



nefarma

vereniging innovatieve geneesmiddelen Nederland

pharma facts

Pharma facts & figures
2011



Nefarma >

Nefarma, the association for innovative medicines in the Netherlands, represents pharmaceutical companies engaged in the development and marketing of new and innovative medicines. These are medicines that have been developed in response to new insights in the treatments of diseases and medical conditions for which there were previously no therapeutic options.

Contents

- 1 The Dutch are frugal when it comes to medicines
- 2 Not only are the Dutch frugal when it comes to medicines, in the Netherlands medicines are also steadily becoming cheaper
- 3 No other sector invests as much in research & development as the pharmaceutical industry
- 4 As a result of all the research there is an ever increasing number of new medicines
- 5 Innovative pharmaceutical companies have to contend with unnecessary obstacles
- 6 Pharmaceutical companies make important contributions toward a healthier world

The Dutch are frugal when it comes to medicines



1

Health care costs money, a lot of money. The rising costs are a perpetually recurring theme in the health care debate. The total expenditure on health care is around 63.5 billion euros, which amounts to approximately 10 percent of the Dutch gross domestic product.

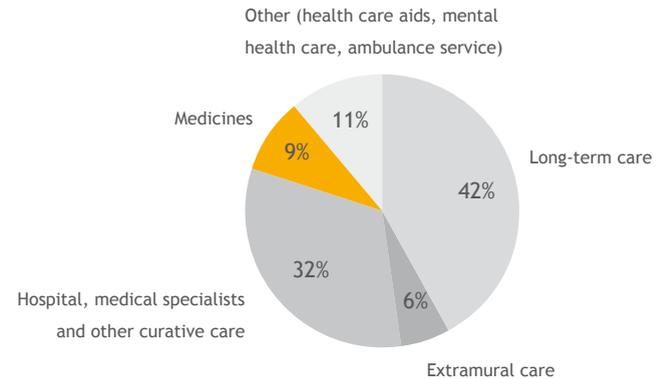
However, this is not the whole story. In order to form a valid opinion concerning the costs of health care, the returns have to be taken into account as well. Health care expenditure has a remarkably high return: on average, for every euro spent on health care there is a 1.30 euro return. This is based on the study '*Een beter Nederland. De Gouden eieren van de gezondheidszorg*' (A healthier Netherlands. The golden eggs of health care) conducted for the Ministry of Health in 2010.

Medicines in the Netherlands: one-tenth of total health care costs

According to the National budget, medicines will represent approximately 9 percent of the 63.5 billion euros that will be spent on health care in the Netherlands in 2012. This is excluding drugs prescribed through hospitals, as these costs are part of hospital budgets. If these costs are included, then the share of medicines is slightly higher.

The largest share of health care costs is long-term care (42 percent). Hospitals account for approximately a third (32 percent) of total expenditure.

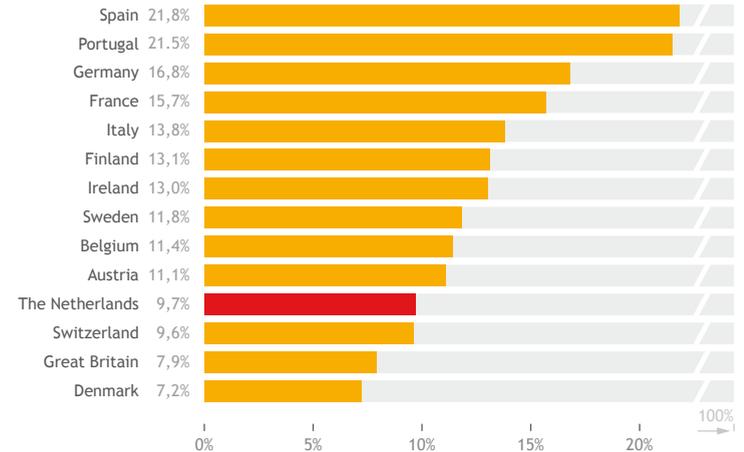
Share of pharmaceutical care in gross health care expenditure (in percentages)



Costs of the use of medicines in the Netherlands is well below the European average

The total costs of medicines in the Netherlands in 2009 was 9.7 percent of the total health care expenditure, which is significantly lower than most other European countries. This is indicative of the restrained prescription policy and thus relatively frugal use of medicines in the Netherlands. Spain has the highest share with almost 22 percent of total health care expenditure, more than twice as much as the Netherlands. Only Denmark (7.2 percent) and England (7.9 percent) have an even lower share of total health care expenditure than the Netherlands. While Switzerland with 9.6 percent, is comparable to the Netherlands.

Share of pharmaceuticals in total health care expenditure in 2009 (in percentages)

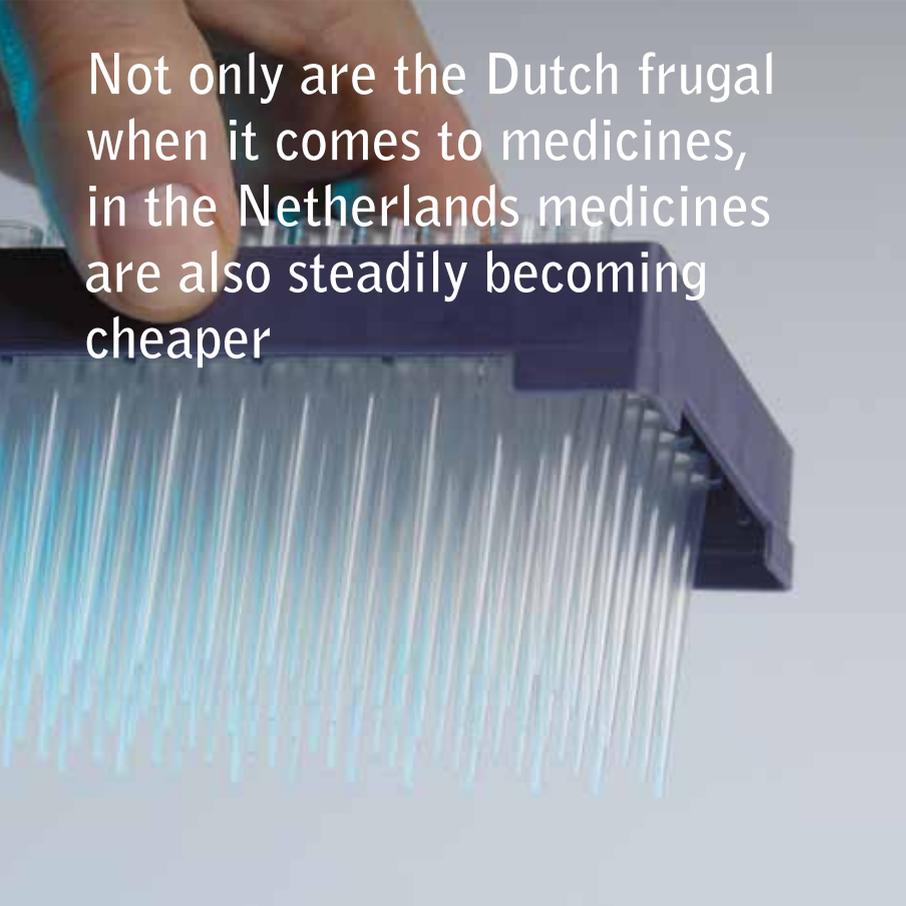


Per capita expenditure for medicines is also lower than elsewhere in Europe

If we compare the per capita expenditure for medicines with that of the rest of Europe, the Netherlands also scores well. In the Netherlands per inhabitant 341 euros is spent annually on medicines. This is well below the Western-European average of just over 400 euros. Once again, England and Denmark score better than The Netherlands. However, Switzerland is at the absolute top with an average of 611 euros per capita expenditure on medicines per annum.

Average expenditure on medicines per capita in 2009 (in euros)





Not only are the Dutch frugal when it comes to medicines, in the Netherlands medicines are also steadily becoming cheaper

2

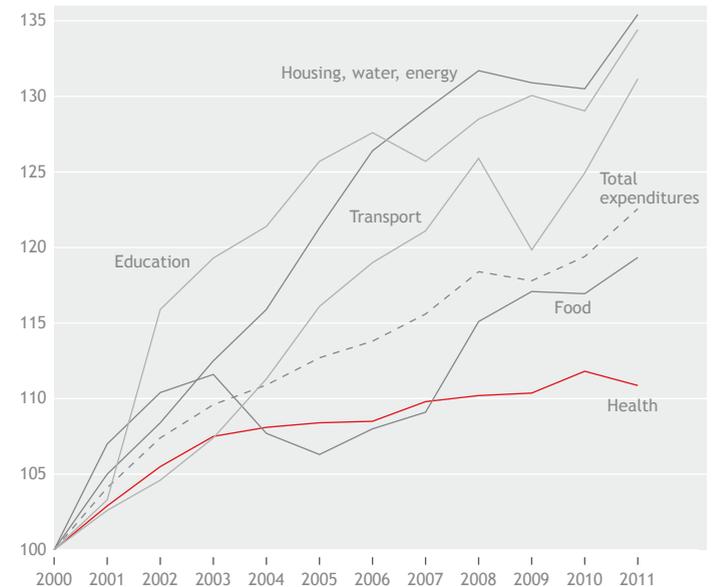
There are various reasons for why the costs of medicines constitute a relatively minor share of the total health care expenditure in the Netherlands. One important explanation is restraint, by both doctors (in prescribing medicines) and patients (in using medicines).

Another reason is that the prices for drugs are regulated under the Dutch law for pricing medicines (WGP), which ensures that prices in the Netherlands are in line with those in neighbouring countries. Furthermore, prices for medicines with expired patents are lower in the Netherlands than in many other European Countries. This is due to past voluntary price agreement between suppliers, pharmacists and the government, as well as to the policies of health insurers.

Everything is becoming more expensive, including health care

Life is becoming more expensive on almost every front. Inflation ensures that prices of most products and services increase by a few percent each year. Since 2000, the amount of money spent by the average household on housing, water and energy has increased by more than 35 percent. A similar increase can be seen in the costs of education. Considerably more is also spent on transportation and food, and the costs per family that had to make use of health care has increased by about 11 percent over the last 11 years.

Development of consumer prices (per average household) in various categories (2000 = 100)

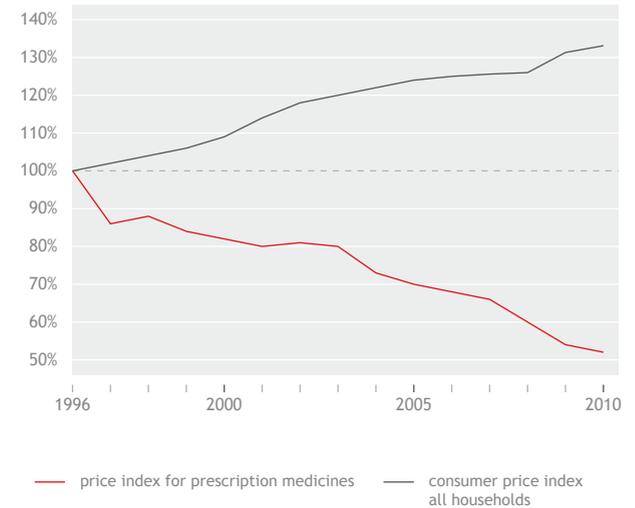


Source: Centraal Bureau voor de Statistiek (CBS/Statistics Netherlands), 2011
(reference date for 2011 is September 30)

The prices of medicines are falling while for many other consumables prices are rising

Inflation ensures that consumer prices increase every year. This is the case for almost all clusters including health care. However, for the price of medicines, which is a part of health care, we actually see the opposite trend. Once a drug has been allowed to enter the market, its price decreases over time. This is particularly noteworthy when you consider the fact that the costs of developing new medicines are continually increasing.

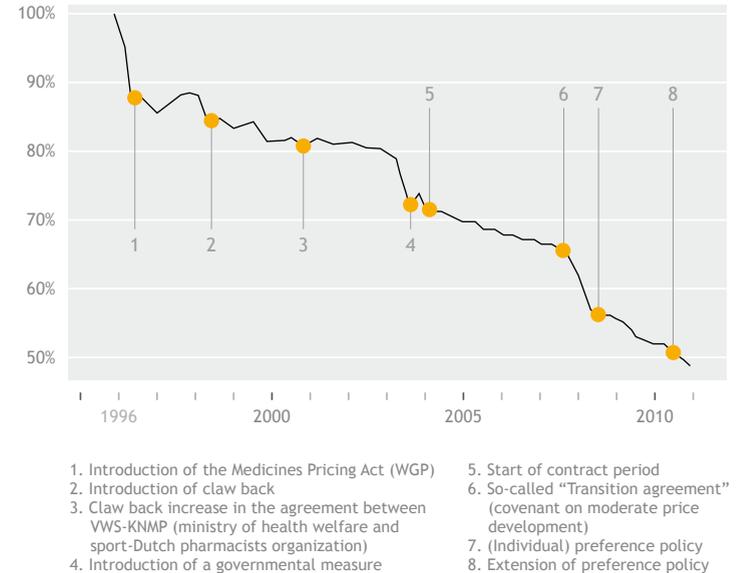
Consumer price index compared to the price index for prescription medicines (January 1996 = 100)



There are various causes for the falling prices of prescription medicines

The decrease in the price of medicines started in the mid 1990s. In recent years several successful covenants between government, the Dutch pharmacists organization (KNMP), The Dutch association of health care insurers (Zorgverzekeraars Nederland), Association of the Dutch Generic Medicines Industry (Bogin) and Nefarma have contributed substantially to the price decrease. In addition to this, the introduction and subsequent expansion of the preferential policy of health insurers has, in recent years, resulted in further price reductions of a number of medicines with expired patents.

Price of prescription medicines and causes of falling prices





No other sector invests as much
in research & development as
pharma

3

Pharmaceutical companies spend more on research & development than companies in any other sector. Every year, pharmaceutical companies in the Netherlands spend hundreds of millions of euros on research for the various stages of drug development. Pharma and biotech companies make up more than 10 percent of all research & development expenditure in The Netherlands.

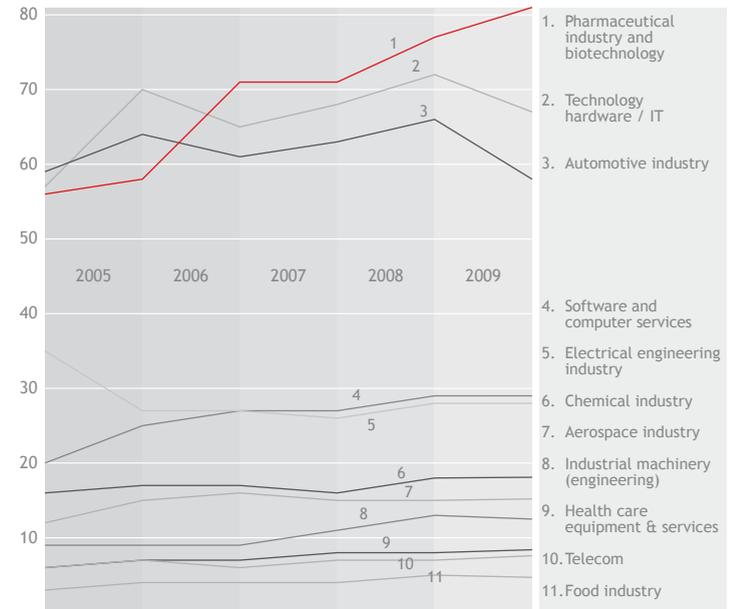
Pharma is number one worldwide when it comes to investing in R&D

In 2008 the pharmaceutical industry invested 27 billion euros in R&D in Europe. That is more than a threefold increase since 1990 (7.8 billion euros). Within the EU the pharmaceutical industry is responsible for about 17 percent of the total investment in R&D.¹ Worldwide the pharmaceutical and biotechnology companies spent roughly 80 billion euros on research & development in 2009. Since 2004 investments have increased by more than 20 billion euros. In 2009 when the automotive industry and the technology/IT sector decreased their investments in R&D by 11.6 percent and 6.4 percent respectively, the pharma sector increased its investments by more than 5 percent. Of the 50 companies that invest the most in R&D globally, 15 are active in the pharmaceutical or biotechnology sector. Of the top 10, 5 are pharma companies.²

¹ Source: Efpia, The Pharmaceutical Industry Figures 2010

² Source: 2009 EU Industrial R&D Investment Scoreboard

Worldwide expenditure on R&D per sector over the years (2005-2009)

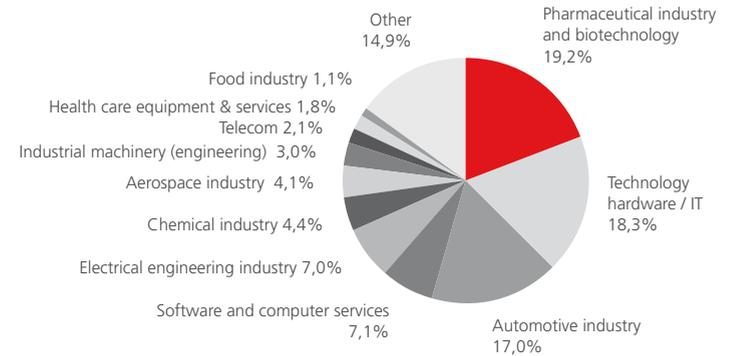


Source: European Commission, EU Industrial R&D Investment Scoreboard 2010

Three sectors are responsible for more than half of all R&D investments

Together with the technology hardware/IT sectors, and automotive industry, pharma and biotech companies are responsible for 54.5 percent of all investments in research & development worldwide. The pharma and biotech sectors account for around one fifth of these worldwide investments.

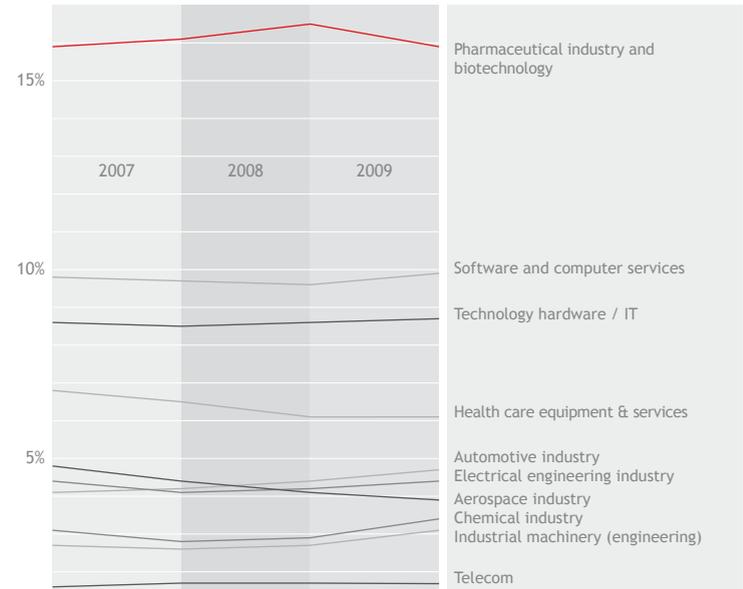
Share of total worldwide R&D investments per sector (in percentages)



Of all sectors pharma spends the highest percentage of its turnover on R&D

If we look at total investment in R&D relative to realised turnover, then it is evident that no other branch reinvests as much in research & development as pharma. At 15.9 percent the sector is head and shoulders above the rest. Only the computer industry (software and hardware) comes close at nearly 10 percent, but in most other sectors investment is between 3 and 6 percent of realised turnover.

Percentage of turnover spent on R&D per sector



Source: European Commission, EU Industrial R&D Investment Scoreboard, 2007-2009

As a result of all the research
there is an ever increasing
number of new medicines



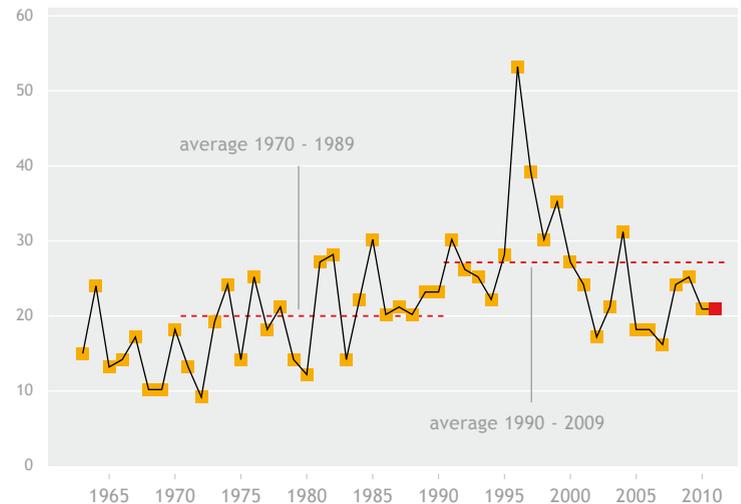
4

Investing a lot of money and manpower in search of innovative medicines is one thing; the important question is whether it is all worth it. This is especially relevant for drug research, because the vast majority of the substances studied do not lead to new medicines. On average only one in 10,000 researched substances leads to a new medicine. As small a number as this may seem, the research steadily adds to our ability to combat diseases and disorders.

Rising trend in the number of new medicines

There has been an increasing trend in the number of registrations of medicines with new active compounds over the last 50 years. This is evident from the registration figures of the second half of the last century. Whereas the American Food and Drug Administration (FDA) registered on average about 20 medicines with new active compounds per year between 1970 and 1989, in the following two decades this increased to 27 per year. This is partly attributable to a very productive period in the mid 90s (in the peak year 1996 the FDA registered 53 medicines with new active compounds), but even without this peak, the positive trend continued. The first half of 2011 looks very promising: 21 medicines with new active compounds have already been registered in the US in this period.

FDA Registered medicines with a new active compound (1963-2011)



Sources: DiMasi, Tufts Center for the study of drug development, FDA
The number of registrations in 2011 is for the first six months only.

We are getting better and better, in more and more areas

With the help of medicines we continue to improve our odds in the fight against many diseases. In some cases a complete cure is possible, but unfortunately, this is not yet the case for all medical conditions. Nevertheless, patients are in many cases able to stay alive, often with an acceptable quality of life and without feeling very ill. The table shows the substantial achievements in many areas, but it also illustrates how important it is to continue the effort to develop innovative medicines.

Status of medicine development for various conditions

Medical condition	Prevention	Treatment	Cure
HIV/AIDS	■	■	■
Tuberculosis	■	■	■
Malaria	■	■	■
Childhood diseases	■	■	■
Respiratory infections	■	■	■
Cancer	■	■	■
Neuropsychiatric disorders	■	■	■
Cardiovascular diseases	■	■	■
Diabetes	■	■	■
Respiratory diseases	■	■	■

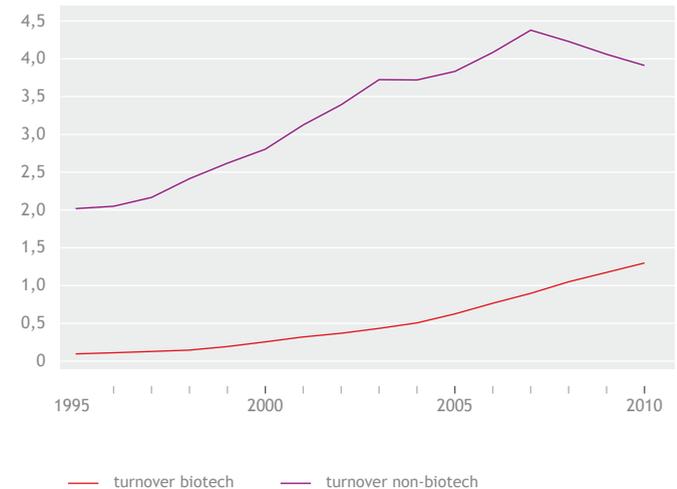
■ Medicines are available (R&D focus is on issues of improving ease of use, diminishing side effects, etc.)	■ Medicines are available (R&D focus is on challenges such as preventing drug resistance in patients, etc.)	■ No medicines available yet (R&D focus on developing effective medicine)
---	---	---

There are more and more biotechnological medicines

Many new medicines are the result of biotechnology. These drugs are based on human (or animal) proteins that are produced in microorganisms. Millions of patients are already profiting from these types of medicines and vaccines. Moreover, the trend in recent years clearly shows that biotech medicines make up an ever-greater share of the total number of drugs on the market. According to a recent overview by the American umbrella organization PhRMA, more than six hundred biotechnological medicines are in the pipeline for more than one hundred diseases.

When you compare the development of turnover figures for 'traditional' medicines with biotech medicines, it is evident that the latter are on the rise in The Netherlands as well.

Development of turnover of biotech and non-biotech medicines in The Netherlands (in billions of euros)





Innovative pharmaceutical companies have to contend with unnecessary obstacles

5

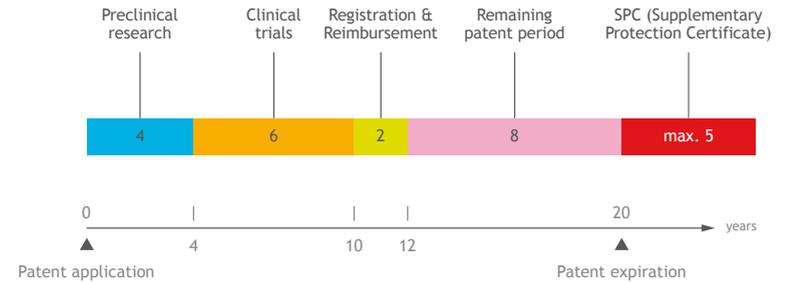
Before a new medicine becomes available to patients it will have gone through a long process of research, registration and market introduction. Most of the procedures have a statutory maximum term, however, in The Netherlands these terms are at times substantially exceeded. This has a negative impact on the climate for innovation. It is less attractive for businesses to invest, as the delays reduce the time period for a profitable return on investment. This period is already limited because of patent laws. Other factors, such as administrative burden, are additional obstacles to innovation.

Development of a new medicine takes on average twelve years

On average there is a 12-year period between the discovery of a new active compound and the availability of a new medicine to patients. Preclinical research takes 4 years, clinical trials take 6 years, and the registration and reimbursement procedures take another 2 years. The remaining patent period is then about 8 years, after which a supplementary protection certificate (SPC) may be granted for a maximum of 5 years.

Development and patent period of a medicine

Average duration (in years):

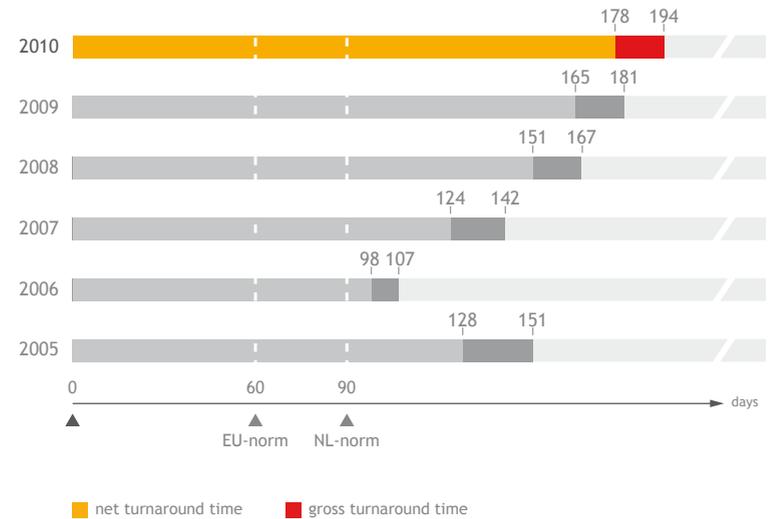


Source: Nefarma

A long wait for permission to conduct clinical trials

Clinical trials are a crucial part of the development of a new medicine. The safety of a substance is first studied in a small group of healthy volunteers, then in a small group of patients and finally in large groups of patients. These trials require authorisation from the medical ethics committees of the participating hospitals. The Dutch law for medical research involving humans states that clinical trial applications are to be processed within 90 days. That is one and a half times longer than the requirement stipulated by the EU directive. Yet, for years now the 90-day term is substantially exceeded in The Netherlands, which makes for unnecessarily long delays before a company can begin a clinical trial.

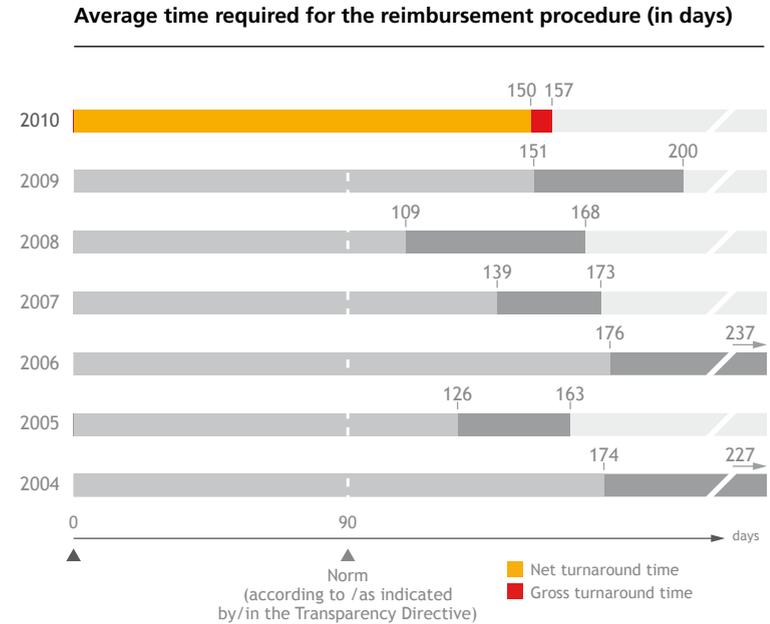
The average assessment period for authorisation of a clinical trial in the Netherlands (in days)



In the gross turnaround time, the time required to provide additional information requested by the assessment committee is included. These 'clock stop' periods are not included in the net turnaround time.

A long wait before a drug is included in the medicines reimbursement system

Also the registration of a drug and the subsequent reimbursement procedure take a requisite amount of time. Time-consuming regulatory procedures and personnel problems within the rating agency CVZ (Health Care Insurance Board) contribute to the long waiting times before a new drug is included in the medicines reimbursement system (GVS). And it is only after this that it is made available to patients. This year for the first time, the time required for the reimbursement procedure for expensive medicines has been measured using the Nefarma database. Applications registered this year had an average turnaround time of no less than 376 days, while the legal maximum is set at 60 days.



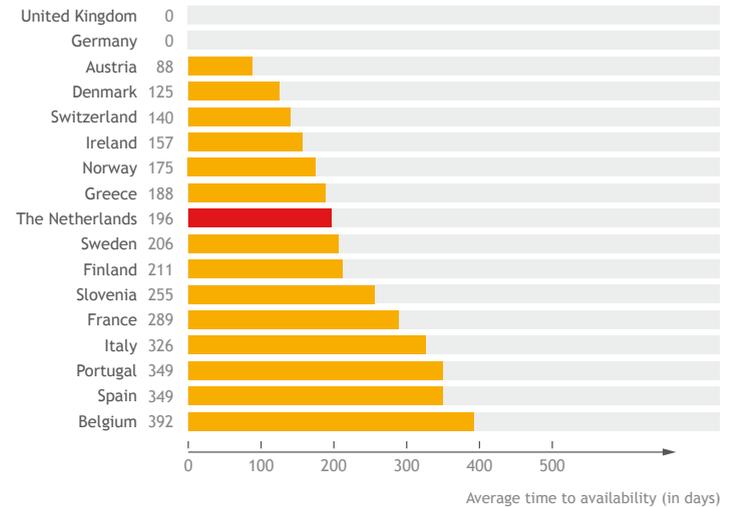
In the gross turnaround time, time is stopped when there is a request for additional information from the applicant. Net turnaround time does not have these delays.

Source: Nefarma Reimbursement Database (NVD), 2011 (reference date: October 2011)

It takes too long before a medicine is available to patients

There are great discrepancies between European countries in the delays patients experience before a new drug becomes available to them. In most countries (with the exception of The United Kingdom and Germany) it is not the case that a drug which has successfully completed the registration process, and for which consequently a commercial license has been issued, is immediately made available to patients. Among other things, a good deal of time is lost in the reimbursement procedure before a doctor can actually prescribe the latest medicines. The Patients' W.A.I.T. indicator ('waiting to access innovative therapies') compares this period for various EU countries. The periods are based on the data of 84 new medicines. With an average delay of 196 days the Netherlands falls somewhere in the middle range of performances of European countries.

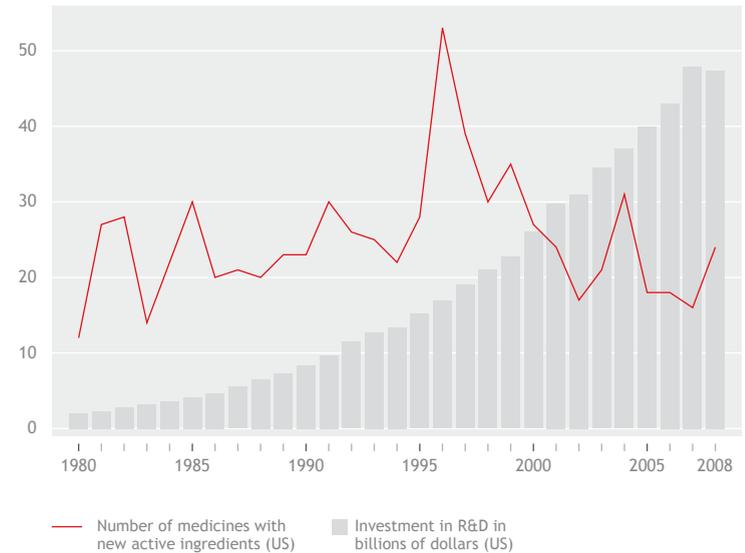
The average time that elapses between the commercial licensing of a medicine and its availability to patients



Innovation requires ever increasing investments

Earlier we saw, when viewed over a longer period, the increasing trend in the number of medicines with new active compounds (see pages 30/31). This growth actually occurred in an era when development costs increased dramatically. The international spending on R&D by American pharmaceutical companies has steadily increased from 2 billion dollars in 1980 to nearly 48 billion dollars in recent years. In Europe, pharmaceutical companies spent between 7 and 8 billion euros on R&D in the early 1990s and this rose to almost 27 billion euros in 2009. The increased costs are partly due to the stricter regulations imposed by governments on drug research, but also because of registration and reimbursement procedures that have greatly increased the administrative burden on companies.

FDA-approved medicines containing a new active compound, versus R&D investment (1980-2008)

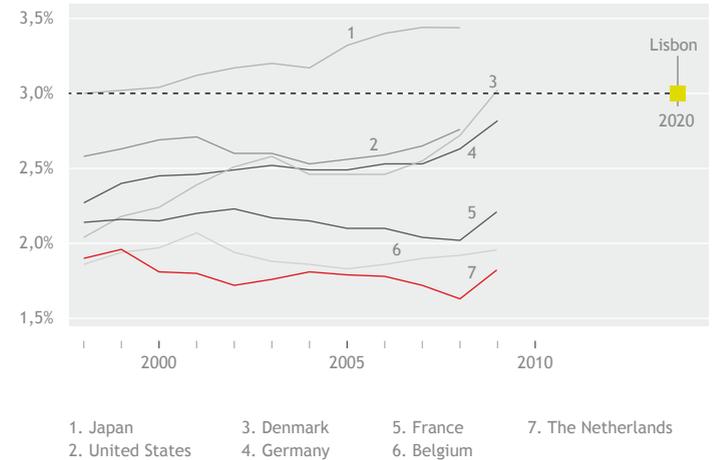


Source: DiMasi, Tufts center for study of drug development, FDA PhRMA

Deteriorating climate for innovation threatens knowledge economy

Not only does investment in research promote health, but it also contributes to the maintenance of 'the knowledge economy' of a country. The member states of the EU agreed, as stated in the so-called Lisbon objectives, to invest a minimum of 3 percent of their gross domestic product in R&D in 2010. The figures show that despite this agreement, the R&D intensity The Netherlands has mainly fallen over the last 10 years, although in 2009 an upward trend has again begun. It is also clear that the super powers outside of the EU (US and Japan) score better on this front. However, the revised EU 2020 strategy now states that the target of 3 percent must be realised in 2020.

R&D intensity* in various countries (relative to the Lisbon objective) 1998-2009 (in percentages)



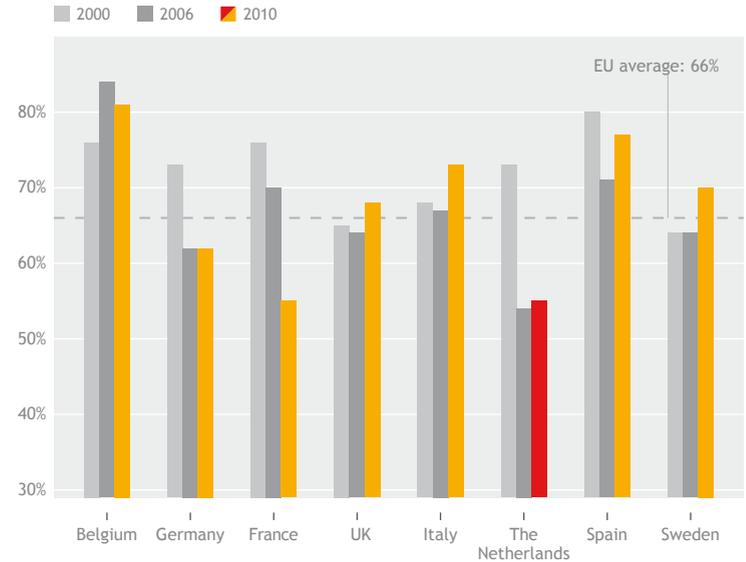
* The R&D intensity shows the percentage of GDP spent on research & development.

Source: CBS/Eurostat (Central Bureau for Statistics/European Statistical Data), 2010

Pharma has a better public image in other EU countries

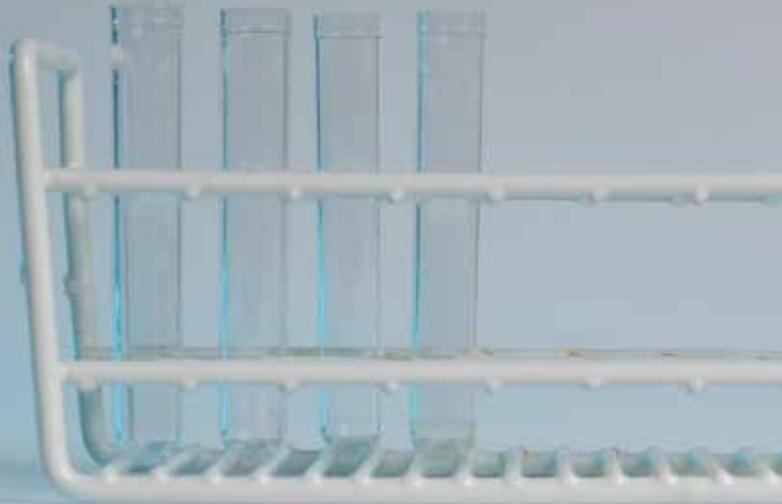
The attitude of the Dutch population toward the pharmaceutical industry is on average somewhat less positive than in various other European countries. Particularly notable is that between 2000 and 2006 the public image of pharmaceutical industry declined substantially in The Netherlands. A similar change occurred in several other Western-European countries (Germany, France and Spain) but not to the same extent as in The Netherlands. Since 2006 there has been some noticeable improvement, but still only some 56 percent of the Dutch population have a positive attitude toward the pharmaceutical industry. This is 10 percent below the EU average.

Positive attitude of populations toward the pharmaceutical industry (in percentages)



Source: European Chemical Industry Council (Cefic), Public Image Survey

Pharmaceutical companies make important contributions toward a healthier world



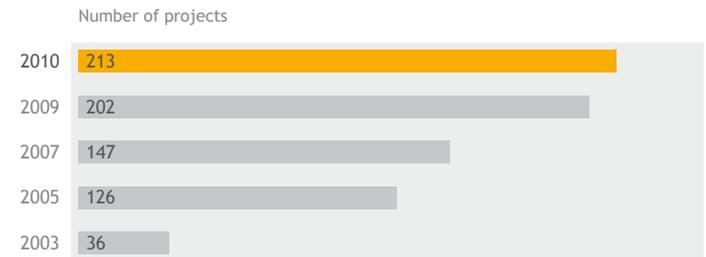
6

Pharmaceutical companies are commercial enterprises that have to make a profit to ensure their continuity and development of products and applications. But that is not the whole story. Their products make an important contribution to people's health. Unfortunately, these products are not within reach of everyone. Therefore many companies are trying to give populations in poorer areas access to medicines. These efforts are expanding, as is evident from the Access to Medicine Index, introduced in 2008, which charts these activities per company. It is also evident from the growing number of projects specifically intended for developing countries, which are being set up by pharmaceutical companies.

Pharmaceutical companies are working toward better health in developing countries

In collaboration with The World Health Organisation (WHO) and The United Nations (UN), pharmaceutical companies use their knowledge and resources related to health and illness to make significant contributions to the improvement of health in developing countries. Over the past 7 years, innovative pharmaceutical companies have contributed more than 9 billion dollars to over 200 projects worldwide directed at preventing and combating diseases. As a result, 1.7 billion people have been helped. Most projects are carried out in collaboration with local parties and non-governmental organisations, and are aimed at preventing and combating HIV/AIDS, tuberculosis and malaria.

Health projects of pharmaceutical companies in developing countries



Nefarma

vereniging innovatieve geneesmiddelen Nederland

© Nefarma, November 2011,
English translation March 2012

PO Box 11633
2502 AP The Hague

+31 (0)70 313 22 22

info@nefarma.nl
www.nefarma.nl