Drug’s registration with the Agenzia Italiana del Farmaco (AIFA) or the European Medicines Agency (EMEA) is also needed during the “clinical experimental” phase of the drug. After registration, the drug may be placed in the market. Let’s now see how research works in practice: the time from the discovery of the molecule to registration can reach up to 10 years or more. The costs of all this research are around €1Bn. We now realise how expensive it is for a pharmaceutical company to invest in research; it’s really expensive.

Although the drug is registered it isn't necessarily available to the public. This happens because it is the pharmaceutical companies that decide when the drug needs to be commercialised. As I mentioned before, during the clinical experimental phase, the pharmaceutical company applies for registration. At the same time, the company applies for the reimbursement of the drug from the SSN and agrees on pricing. AIFA, in order to grant reimbursement, follows objective criteria. These are:

A) Cost /efficacy benefits:

- the drug is useful for the treatment of diseases where there is no effective therapy
  
or

- the drug provides a better response for the same indications compared to other drugs available in the market.

B) Risk/benefit ratio: it must be more favourable than the other drugs available on the market for the same indications.

C) Evaluation of the economic impact on the SSN.

D) Better rate of therapy cost/death when compared to products of the same efficacy.

E) Comparison with the prices and consumption of other European countries.

The company is well aware of the above criteria whilst working on the development plans for the drug. Different strategies are implemented depending on the type of product. However, two situations may arise.

A: the drug is reimbursed.

B: the drug is not reimbursed.
In this last case, commercialization of the drug may be postponed. Further research may be done to broaden the therapeutic profile of the drug e.g. new therapeutic indications or improved efficacy.

However, if the company decides to commercialise the drug, then the scientific/medical department will work together with the **marketing department**. Depending on the type of drug, particular strategies will be developed and all strategies will be aimed at the commercial success of the product.

- Market research and time to market
- Evaluation of clinical trials
- Planning of Phase IV to compare the drug to other similar products on the market
- The marketing material (corporate literature, visual aid, gadgets, etc.) that will be used by ISF for the launch of the drug
- Training courses for doctors, chaired by specialists
- Establish participation in national or international conferences, attended by specialists.
- Set up scholarships for young medical students, etc.

These ‘instruments’ or initiatives are communicated to the Ministry of Health for approval. All these initiatives are ultimately aimed at making profits.

Certainly in every phase that we describe here, one can intervene in a more or less ethical way. As we have seen, ethical committees in various public structures have the remit to control and verify that everything meets the right criteria. But is this enough to safeguard public health? There is always a way to overcome barriers. If we look at the press in recent years, we realise that only very few stories have reached the public domain.

But...let’s explore what happens once the drug is in the market.

On the one hand, there is the control function which is within the Ministry of Health that, through regulations, monitor the side-effects of the drug; this is called **pharmacovigilence**. On the other hand, the company uses this period, as we mentioned before, to develop the profile of the drug through **post-marketing** studies (Phase IV).

Let’s give some examples:

As a new drug will be more successful if it brings an effective advantage with respect to existing therapies, comparative studies are planned as a result.
reasons, small hospitals or clinical centres can be involved, or just selected specialists. Not always the expected results are achieved. If this is the case, ‘failure’ can be exploited as a way to make “prescribers” loyal. It’s clear - as a matter of fact - that if one uses a drug to evaluate a new indication, one will be prone to use it for previous indications. Moreover, it isn’t always necessary to publish. If it needs to be done, it can be done in journals with low impact factor.

Data interpretation for a study is always relative and can emphasise certain aspects over others.

But...the main objective is always reached: use the drug in a way that it belongs to the standard therapeutic ‘baggage’ of the vast majority of doctors. After years of work in the field I’ve observed that the relationship between correct information and obtaining results did not always go hand-in-hand. Hence the reason for looking at alternative ways. The message of the company is however, always clear: the responsibility for “mistakes” in communications can make one personally liable.

In the end, we ask ourselves:

How much time does the pharmaceutical company take to cover the costs? Obviously, there is an instrument that protects a drug from competition: the patent. Generally, it lasts 20 years and grants the right of “exclusive exploitation”. The application is made during the first phase of the research. From the time the product is launched in the market to the expiration of the patent will take about 10 years. In addition, the first years are the ones where profits need to be maximised as the novelty of the product is at its peak. It’s during these years that marketing activities mentioned previously take place. When the expiration of the patent is reached, the company reduces its “efforts” toward the drug until the production ends but...at this point there will be new drugs that are entering the market and ...the cycle begins again.