the industry's average DSO was 45 days in 2008 (based on full year sales), with a wide variation in performance among companies. Chemical companies operating in Europe have generally a higher DSO than their peers in the US.

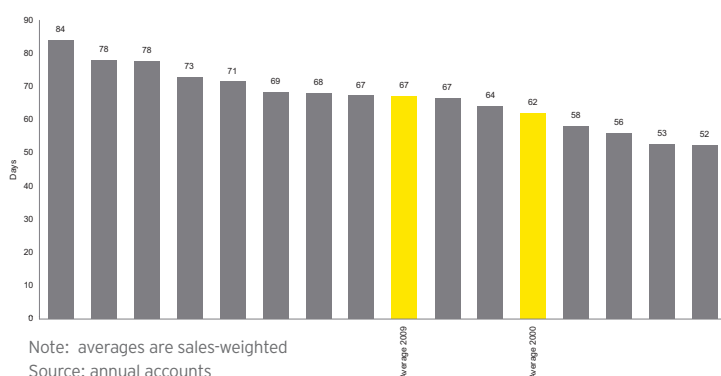
Table 9: DSO per segment

Segment	Customer	Region	Country	DSO (days)
Pharmaceutical				
	Wholesaler			
		US		40-45
		Europe		
			Belgium/France	35-45
			Germany/Scandinavia	25-35
			UK	40-60
			Other Europe	30-45
		Japan		90-120
	Non-wholesaler		Europe	70-80
Consumer healthcare				35-45
Medical devices				70-80
Chemical		US/Europe		45

Source: Ernst & Young analysis

Wide variations in receivables performance

Table 10: DSO per company, 2009



Note: averages are sales-weighted
Source: annual accounts

Wide variations in receivables performance exist across the pharmaceutical industry, partly due to differences in customer and country sales mix, and commercial strategies (impacting payment discounts and terms). The standard deviation of DSO performance was on average 10 days.

The pharmaceutical industry as a whole has seen a deterioration in receivables performance since 2000, with an increase of 8% in DSO (equivalent to 5.0 days). Only one company avoided a deterioration.

Current inventory performance

Different categories of inventory

Inventory for a pharmaceutical company consists primarily of intermediates and active ingredients, manufactured products and packaging. For consumer healthcare, inventory includes raw materials, some chemicals used in the manufacturing process, commodities, packaging and finished goods. For medical devices, the principal raw materials are metals while parts and components are also purchased and outside sources used for certain finishing operations. The specialty chemical activity uses a large range of raw materials purchased from multiple sources, a proportion of them being consumed internally when companies are vertically integrated.

Inventory breakdown by category varies widely across the industry, showing how different companies have different strategies across inventory acquisition. Some push products to finished goods, while some hold more work-in-progress (WIP) to give them more flexibility to finalize the product in the right packaging or ship in bulk to markets around the world.

At the end of 2009, finished goods accounted for 51% of the industry's total inventories (with a range of 20% to 70%), WIP for 34% (with a range of 13% to 76%) and raw materials for 15% (with a range of 4% to 28%). By comparison, the corresponding figures in 2000 were 39%, 41% and 20%, with individual and industry changes in the last nine years reflecting variations in the sales mix and the increased proportion of manufacturing and packaging processes that have been outsourced.

For vaccines, WIP is a large component of total inventories, often exceeding half of the total, due to the length of the manufacturing process. For consumer healthcare, finished goods account for two thirds of total inventories, WIP for one quarter and materials and supplies for the remaining 10%. For specialty chemical, analysis of the inventory breakdown shows a wide range of performance across companies, with finished goods accounting for 55-60% of total inventories, raw materials for 20-25% and WIP for 15-20%. For medical devices, the level of finished goods is particularly high at over 80% of total inventories. Complete sets of products, including large and small sizes, have to be made available for customers' immediate use, some of which are located at customer premises. Finished goods also include products purchased for resale.

Leaner manufacturing and supply chains, but many challenges remain

Manufacturing and supply chains in the pharmaceutical industry are much leaner than a few years ago. For most companies, the cornerstone of this transformation has been the rationalization of the manufacturing network, combined with much higher levels of outsourcing, more effective collaboration with customers, and globalization of procurement (see below).

Pfizer for example has more than halved the number of its manufacturing sites in the last five years (to 46 in 2008), with a plan to reduce it further to 41 in 2010. Bristol-Myers Squibb cut the number of sites from 27 in 2007 to 21 at the end of 2009, and plans to have only 11 sites by 2011. GSK has halved the number of sites in the last ten years. While some facilities have been closed, most have been divested to third-parties with a long-term supply agreement. The industry also cites the efforts made in reducing the 'excessive' number of different packages, which requires frequent and costly manufacturing changes (GSK for example has 38,000 different packages for its 200 products).

As a counterpart to this, levels of outsourcing have increased significantly across the pharmaceutical manufacturing industry, now reaching 30-35% of primary and secondary manufacturing and 35-40% of packaging. Ongoing industry plans suggest that the overall levels of outsourcing will exceed 40-50% within the next three years.

The pharmaceutical industry has also been working much more effectively with its customers, especially with wholesalers and pharmacies. Through IMA, fee-for-service and DTP arrangements (that have been spreading steadily across the marketplace since 2004 and 2007, respectively), manufacturers have been getting far greater visibility, control and efficiencies across the extended supply chain.

Many of these actions have delivered substantial benefits for the industry, increasing asset efficiency and reducing operating costs, lead times and inventory levels. Account and order management have improved, and greater flexibility and responsiveness have been built into systems. Both Pfizer and Merck have indicated, for example, that the sites which have undergone 'lean' transformations have achieved reductions of between 20% and 30% in operating costs, and between 20% and 50% in lead times and inventory levels.

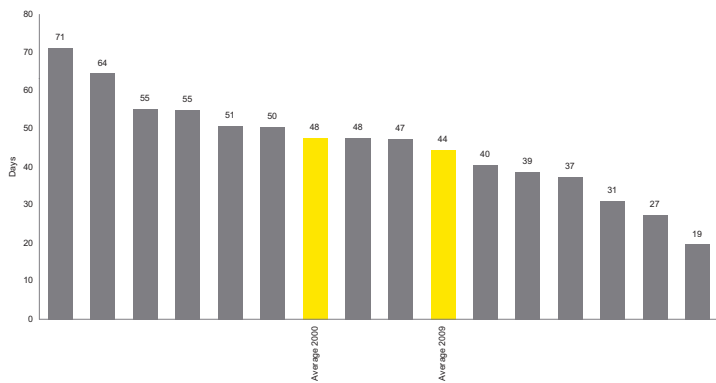
While the pharmaceutical industry's manufacturing and supply chains have been dramatically reconfigured, evidence suggests that many issues and challenges remain:

- ▶ Supply chains have been growing increasingly global, complicated and vulnerable to business disruptions.
- ▶ It is getting harder to balance operational excellence with flexibility and responsiveness. What is the best way to combine 'lean' practices with an 'agile' response? How can you best balance - for example - the need to maintain strategic inventory levels to ensure competitive lead times against the risk of disrupting patients' lives and missing a profitable sale?
- ▶ Outsourcing potentially results in longer and more variable lead times, excess safety stocks, greater exposure to waste (quality and obsolescence), higher logistics costs and loss of control.
- ▶ Regulatory obligations, particularly the number of tests required throughout the production process hamper the ability of the entire supply chain to adapt quickly to changing market and economic conditions.
- ▶ Communication and efficiency across the extended WC value chain are hindered by a lack of standardized processes and systems. This is partly due to the proliferation of legacy systems - a problem made worse by merger and acquisition activity.
- ▶ There is still little progress towards achieving common objectives between the sales, manufacturing and the supply chain processes.
- ▶ For the industry, changing behaviors and developing competencies both within the organization and across the various supply chain partners remain a challenge.



Wide variations in inventory performance

Table 11: DIO per company, 2009



Note: averages are sales-weighted
Source: annual accounts

Inventory performance varies widely across the pharmaceutical industry. This partly reflects variations in product sales mix (pharmaceutical, medical devices, consumer and animal healthcare, and chemical) and within pharmaceutical products (for example, production of vaccines and insulin is a long and complex process). In our survey, the standard deviation of DIO performance was 14 days on average.

Since 2000, pharmaceutical companies have reduced their inventory levels by 7%, or 3.3 days. Half of the companies analyzed showed an improved performance.

"We have built a culture which is focused on cash flow. We have receivables, inventories, payables, we also are very much focused on capital expenditure. Those four drivers on cash flow are ones that we are all pushing with the same type of rigor."

Jean-Marc Huet,
Chief Financial Officer, Bristol-Myers Squibb
1 23 July 2009, Q2 2009 earnings conference call

Current payables performance

Increased levels of outsourcing

The pharmaceutical industry increasingly relies on third-party providers (contract manufacturing organizations, or CMOs) to manufacture or supply intermediates and active ingredients, incorporate those ingredients into products (formulation), and then package them. A substantial portion of clinical and pre-clinical research, sales force and logistics operations are also conducted by external service providers (via clinical-research organizations, or CROs, for example).

Pharmaceutical manufacturing facilities also require significant capital investments for maintenance and compliance with international regulations. Note also the impact of drug development involving more and more partnerships – the proportion of the industry's drug pipeline which is in-licensed is expected to double to 35% between 2002 and 2012. This also means that royalty obligations are increasingly becoming a key industry cost.

For most products, supplies are available from multiple sources. In some cases, however, companies can only rely on limited sources, partly due to the difficulty of finding suppliers capable of operating complex and highly regulated production processes.

Stronger focus on procurement and sourcing

For the pharmaceutical industry, procurement and sourcing have become an area of much stronger focus in recent years. This is the result of companies seeking to improve operational efficiency, supply chains becoming more global and complicated, manufacturing and logistics operations being outsourced to third-parties, and government regulations becoming more stringent. Most pharmaceutical companies have now established dedicated organizations to manage global procurement and outsourcing relationships.

These efforts have included consolidation and control of spend, development of e-sourcing for indirect spend, extension and change of payment terms, standardization of processes and closer collaboration with suppliers.

In its 2009 full year results, Novartis said that sourcing delivered cost savings of close to US\$1bn between 2007 and 2009 - a figure equivalent to 44% of the total amount under its 'Forward' program. The main sources of savings were consolidation of local and global spend categories and increased e-sourcing (13% of indirect spend in 2009, against 3% in 2006, with the company targeting 20-30% for the coming years). Another contributing factor was renegotiation of outsourcing contracts, which was made possible by overcapacity among CMOs.

Table 12: levels of outsourcing per activity for a selection of companies and for the industry, 2009

Activity	Levels of outsourcing per company						Total industry
	A	B	C	D	E	F	
Manufacturing	25%	Majority in house	Small molecules	24%	20%	35%	30-35%
Packaging	15%						35-40%
Clinical trials	30-35%		Large trials				25-35%
Sales force	<10%	Selectively US			20%		20%
IT					40%		40%

Source: Ernst & Young analysis

Wide variations in payables performance

Wide variations in payables performance occur across the pharmaceutical industry. This is partly caused by differences in products sales mix, levels of outsourcing and the nature of the supply contracts which impacts payment discounts and terms. The standard deviation of the DPO performance was 11 days on average.

However, a degree of caution should be exercised when reviewing payables performance across companies. Specifically, there is a risk that DPO could be understated due to significant variations in the way trade accruals are accounted and disclosed. In addition, some companies may be paying more quickly to gain early payment discounts, whereas others may have deliberately pursued extended payment terms.

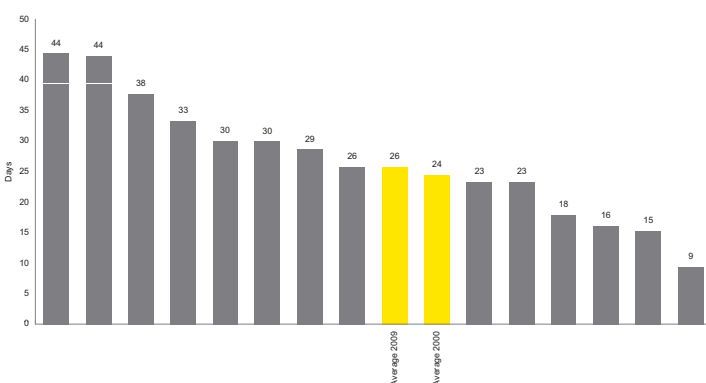
Since 2000, pharmaceutical companies have increased their payables levels by 5%, or 1.4 days. Nine out of the 14 companies analyzed showed an improved performance.

“I think historically, we have focused on lots of things, but not on working capital. We have put a lot of focus on it now.”

**Andrew Witty,
Chief Executive Officer, GSK**

1 22 July 2009, Q2 2009 earnings conference call

Table 13: DPO per company, 2009



Note: averages are sales-weighted

Source: annual accounts

Room for improvement

The wide variations in WC performance between pharmaceutical companies point to significant potential for improvement up to US\$37b of cash.

To help us establish this figure, we have defined the range of cash opportunity as the sum of the WC cash opportunity derived for each pharmaceutical company. We have calculated this by comparing the 2009 performance of each of its WC components with the average (low estimate) and the upper quartile (high estimate) achieved by its industry peer group.

On this basis, the companies included in our research have a total of between US\$18b and US\$37b of cash tied up unnecessarily in WC.

This range of cash opportunity is equivalent respectively to between 9% and 19% of the gross WC scope (defined as the sum of trade receivables, inventories and accounts payable) and to between 3.5% and 7.0% of sales. Our 'cash potential' analysis reveals that the opportunity is distributed across the various types of WC components.

The range of cash opportunity is lower than a year before (which was between 4.2% and 8.9% of sales). However, the findings may have been distorted by the impact of currency movements and a significant reduction in inventory levels for the companies involved in the production of specialty chemicals.

The figures reported for cash opportunities should be treated with some caution, as they are based on consolidated, publicly available numbers. However, even at the top end of each range (which might be considered ambitious), our experience across many projects, industries and geographies shows that a dedicated focus on WC management can frequently release results at or above this level.

Implementation of leading-practice WC strategies and processes could also generate significant additional operating cost reductions. This would clearly impact both cost of sales and general and administrative expenses (such as purchasing, logistics, related finance functions, and provisions and write-offs of receivables and inventories). The implementation of leading practices can also help improve service quality in terms of order/fill rates as well as invoice accuracy. However, additional capital expenditure may be required to deliver these savings and improvements.

Table 14: WC cash opportunity, 2009

	Cash opportunity					
	Value (US\$b)		% WC scope		% sales	
	Average	Upper quartile	Average	Upper quartile	Average	Upper quartile
Receivables	5.1	12.7	5%	13%	1.0%	2.4%
Inventories	6.8	13.1	11%	20%	1.3%	2.5%
Payables	6.4	11.5	17%	31%	1.2%	2.2%
Total	18.3	37.3	9%	19%	3.5%	7.0%

Source: Ernst & Young analysis, based on publicly available annual financial statements

EBITDA versus TWC trade-offs

Overall, the 2009 pharmaceutical industry's WC performance has remained unchanged at 23.5% of sales since 2000, while EBITDA margins have improved from 28.5% to 32.8% of sales.

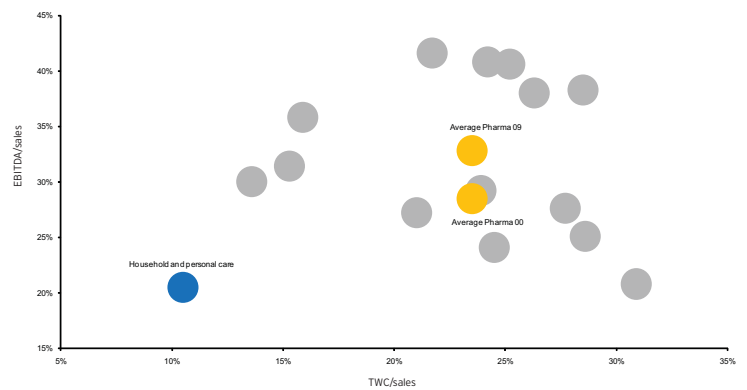
The distribution of results among companies reflects not only variations in the product and country sales distribution and strategies for managing WC, but also fundamental differences in management focus on cash and process efficiency

Pharmaceutical companies generally enjoy significantly higher EBITDA margins than household and personal care companies, but have to carry a much higher level of WC requirement in relation to sales.

The consumer Healthcare sector shares common features and business issues with the household and personal care industry, such as fast-moving products, brands, marketing and distribution, global reach and scale. Operating margins are also close at 15-20% of sales. This segment accounts for 9% of the pharmaceutical industry's total sales. In table 12, the household and personal care industry comprises companies, such as Beiersdorf, Colgate, Kimberly-Clark, L'Oreal, Procter & Gamble, Reckitt Benckiser and Unilever.

In conclusion, other industries' past responses to a rapidly changing market environment, with similar pressures on shareholder value growth, could provide pharmaceutical companies with valuable insights to help them decide on the appropriate next steps.

Table 12: EBITDA margin and TWC/sales per company, 2009 and 2000



Source: annual accounts 2009 and 2000

Study methodology

This report contains the findings of a detailed review of the effectiveness of WC management by the 14 largest US and European pharmaceutical companies by sales.

The report seeks to identify the key WC trends and some of the challenges confronting this industry, as well as outlining the scale of opportunity available.

The analysis draws on companies' latest fiscal 2009 reports. Performance comparisons have been made with 2008 and with the previous nine years.

In order to make the figures as comparable and as consistent as possible, adjustments have been made to the data to reflect the impact of acquisitions and disposals and off-balance sheet arrangements.

The review on which this report is based is both industry- and company-specific. It uses metrics to provide a clear picture of overall WC management and identify the resulting levels of cash opportunity.

While all our findings are based on publicly available data, the performance of individual pharmaceutical companies is not disclosed. The companies included in our report are as follows:

- ▶ Abbott Laboratories
- ▶ Amgen
- ▶ AstraZeneca
- ▶ Bayer
- ▶ Bristol-Myers Squibb
- ▶ Eli Lilly
- ▶ GlaxoSmithKline
- ▶ Johnson & Johnson
- ▶ Merck
- ▶ Merck KGaA
- ▶ Novartis
- ▶ Pfizer
- ▶ Roche
- ▶ Sanofi-Aventis

Glossary

- ▶ **DSO** (days sales outstanding): year-end trade receivables net of provisions, including VAT, added-back securitized receivables, divided by full-year pro forma sales, and multiplied by 365 (expressed as a number of days of sales, unless stated otherwise)
- ▶ **DIO** (days inventory outstanding): year-end inventories net of provisions, divided by full-year pro forma sales, and multiplied by 365 (expressed as a number of days of sales, unless stated otherwise)
- ▶ **DPO** (days payable outstanding): year-end trade payables, including VAT, divided by full-year pro forma sales, and multiplied by 365 (expressed as a number of days of sales, unless stated otherwise)
- ▶ **COS** (cost of sales) including depreciation and amortization
- ▶ **C2C** (cash-to-cash) = DSO plus DIO minus DPO (expressed as a number of days of sales, unless stated otherwise)
- ▶ **Pro forma sales**: reported sales adjusted for acquisitions and disposals when this information is available
- ▶ **Spend**: operating expenses (excluding depreciation and amortization) plus capital expenditure minus staff costs



How Ernst & Young can help

To support companies in gaining greater control over their cash flows and addressing WC opportunities and challenges, Ernst & Young helps identify, evaluate and prioritize realizable improvements in WC derived from process improvements, elevated compliance levels or changes to commercial terms. We also help companies to implement these WC and cash flow improvements and realize the resulting benefits.

To help organizations make the transition to a cash-focused culture, we help them identify areas for improvement in cash flow forecasting practices. We can then assist in implementing processes to improve forecasting as well as frameworks to sustain improvements.

WC improvement initiatives are often self funding. In addition to increased levels of cash, significant cost benefits may also arise from process optimization, through reduced transactional and operational costs and lower levels of bad and doubtful debts and inventory obsolescence.

Contacts

Ernst & Young's Working Capital Services contacts

Country	Local contact	Email/telephone
UK&I	Jon Morris	+44 20 7951 9869 jmorris10@uk.ey.com
	Matthew Evans	+44 20 7951 7704 mevans1@uk.ey.com
US	Steve Payne	+1 212 773 0562 steve.payne@ey.com
	Peter Kingma	+1 312 879 4305 peter.kingma@ey.com
	Bob Orr	+1 917 716 4512 robert.orr@ey.com
	Edward Richards	+1 212 773 6688 edward.richards@ey.com
	Eric Wright	+1 213 977 3679 eric.wright@ey.com
Australia	Wayne Boulton	+61 3 9288 8016 wayne.boulton@au.ey.com
Canada	Simon Rockcliffe	+1 416 943 3958 simon.rockcliffe@ca.ey.com
Far East	Noreen Tai	+86 20 2881 2898 noreen.tai@cn.ey.com
France	Cédric Pierru	+33 1 55 61 01 48 cedric.pierru@fr.ey.com
Germany and Benelux	Robert Smid	+49 6196 996 17682 robert.smid@de.ey.com
	Dirk Braun	+49 6196 996 27586 dirk.braun@de.ey.com
Italy	Stefano Focaccia	+39 0280669423 stefano.focaccia@it.ey.com
Nordics	Johan Nordström	+46 8 52059324 johan.nordstrom@se.ey.com
Japan	Satoshi Yamada	+81 3 5401 7100 satoshi.yamada@jp.ey.com
Spain	Alain Falomir	+34 649 863 463 alain.falomir@es.ey.com

Ernst & Young's Pharmaceutical Sector contacts

	Local contact	Email/telephone
Global	Carolyn Buck Luce	+1 212 773 6450 carolyn.buck-luce@ey.com
Global and Americas Transaction Advisory Services Leader, Pharmaceuticals	Jeffrey Greene	+1 212 773 6500 jeffrey.greene@ey.com
EMEIA	Patrick Flochel	+41 58 286 4148 patrick.flochel@ch.ey.com
Belgium	Thomas Sileghem	+32 2 774 9536 thomas.sileghem@be.ey.com
Denmark	Benny Soerensen	+45 3587 2525 benny-lynge.soerensen@dk.ey.com
France	Didier Desert	+33 1 4693 7567 didier.desert@fr.ey.com
Germany	Elia Napolitano	+49 8914 3311 3106 elia.napolitano@de.ey.com
Italy	Lapo Ercoli	+39 027 221 2546 lapo.ercoli@it.ey.com
UK&I	Pamela Spence	+44 20 7951 3523 pspence2@uk.ey.com

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