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### ROLE OF REGULATORY AFFAIRS IN A PHARMACEUTICAL INDUSTRY

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**Abstract:** Regulatory affairs (RA) professionals play critical roles in a pharmaceutical industry because it is concern about the healthcare product lifecycle, it provide strategic, tactical and operational direction and support for working within regulations to expedite the development and delivery of safe and effective healthcare products to individuals around the world. The role of regulatory affairs is to develop and execute a regulatory strategy to ensure that the collective efforts of the drug development team results in a product that is approvable by global regulators but is also differentiated from the competition in some way and also is to ensure that the company's activities, from non-clinical research through to advertising and promotion, are conducted in accordance with the regulations and guidelines established by regulatory authorities. Regulatory Affairs is an attractive career choice for graduate students from a scientific background who enjoy communication and team work, are comfortable with multi-tasking and are eager to expand their knowledge in the wide realms of the Pharmaceutical world. Regulatory Affairs is a rewarding, intellectually stimulating and highly regarded profession within pharmaceutical companies.

**Keywords:** Regulatory Affairs, Pharmacy Practice, Pharmacy Curriculum, Worldwide Regulatory Agencies.



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## **INTRODUCTION**

Regulatory Affairs (RA), also called Government Affairs, is a profession within regulated industries, such as pharmaceuticals, medical devices, energy, and banking. Regulatory Affairs also has a very specific meaning within the healthcare industries (pharmaceuticals, medical devices, Biologics and functional foods) most companies, whether they are major multinational pharmaceutical corporations or small, innovative biotechnology companies, have specialist departments of Regulatory Affairs professionals<sup>[1-4]</sup>. The current Pharmaceutical Industry is well organized, systematic and compliant to international regulatory standards for manufacturing of Chemical and Biological drugs for human and veterinary consumption as well as medical devices, traditional herbal products and cosmetics. Stringent GMPs are being followed for blood and its derivative as well as controlled manufacturing for Traditional Herbal Medicines, Cosmetics, Food and Dietary products which was otherwise differently a century before. Each regulatory system had faced certain circumstances which led to current well-defined controlled regulatory framework. This has resulted into systematic manufacturing and marketing of safe, efficacious and qualitative drugs. With the growth of industry, the legislations from each region have become more and more complex and created a need for regulatory professionals<sup>[2]</sup>. To understand the chronological development of the modern era of pharmaceutical industry and regulatory framework, we will glance through the historical evolution of regulations in USA, Europe and India<sup>[3-6]</sup>.

## **OBJECTIVES OF REGULATORY AFFAIRS**

- How and why the pharmaceutical industry and drug regulations have developed in USA
- Major Regulations of USA
- Framework of EU and its regulatory
- “The Rules Governing Medicinal Products in the European Union”
- Pharmaceutical Legislations of EU
- Indian Pharmaceutical Industry & Drug Regulations development in different Era
- Types of Marketing Authorization Procedure in EU Market
- Major Rules and Act of India
- Roles of Regulatory Affairs Professional in Health Authorities as well as Pharmaceutical Industry

## WHAT IS REGULATORY AFFAIRS

It is a unique mix of science and management to achieve a commercially important goal within a drug development organization. \_Touches everything relating to drugs from the earliest non-clinical studies, through development, into routine manufacture and marketing, can add significant impact for patients and drug companies <sup>[7]</sup>.

## WHY IS REGULATORY AFFAIRS NEEDED

Drug development and commercialization is highly regulated the path to drug registration (Marketing Approval) is paved with good intention but can be complicated Things change constantly.

## PARAMETER OF REGULATORY AFFAIRS

- Design =Development Plan
- Co-ordination= Writing/reviewing, supervising
- Construction= Assembling & Submission Management
- Testing= Where are the weaknesses
- Drug regulations
- National Laws (e.g. UK - Medicines Act, US- CFR)
- Regional Laws (EC directives)
- National and Regional Guidelines
- International Guidelines (ICH)

## REGULATORY BODIES IN THE WORLD

**Table 1: Different regulatory bodies in the world**

Country	Regulatory Body
<b>USA</b>	Food and Drug Administration (FDA)
<b>UK</b>	Medicines and Healthcare Products Regulatory Agency (MHRA)
<b>Australia</b>	Therapeutic Goods Administration (TGA)

India	Central Drug Standard Control Organization (CDSCO)
Canada	Health Canada
Europe	European Medicines Agency (EMA)
Japan	Ministry of Health, Labour & Welfare (MHLW)

## SCOPE OF REGULATORY AFFAIRS PROFESSIONAL IN INDUSTRIES

Regulatory affairs professionals are employed in industry, government regulatory authorities and academics. The wide range of regulatory professionals includes in these areas:

- Pharmaceuticals
- Medical devices
- In vitro diagnostics
- Biologics and biotechnology
- Nutritional Products
- Cosmetics

## HISTORICAL OVERVIEW OF REGULATORY AFFAIRS

During 1950s, multiple tragedies i.e. sulfanilamide elixir, vaccine tragedy and thalidomide tragedy have resulted in substantial increase of legislations for drug products quality, safety and efficacy. This has also resulted into stricter norms for Marketing Authorization (MA) and Good Manufacturing Practices (GMPs).

## PHARMACEUTICAL DRUG REGULATORY AFFAIRS

This department is responsible for knowing the regulatory requirements for getting new products approved. They know what commitments the company has made to the regulatory agencies where the product has been approved. They also submit annual reports and supplements to the agencies. Regulatory Affairs typically communicates with one of the Centers (e.g., Center for Drug Evaluation and Research) at the FDA headquarters, rather than the FDA local district offices. GMPs do not directly apply to Regulatory Affairs; however <sup>[4]</sup>, they must understand and evaluate changes to drug manufacturing and testing activities to determine if

and when the FDA must be notified. Regulatory Affairs is a comparatively new profession which has developed from the desire of governments to protect public health, by controlling the safety and efficacy of products in areas including pharmaceuticals, veterinary medicines, medical devices, pesticides, agrochemicals, cosmetics and complementary medicines <sup>[8-10]</sup>. The companies responsible for the discovery, testing, manufacture and marketing of these products also want to ensure that they supply products that are safe and make a worthwhile contribution to public health and welfare. Regulatory <sup>[5]</sup> Affairs professionals, with their detailed knowledge of the regulations and guidelines, are frequently called in to advice on such matters.

### **IMPORTANCE OF REGULATORY AFFAIR**

In today's competitive environment the reduction of the time taken to reach the market is critical to a product's and hence the company's success. The proper conduct of its Regulatory Affairs activities is therefore of considerable economic importance for the company. Inadequate reporting of data may prevent a timely positive evaluation of a marketing application. A new drug may have cost many millions of Euros or dollars, pounds, to develop and even a three- month delay in bringing it to the market has considerable financial considerations. Even worse, failures to fully report all the available data or the release of product bearing incorrect labeling, may easily result in the need for a product recall <sup>[11-13]</sup>. Either occurrence may lead to the loss of several millions of units of sales, not to mention the resulting reduction in confidence of the investors, health professionals and patients <sup>[14]</sup>. The Regulatory Affairs department is very often the first point of contact between the government authorities and the company.

### **REGULATORY AFFAIRS IN PRODUCT MANAGEMENT**

The key role of RA professional is broader than registration of products, they advise companies both strategically and technically at the highest level. Their role begins right from development of a product to making, marketing and post marketing strategies. Their advice at all stages both in terms of legal and technical requirements help companies save a lot of time and money in developing the product and marketing the same. For countries that do not have their own regulations the World Health Organization guidelines on health matters and World Trade Organization on trade regulations between nations is followed <sup>[14-16]</sup>.

### **REGULATORY AFFAIRS IN CLINICAL TRIALS**

The RA professional is the primary link between the company and worldwide regulatory agencies such as US Food and Drug Administration (USFDA & Center for Devices and Radiological Health) Medicines and Healthcare Products Regulatory Agency, United Kingdom,

(UKMCA), Therapeutic Goods Administration, Australia European Medicines Agency, Organization of Economic Collaboration and Development (OECD) and Health Canada. He also communicates and interprets the seemingly endless mace of laws, regulations and guidelines to the other departments of the company. The RA personnel develops strategies to overcome delays and presents finding of clinical trials to the regulatory bodies so as to get quick clearance thus reducing the time for approval of new molecules. At its core, the RA professional facilitates the collection, analysis and communication about the risks and benefits of health products to the regulatory agencies, medical and health systems and the public. Operationally RA is responsible for assuring that government obligation, market driven demands and evolving scientific conventions are understood and addressed by various stakeholders <sup>[14-16]</sup>.

### **REGULATORY AFFAIRS IN R&D**

The regulatory affairs personnel work hand in hand with marketing and R&D to develop, innovative products that take advantage of new technological and regulatory developments to accelerate time to market. With new products expected to add significant revenues to the company's bottom lines, small decreases in time to market equate to large material gains in revenue and profit. Employing adaptive clinical trial strategies, obtaining quick approval from regulatory authorities and avoiding pitfalls in processes can accelerate development of new products and help to reduce costly errors and time lags <sup>[14-16]</sup>.

### **WORKING OF REGULATORY AFFAIRS INFORMATION**

Regulatory is the interface between the company/sponsor and the outside world the regulatory department is a focal point of information, both incoming and outgoing. In order to practice regulatory and succeed, both in objective public measures (e.g., approvals) and internal ones (e.g., recognition and reward), etc.

### **GATHERING INFORMATION**

All the information should be ethical proper documentation any opportunity to see, hears, or talks with a regulator, a more experienced drug development expert, a colleague, or a sworn enemy is an opportunity to gather information. There should be no need to go over published sources of information, both commercial and governmental <sup>[11-13]</sup>.

### **COMMUNICATING INFORMATION**

The easiest way information is to share and communicate is non-critical information. The main issue with such information is getting to the right audience without boring them into forgetting that they're getting useful data. Most companies subscribe to news updates or have internal regulatory information updates through email. One suggestion is to make them playful and user

friendly, using popular Web pages as guides. The difficult information to communicate is critical information. This could mean anything vital to the success or failure of a project, specific and important feedback from the FDA. The first thing to do is document the information carefully, so that we can fully understand it and its implications. Then think of those individuals who are that combination of “need to know” and “know who else needs to know.” At a small industry it should be done by CEO or the president but in a larger companies, the head of clinical, a project manager, should be handled <sup>[11-13]</sup>.

## NEED OF REGULATORY AFFAIRS IN THE PHARMACY CURRICULUM

India is growing very rapidly in pharmaceutical sector; there is a need of regulatory affairs professionals to cater the current needs of industries for the global competition. Regulatory affairs professionals are the link between pharmaceutical industries and worldwide regulatory agencies. They are required to be well versed in the laws, regulations, guidelines and guidance of the regulatory agencies. There is a growing need to incorporate the current requirements of pharmaceutical industries in the standard curriculum of pharmacy colleges to prepare the students with the latest developments to serve the industries <sup>[14-16]</sup>.

## CONCLUSION

Many in the Regulatory Affairs Profession believe the New Approach to regulation will eventually be adopted for all healthcare products as it represents the best model for delivering new healthcare advances to market in a reasonable time with acceptable safety. Regulatory Affairs department is constantly evolving and growing and is the one which is least impacted during the Acquisition and Merger, and also during recession. Regulatory Affairs departments are growing within companies. Due to the changing resources necessary to fulfill the regulatory requirements, some companies also choose to outsource or out task regulatory affairs to external service providers. In today’s competitive environment the reduction of the time taken to reach the market is critical to a product’s and hence the company’s success. The proper conduct of its Regulatory Affairs activities is therefore of considerable economic importance for the company.

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