PART I: BACKGROUND AND RATIONALE OF STUDY:

1.1 Historical perspective of disease:

Humans have been fighting the diseases of ‘civilization’ since they began congregating in large numbers. There is written and pictorial evidence of this from Egypt and Mesopotamia around 1000 BC, India about 750 BC, Greece of the sixth century BC, and China about 100 BC. Yet, as the Canadian physician and historian William Osler commented, ‘Civilization is but a filmy fringe on the history of man’. By this he meant that the past four or five millennia represent a tiny fraction of 1 per cent of the time since human ancestors first appeared on earth.

There is, of course, no recorded history of the ailments of people before the emergence of civilizations and thus before the diseases that they spawned, but we can make informed guesses about them from skeletons and other archaeological remains.[1]

An influential scholar named Gordon Childe identified a list of ten attributes that distinguish a civilization from other kind of societies; his list was reviewed and rewritten many times. What follows is the version of Charles Redman, an American archaeologist:

Primary characteristics:

1. Urban settlements
2. Full-time specialists not involved in agricultural activities
3. Concentration of surplus production
4. Class structure
5. State-level organization (government)

Secondary characteristics:

6. Monumental public building

7. Extensive trading networks

8. Standardized monumental artwork

9. Writing

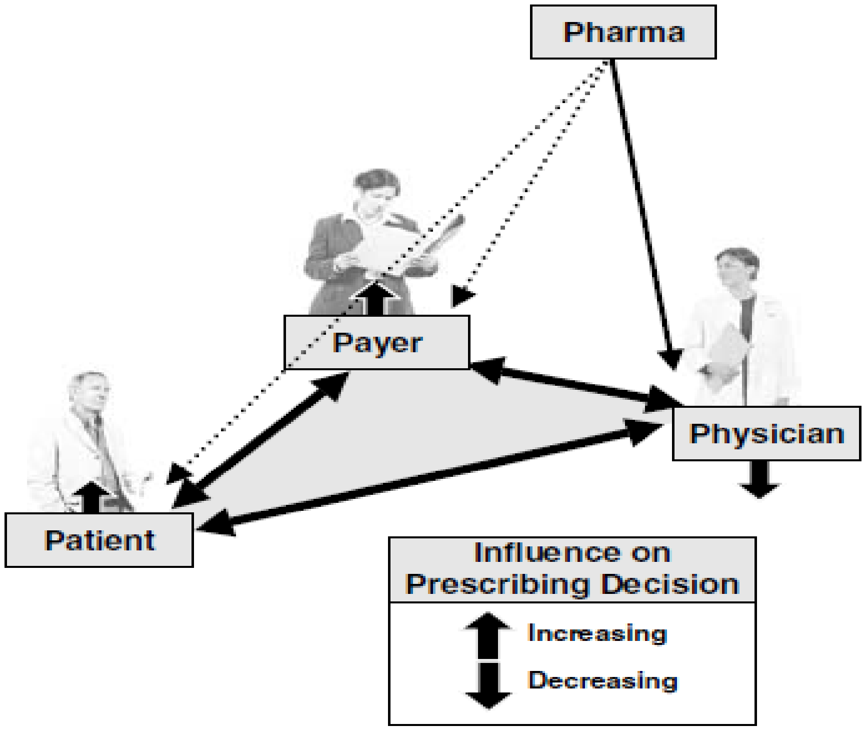
10. Development of exact sciences

Today it is acknowledged that these criteria can be problematic for a number of reasons, mainly because the archaeological criteria used to define a civilization are not always clear-cut: reality is indifferent to our intellectual distinctions. We know of complex civilizations, like the Incas, who did not have a writing system; we know of societies which produced monumental buildings, like in the Eastern Islands or Stonehenge, where neither state-level organization nor writing existed; and we even know urban centres, like the Preceramic Civilization in the Andes (c. 3000-1800 BCE) long before the time of the Incas, which were established before the development of extensive agriculture.

This list, however, offers a framework by which the attributes of any society can be objectively compared. If a society displays most of these attributes (or even all of them), it will enable us to refer to it as a civilization no matter how alien, unpleasant, or archaic we might find its way of life and values.[2]

Never have people in the West lived so long, or been so healthy, and never have medical achievements been so great. Yet, paradoxically, rarely has medicine drawn such intense doubts and disapproval as today. No-one could deny that the medical breakthroughs of the past 50 years-the culmination of a long tradition of scientific medicine-have saved more lives than those of any era since the dawn of medicine. At the outbreak of the Second World War, penicillin was still at the laboratory stage and remained rationed for several years. Before the advent of such antibiotic ‘magic bullets’, pneumonia, meningitis, and similar infections were still frequently fatal. The 1950s extended the ‘first pharmacological revolution’ on to a broad front. The new biological drugs beat the bacteria, improved the control of deficiency diseases, and produced effective medications (such as the psychotropic drug chlorpromazine) for mental illness. The first vaccines against polio arrived at the same time.[3]

1.2 Transaction in Pharmaceutical Industry:



Key players' relationships within healthcare

(Adopted From:*Marketing Strategy-The need for new promotional models, Journal of Medical Marketing, Vol.8, 1 23-30)*

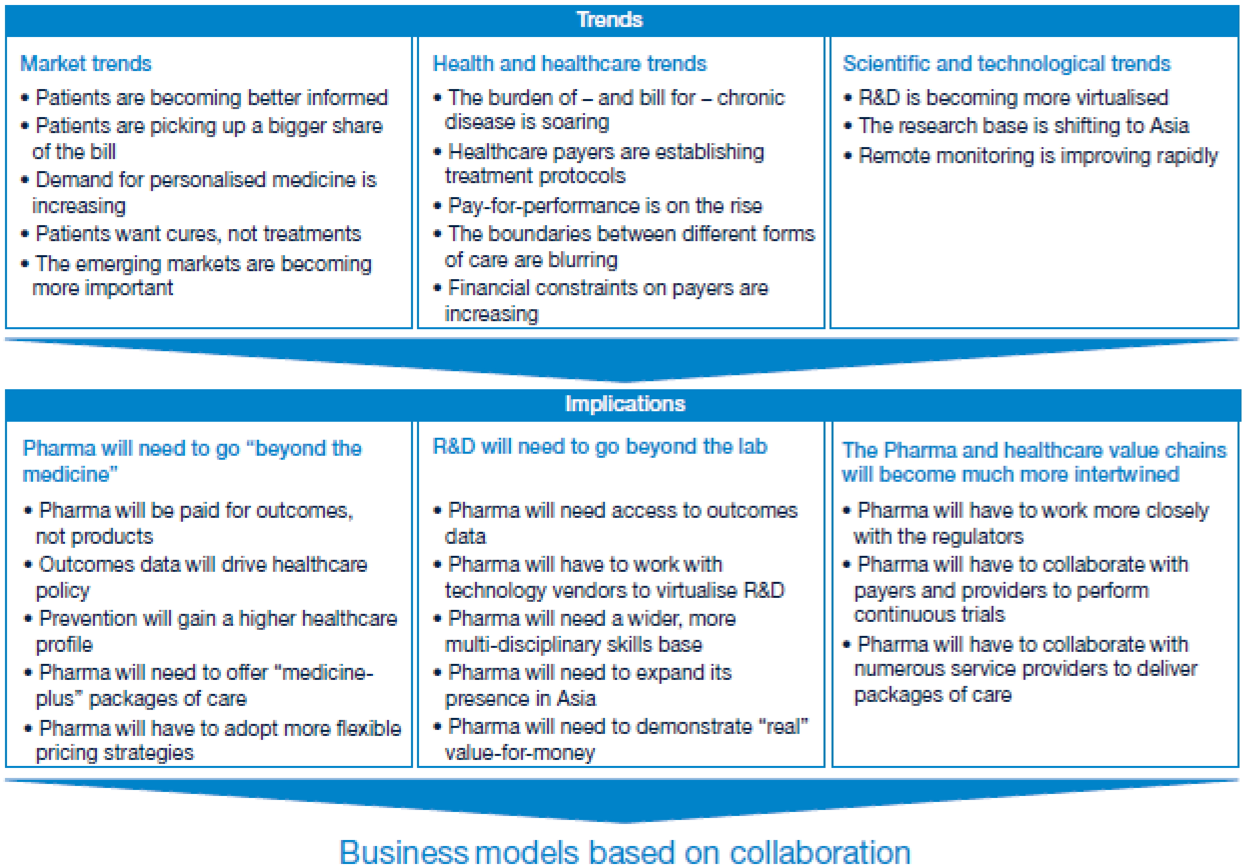
When we consider pharmaceutical industry, in any point of time cannot be considered in isolation consequently healthcare industry, comprises of various sectors as constituents, is the term which is occupying dominant place where pharmaceutical industry is having decisive role to play. In general as part of practice in India whenever we are sick or having health related problem, report to a doctor and on the basis of his prescribed medicine we take a decision to purchase medicine for consumption. So here, doctors are key factors, however with the penetration of health insurance sector in India many a time now patient is not the direct payer but insurance company. Under this context might be competition and further complexity is forcing companies to be vigilant enough to survive in the market place where countries' government regulations and policies play an important role.

Sir Ernst Boris Chain, co-recipient of Nobel Prize for physiology or medicine for his work on penicillin, has labeled drugs as "one of the greatest blessings-perhaps the greatest blessing-of our time." (Chain, E. B.: Academic and Industrial Contribution to Drug Research, 200 (no 4905): 441, 1963.).[4] While we appreciate the technological development in disease management up to recent time for the precision researchers could achieve with the attempt of development of artificial vital organs like heart, lungs and kidney replacement to mention a few. However, the twentieth century per se might be remembered for technological achievements which include a greater understanding of the atom's structure apart from all modern medicines now available with us to cure as well as prevent life threatening diseases.

Considering the nature of pharmaceutical industry which is science based and knowledge driven, almost for every development in the industry due credit has been extended towards research and development only, while few appreciate the contributions made by the pharmaceutical marketing system. Pharmaceutical marketing system and people working within system is always responsible to make these developments or drugs at right time, at the right place, in the right quantity, at a reasonable price, and with the right information. Developing due diligence for this marketing system along with responsibility will be discussed in various sections of thesis in terms of product, people along with profit for the pharmaceutical industry while evaluating various marketing models which has evolved in the process of development of industry will substantiate the fact further of the present study.

1.2.1 Emerging Trends in Pharmaceutical Industry:

Figure 1: The key trends now emerging and their implications for Pharma



(Adopted from: *The report of Price water house Coopers "Pharma 2020: Challenging Business Models"*.)

By 2020 the pharmaceutical market is anticipated to more than double to US$1.3 trillion, with the E7 countries — Brazil, China, India, Indonesia, Mexico, Russia and Turkey — accounting around for one fifth of global pharmaceutical sales. Further, incidence of chronic conditions in the developing world will increasingly resemble those of the developed world.

Considering the present global pharmaceutical market which is of US $ 962.10 in which India's share is US $ 18 Bn in 2012. Evaluating the marketing system in global scenario along with India some conceptual differences do come out although key forces which shape the industry remain almost same. In Global scenario health insurance companies do play a major role as in developed countries penetration of medical insurance company is much higher in comparison to India. However in India also now penetration along with awareness is increasing which is going to be a key factor in shaping the market dynamics of pharmaceutical industry further. Insurance companies being payer on behalf of patient have a great role to play in prescription habit of a doctor in developed countries. Payer is crucial factor in entire pharmaceutical business model as many a time approximately 90% is the cost of medicine for a particular treatment of a disease out of total cost of treatment.[5]

1.2.2 Cost of prescription for a disease:

Cost of prescriptions & treatment of community acquired pneumonia as a percentage of monthly per capita expenditure [MPCE] on food, non-food & total expenditure: All India, Delhi 2005-2006, 2006-2007

Parameter [%]	Area	Cost [₹] of treatment as percentage of MPCE [%]		
		Item		
		Food	Non-food	Total
2005-2006	**All India**			
	Rural*	**331.25**	**293.75**	**625.00**
Prescription		39.06 [18.17]	44.04 (20.5)	20.69 (9.6)
Treatment A		22.40 [27.83]	25.26(31.38)	11.87 (14.75)
Treatment B		29.39 [26.56]	33.15 (29.95)	15.58 (14.1)
	Urban*	**468.40**	**702.60**	**1,171.00**
Prescription		27.62 [12.85]	18.40 (8.57)	11.05 (5.14)
Treatment A		15.84 [19.68]	10.56 (13.12)	6.34 (7.51)
Treatment B		20.79 [18.79]	13.86 (12.52)	8.30 (7.52)
2005-2006	**Delhi**	**Food**	**Non-food**	**Total**
	Rural**	475.80	553.88	1,029.68
Prescription		27.19 [12.66]	23.36 (10.87)	12.56 (5.85)
Treatment A		15.59 [19.38]	13.39 (16.65)	7.21 (9)
Treatment B		20.47 [18.5]	17.58(15.89)	9.46 (8.55)
	Urban**	**606.59**	**1,138.36**	**1,744.95**
Prescription		21.33 [9.93]	11.36 (5.3)	7.41 (3.5)
Treatment A		12.23 [15.2]	6.52 (8.1)	4.25 (5.3)
Treatment B		16.05 [14.51]	8.55 (7.73)	5.58 (5.04)
2006-2007	**All India**	**Food**	**Non-food**	**Total**
	Rural*	**363.00**	**332.00**	**695.00**
Prescription		35.64 [16.6]	38.97 (18.14)	18.61 (8.67)
Treatment A		20.44 [25.4]	22.35 (27.77)	10.68 (13.27)
Treatment B		26.83 [24.24]	29.33 (26.51)	14.01 (12.66)
	Urban*	**517.00**	**795.00**	**1,312.00**
Prescription		25.02 [11.65]	16.27 (7.58)	9.86 (4.6)
Treatment A		14.35 [17.83]	9.33 (11.6)	5.66 (7.02)
Treatment B		18.85 [17.02]	12.2 (11.07)	7.422 (6.7)
2006-2007	**Delhi**	**Food**	**Non-food**	**Total**
	Rural**	**553.05**	**751.22**	**1304.27**
Prescription		23.4 [10.89]	17.23 (8.0)	9.92 (4.6)
Treatment A		13.42 [16.67]	9.9 (12.27)	5.69 (7.1)
Treatment B		17.61 [15.91]	12.97 (11.71)	7.5 (6.75)
	Urban**	**733.53**	**1238.66**	**1972.19**
Prescription		17.64 [8.2]	10.45 (4.86)	6.6 (3.1)
Treatment A		10.11 [7.44]	5.99 (7.44)	3.76 (4.7)
Treatment B		13.28 [12]	7.86 [7.1]	4.94 [4.5]

Treatment A = Treatment of community acquired pneumonia with azithromycin
Treatment B = Treatment of community acquired pneumonia with levofloxacin
*Values in bold are MPCE as specified by the Government of India
**Values in bold are MPCE as specified by the Government of National Capital Territory of Delhi
Values in open are based on mean costs and in squares brackets [ ] are based on median costs

Table - 1

(Adopted From:*Indian Journal Of Medicine -136, November 2012, pp 827-835*)

‘Marketing’ term per se has been quoted or misquoted even many a time, mainly in application area where marketers of a product and services consider that one size can fit to all situation. To elaborate the statement we can consider the great work and award winning article of Harvard Business Review with title “Marketing Myopia” by Theodre Levitt. Further to this in Dr Philip Kotler’s recent work and publication of books Marketing 1.0, Marketing 2.0 & Marketing 3.0 has elaborated the importance of understanding the responsibility of marketers.

Under this context of discussion pharmaceutical marketing takes a special status because of its genesis and difference with other products like consumer goods either FMCG products or white goods even.

However in any sector of marketing the common factors are product or services along with customer or consumer. Here in pharmaceutical product basic difference is patient who is consuming the product is not decision maker but another agency or party with whom patient is dealing or negotiating for an exchange to offer is decision maker that is medical practitioners or doctor.

Interestingly with the civilization process and advancement of science and technology this patient and doctor relationship is also becoming complex as in entire healthcare coverage patient have to interact with other parties too like diagnostic centre, insurance companies and others so complexity arising in payers side also.

In Indian context organizations will face a new challenge to deal with insurance companies who will pay on behalf of insured consumer, however present level of health insurance is quite low in comparison to developed countries.[6]

A detail analysis of available data and comparison with developed countries can provide us a conceptual clarity on how and why there is a need of highly responsible pharmaceutical marketing practices in Indian context. On one hand we have pressure on availability of resources on the other quite a high number of pharmaceutical products getting bacterial resistance might be because of overuse or irrational usage.

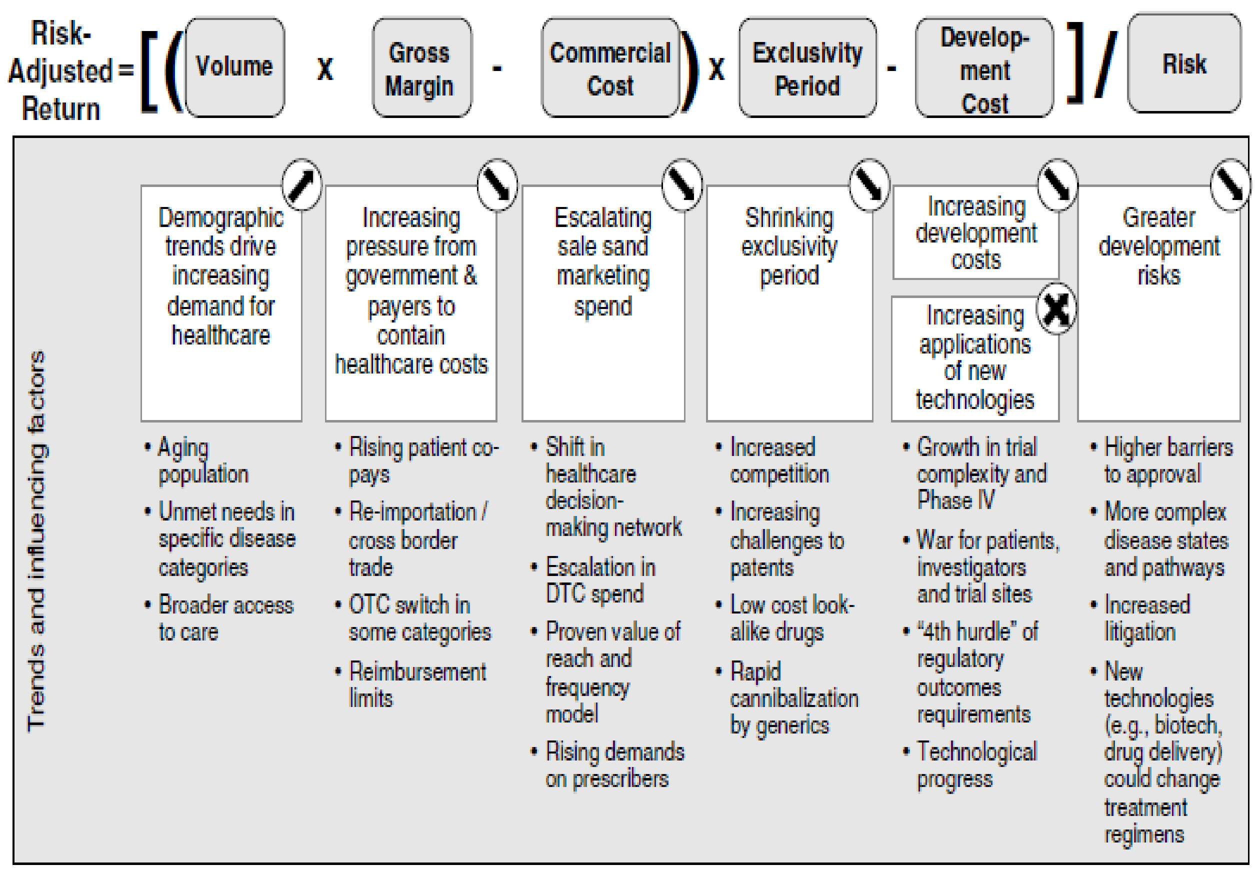
So rationality in usage which can be protected through the best practices can provide a better or longer product life cycle of pharmaceutical products. Point can be further evaluated when considered with certain data which are available with us in context to present discussion.[7]

1.3 Commercial Aspect 0f Pharmaceutical Industry:

Pharmaceutical marketing, as a subspecialty of marketing, can be defined as a process by which market for pharmaceutical care is actualized. It encompasses all the activities carried out by various individuals or organizations to actualize markets for pharmaceutical care. The emphasis in pharmaceutical marketing is on pharmaceutical care, and not just on drugs.

Any article, service, or idea needed to anticipate and to remove gaps in pharmaceutical care should be included in the discussion of pharmaceutical marketing. The marketing of many clinical pharmaceutical services and programs is as much a part of pharmaceutical marketing as is the marketing of drug products. In other words, pharmaceutical marketing is not synonymous with, but is significantly broader than, the marketing of pharmaceuticals.

The emphasis in this definition is on pharmaceutical care, indicating that the justification for the existence of pharmaceutical marketing is the patient, and not the manufacturer or the pharmacist. The actualization of markets for pharmaceutical care indicates that all activities involved in anticipating, enlarging, facilitating, and completing or removing gaps in



Framework for long-term commercial success

Source: Capgemini Life Sciences

pharmaceutical care are within the scope of the field of pharmaceutical marketing. In other words, pharmaceutical marketing is not a static passive process but a dynamic active process.[8]

Historical data will always support with the fact that in Indian market there is always huge opportunity for pharmaceutical companies where forces like Government and regulatory affairs and policy changes always play an influential role. Pre to post independence India could experience various marketing approaches because of change in environment of marketing, apart from post patent regime where international pressure or guideline is mandatory to follow.

So situation forced organizations to look for innovative ways of marketing where many a time aggression of companies in marketing practices could affect trade in totality. Indian companies always being marketing driven might be experiencing a situation now where they do not have unique products with them to market but to market products which are out of the patent so return on investment is also affected.

1.4 Historical Perspective of Indian Pharmaceutical Industry:

Indian pharmaceutical industry of present age started its journey with an initiative taken by Prof. P. C. Roy by establishing Bengal Chemicals & Pharmaceutical Works at Calcutta. The year of inception is not authentically known, as some sources point to the year as 1903, whereas some other put it as 1910.However, simultaneously, the Amins of Baroda established Alembic Chemicals in 1907.

In those early years, Indian pharmaceutical industry depended mainly on import of medicines and the uses were mostly the British. With the passage of time and after World War II, scenario of the Indian pharmaceutical industry could change rapidly as clinical usage pattern of medicines had changed dramatically. Post-independence era had provided real momentum for the growth and shape of the industry. Government policies as well as regulations started providing impetus for growth of the industry.

Pharmaceutical industry is knowledge and technology driven on one hand while on other hand capital intensive, consequently financial support by any Government in policy framework is important as well as decisive which in Indian context proved to be always less in comparison to the Government policies of developed countries. A critical analysis of government policy will provide us a scenario where MNCs also expected a different set of policy in terms of product patent during 1970s, consequently some of the MNCs started leaving the country or Indian market during 70s. In this particular period Indian companies could consolidate themselves and improved their market share by achieving some dominance in the industry.[9]

MNCs always differentiate themselves in terms of R&D expenditure which is very decisive factor for survival in knowledge driven industry. Sulpha drugs in mid-1930s and Penicillin in the early 1940s could change the face of international pharmaceutical industry by creating a therapeutic revolution. Before these innovations drugs were not available to cure diseases and now innovators started focusing on cure of disease.

With the change in disease pattern MNCs always tried to innovate as per the need of the hour though underdeveloped nations or poorer people could not avail the benefit of these innovations because of higher cost of products or in other word they could not afford the same. These innovations failed to address the diseases effecting mass as prime objectives of these innovations were to achieve business returns. In this particular context Indian pharmaceutical industry could address mass because of competitive pricing or affordable pricing.

One major disadvantage Indian companies always face because of this pricing pressure either from government or partly because of competition, companies could not allocate enough fund on R&D front since inception because cost of the Indian drugs remain one of the lowest in the world. The price comparison of Indian products could be well understood from tables in appendix.

As Indian companies could not initiate R&D expenditure in those early years so they are facing a challenging situation in present days because of global competition. Neither our government policy nor industry itself could create an environment which will encourage innovation by developing infrastructure for R&D. There are areas where pharmaceutical industry always expected a better policy measure from Indian government which are namely labour law reforms, regulatory reforms, intellectual property rights reforms, price decontrol and fiscal reform to mention few.[10]

1.5 Progress of Indian Pharmaceutical Industry:

The growth of Indian pharmaceutical industry can be divided in different stages. Before independence entire industrial scenario and available facilities were mainly dominated by British and industry could not progress much except few manufacturing facilities. In post-independence period Indian pharmaceutical industry started taking a shape; however, during 1950s to 60s industry was dominated by multinational companies and demand of bulk drug was met mainly by import.

Multinationals used to import the bulk drug because adequate manufacturing facilities were not available in India and even we did not had much expertise on the domain. Government could realize the fact and took an initiative to set up Indian Drugs and Pharmaceutical Ltd (IDPL) at Rishikesh and Hyderabad in the year 1961 and Hinustan Antibiotic Ltd (HAL) at Pimpri, PUNE in the year 1954 to manufacture penicillin.

It has been rightly mentioned in the work of Pradhan that "The starting of the public sector enterprises has been an important feature in the evolution of the pharmaceutical industry as it assumed initiative roles in producing bulk drugs indigenously and led to significant knowledge spillovers on the private domestic sector".

Indian pharmaceutical industry could advance further in 1970s that can be defined as 2nd phase. There were few important Government announcement which could provide momentum to the growth of industry. One of them is the declaration of Indian Patent Act 1970 (IPR) and another is New Drug Policy (NDP) 1978 both proved to be beneficial for the growth of the industry.

In the IPR now the year has been fixed to be 7 years which was 16 years earlier and patent was on process not product. As a result Indian companies could innovate different cost effective processes by which they could produce quality products at a lower cost than MNCs. At this particular stage Indian companies could take a lead as the MNCs started facing a competition from domestic companies. Indian pharmaceutical companies could progress in process innovation as a result drugs introduced in abroad could be introduced in Indian market with shorter time gap that can be well observed in (table 3).

The Government of India further took decision under Foreign Exchange Regulation Act (FERA) 1973 in which MNCs could raise their holding up to 74 per cent provided they were producing high technology drugs. MNCs which were producing formulations by importing bulk drugs were expected to start their production facility of bulk drug within 2 years, otherwise they were required to reduce their foreign ownership holding to 40 per cent.

New foreign investment was permitted at this stage when production required high technology bulk drug and formulation. Indian pharmaceutical industry during this phase could show good entrepreneurial and technological skill to grow by taking advantage of liberal patent policy but countries like Iran, Iraq, Malawi, Pakistan, Uruguay and Vietnam could not grow the way Indian pharmaceutical industry could grow. (Appendix-VI)

This stage that can be considered as 1980s, Government intervention in terms of strategic support to the industry could help Indian companies further to consolidate themselves. On one hand present patent policy was quite liberal for growth of the domestic companies on the other hand Indian companies could develop innovative methods of reverse engineering for production of bulk drugs and formulations. Now India is self-sufficient in bulk drug production while export started picking up as a result Indian companies started getting recognitions in global market.[11]

1.5.1 Change in Market Dynamics-Post Patent:

In 1990s Indian pharmaceutical industry could experience certain policy changes at the same time industry could grow further. Production of bulk drugs as well as formulations increased in terms of value and volume. At international front World Trade Organization and Trade Related Intellectual Property Rights (TRIPS) started operating with higher focus. As a result, the Indian patent act 1970 had to carry out three amendments in March 1999, June 2002 and April 2005 to be in harmony with WTO and TRIPS.

The final or third amendment of the patent act was implemented on 4th April 2005 where patenting of product has been increased to 20 years. This particular period was very much decisive for Indian pharmaceutical industry because of two reasons. One WTO member countries are supposed to adhere to the norm of IPR in which India is a signatory country. Second, there was increase in product patent to 20 years; as a result, Indian pharmaceutical companies had to be more innovative in terms of drug discovery. This period proved to be a challenge as well as opportunity for Indian pharmaceutical companies.

Consequently many Indian companies started gearing up their operation and become more competitive, as they had to face now global competition. Many were of opinion that after amendment of patent act Indian pharmaceutical companies would not be in a position to survive in domestic as well as global market but said analysis proved to be pessimistic.

R&D expenditure policy approaches changed significantly by Indian pharmaceutical companies during 1990s because of WTO & TRIPS. Further the Indian companies shifted their focus on innovation of new chemical entity (NCE) in addition to process innovation. The number of patent filling by Indian pharmaceutical companies increased and for MNCs India became R&D hub because of available talent pool.

There has been tremendous pressure felt by the Indian pharmaceutical companies because of WTO and implementation of IPR. All the developed countries put forward the logic for strict implementation of IPR by every country to encourage R&D expenditure by R&D driven companies with an argument that cost of innovation must get adequate return.

One interesting point is always analyzed by different researcher that MNCs research objective never be to innovate drugs which are effecting poorer section of the society or for diseases effecting mass but to innovate drugs that could be having sufficient commercial return. So it is very difficult to accept the point that strict implementation of IPR will encourage innovation as well as R&D expenditure.

Indian pharmaceutical companies while competing in global competition could maintain the status of producing low cost but high quality drugs which is innovation as well as competitiveness per se. Some of the good examples are available with us where Indian pharmaceutical companies could throw a tremendous price competition to MNCs by process innovation. Hyderabad based company Shanta Biotech could produce recombinant DNA Hepatitis B vaccine, market price of product is half the cost of MNCs product while quality is at par.

In the case of antiretroviral drugs (ARVs) for HIV/AIDS. The price charged by the originator company for the triple combination, stavudine + lamivudine + nevirapine exceeded $10,000 per person per year and this was beyond the reach of most people in developing countries. Access to ARVs improved substantially after competition from Indian generic companies reduced the price dramatically. The Indian companies produced the combination in due course of time and was available at less than $100.[12]

1.5.2 Present Scenario:

Indian pharmaceutical industry is quite self sufficient in technology, highest number of USFDA approved (highest authority on approvals) manufacturing units are available in India other than USA and every year adding few. Industry can produce majority of the products indigenously and can meet the domestic demand of bulk as well as formulation without depending on import. India in comparison to rest of the world is in advantageous position at least in volume of production.

In the year 2008 Global pharmaceutical market was around USD 735 bn. USA which is considered to be the biggest player contributes almost half of the volume (45%) with Europe following the next (24%) and Japan (11%). China contributes around 2% and India’s contribution is 1.8%.

With the present Indian contribution in Global market which is very low. A valid reason could be that Indian drugs are one of the cheapest in the world even though India stand 4th in Global market in terms of volume of production. Indian pharmaceutical industry could enter world generic market with quality products as a result industry could create a Global presence in different categories of drugs including formulations. Indian pharmaceutical companies export their products in more than 100 countries including export to many developed countries.

At one point of time, during 1990s even experts were not sure about the future of the industry because of WTO, TRIPS and IPR. Some even had doubt of the fact that since Indian companies are not R&D oriented so they may not be up to global standard but in due course of time opinion started changing because MNCs came under tremendous pressure because of their high cost of operation.

Majority of the Indian companies started looking for global partners for their overseas operation and they could successfully manage so because MNCs wanted to capitalize on India advantage by joining hands with Indian companies. MNCs came under pressure there are other reasons too apart from their high cost of operation. There are approximately worth around US$ 47 bn drugs going off patent in the coming years.

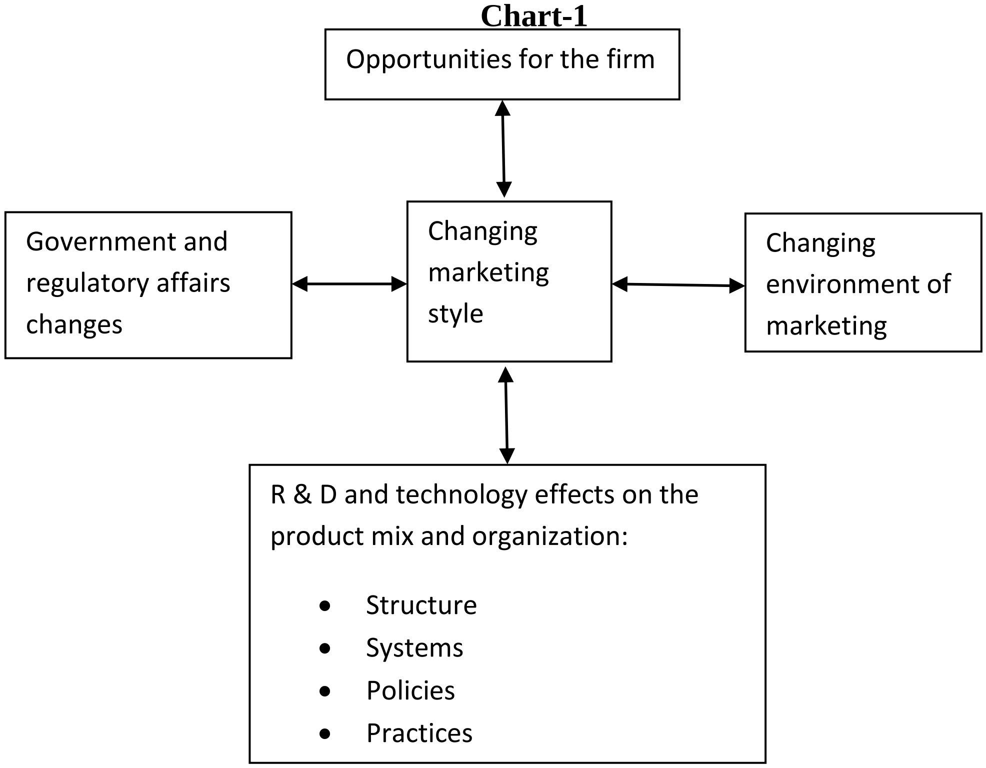
In this particular situation Indian companies will get global advantage because already companies are present in different part of the globe mainly in generic market which are off patent products further there is huge opportunity available ahead. Indian companies' dependence on generic products was a matter of moot interest for analyst but now this is proving to be great opportunity for the Indian companies. There has been a drastic reduction in drug approvals from USFDA. In 2007 only 19 approvals were there which is lowest in the last 24 years.

On one hand R&D expenditure is going high for companies on the other hand not getting too many approvals for innovation. At one point of time different international regulatory authorities could realize that majority of the innovations are not affordable by ordinary people so authorities now encouraging or promoting more usage of generic drugs consequently this is again advantage for India. Indian pharmaceutical companies focused their business model on generic drugs for international as well as domestic market so sizeable volume of drugs going off patent will provide enough business volume to Indian companies.

As volume of production was never be a constrain for Indian companies so meeting demand in international as well as domestic market will not be a problem for them, however in international market regulations keep on changing so meeting those regulations will be challenge for Indian companies. Indian companies in their business model adopting a strategy for tie up with overseas companies with two reasons, one to create a base on those countries by tie up with the company of respective countries secondly Indian companies are building up a competitive advantage by exploring the possibility to utilize MNCs R&D expertise where Indian companies are not strong enough.[13]

1.5.3 Challenges and Marketing practices:

Chart-1



(Adopted from:*Revitalizing the Pharmaceutical Business by R B Smarta*)

In the process of actualization in pharmaceutical marketing various stake holders prefer to follow various communication channel with a difference to other sectors of marketing where one set of rule can work for majority of the companies in the sector.

Considering the nature and concept in pharmaceutical marketing practices, irrespective of geographical area physicians or medical practitioners play an important role because basic model of pharmaceutical business is suggesting so. Irrespective of size of the organization various stake holder with whom companies communicate is almost same like retailers, wholesalers, para-medical staff, society & doctors.

In accordance with guideline provided by international agency to national monitoring agency pharmaceutical companies are supposed to follow certain strict guideline while communicating with doctors, retailers, wholesalers & society even. Communication pattern & channel will always play a vital role because companies have to achieve their commercial proposition while adhere the guideline where major difference arises in comparison to other sector. All the products as well as services are associated with life and death, so organizations always focus on communication as one of the major investment where to train field force is major expense head for organizations.

Dr. Smarta in his work could mention the need to be creative in communicating to one’s customers. With this context organizations are utilizing technology but adopting technology is another capital investment for organizations where all the companies can not afford to do so. However technology driven communication approach is always advisable for a better and timely reach. Healthcare dynamics with financial implication of marketing operations are changing at rapid speed so there is need of in-depth study of same.[14]

In the subsequent sections of thesis when we discuss the complexity of basic model to the present model and predicted future model which may take shape by 2020, will support further the idea how marketing practices in marketing system development is becoming complex for pharmaceutical companies.

1.5.4 Pharmaceutical Marketing Approaches:

Pharmaceutical marketing, like any other field of investigation, can be studied from various perspectives, with each perspective providing a different approach. Following are the approaches can be considered for pharmaceutical marketing where various practices adopted by organization to trade can create a point of interest for academic study. Through an in-depth study, Approaches can be classified as:

Managerial Approach:

Every organization is having a goal to achieve where marketing manager will always play a greater role. In this process organizations adopt various strategies or practices which many a time set the trend for the market while in many cases organizations do face challenges in long run by adopting certain practices which might not in accordance with standardized marketing practices. Though there are standardized or set rules to adopt & follow, however many a time bottom-line or sales driven approach can create a problem for sustainability of the organization. The case presented in this thesis on growth of Mankind pharmaceutical can provide further insight to the point.

Functional Approach

In the process of market actualization certain transactions might be essentials for the organization while certain transactions are initiated as part of organizational practices which many a time become standard for the trade as well as organization. Transactional, logistics, facilitating, quasi-marketing & other functions can be considered as various functional category within which organizations initiate marketing strategies.

Institutional Approach

The institutional approach examines the emergence and inter-relationships of various marketing institutions, such as retailers, wholesalers, agents, and producers. In this set of approach researchers mentioned individual to group behavior as important factor to be considered while smith and colleagues, who analyzed distribution channels and their relationship to the pharmaceutical industry.

Industrial Organization (Economic, Commodity) Approach

This approach is popular among economists interested in analyzing the relationship between market structure, conduct, and performance of “organizations” involved in the marketplace. (30 page number 18 smith). In the present study researcher could highlight certain areas through the case of Mankind Pharmaceutical where organizations many a time take advantage of market structure as well as conduct. Under the context of conduct organizations many a time quote for survival we need to conduct marketing activities which are situation driven or market driven might not even health of the trade driven which is a major concern under this study.[15]

The relationship of stakeholders although having similarity for pharmaceutical industry irrespective of country, however factors like government regulation can transform industry architecture which can bring complexity in developing the marketing system of pharmaceutical industry and can be experienced by the stakeholders.

As in the case of India for which present study has been initiated experiencing a total turbulent in the marketing system because of government regulations either manufacturing or marketing, even companies are quoting the point that in this situation nothing is black and white because of policy changes. Present study could focus on marketing while manufacturing part in detail can be considered as scope for further study as partial analysis is inevitable because product is one of the most important component of the study which is responsible for a marketing practice of the company.

In the process of knowledge dissemination which has been developed in research and development by pharmaceutical industry develops the entire marketing system. Subsequently various marketing practices are adopted by companies to communicate with the stakeholders up to medical practitioners and doctors, this can be termed as promotional strategy of the company which consists of planning, implementing and controlling an organization's communication to its customers and other target audience.[16]

International Federation Of Pharmaceutical Manufacturers Association (IFPMA) defines promotion in pharmaceutical industry as 'any activity undertaken, organized or sponsored by a member company which is directed at health-care professionals to promote the prescription, recommendation, supply, administration or consumption of its pharmaceutical product(s) through all media, including the internet'.

Many astute researchers have conducted study on various areas like innovative practices to promote prescription drugs, e-promotional tools, use and effectiveness of e-detailing, sales force management practices, factors influencing prescribing patterns of physicians, relationship between promotion and physician's prescribing behavior, and financial implication of promotion.

A rave review of the existing literature reveals that there is an area which is known as pharmaceutical marketing practices has not been taken up for academic study in India for lifestyle and general medicines. Under this backdrop present study has been initiated to study pharmaceutical marketing practices of selected companies.

System Analysis Approach can well be considered when analyzed the point market to marketing practices with reference to various attributes which can play an important role in this process. Factors and attributes providing or can provide the shape to business has been extracted from related review of literature to test statistically also in this work.

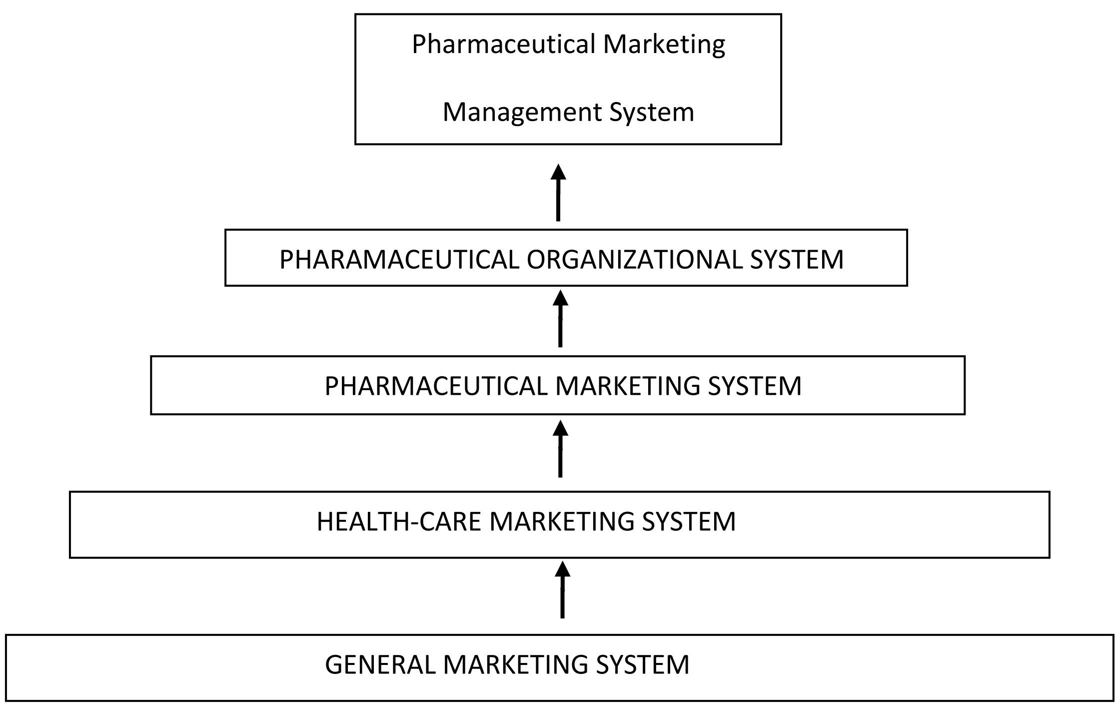
A few marketing scholars have attempted to apply systems analysis to marketing. A system can be defined as "a set of objects together with a relationship between their attributes". From a management perspective, "a system is a set of regularly interacting or independent groups coordinated in such a way as to form a unified whole and organized so as to accomplish a set of goals".

It is important to realize that a system is usually a part of larger systems. For example, as can be seen in the diagram below, management of pharmaceutical marketing may be part of a pharmaceutical organization system, which in turn is part of a health-care marketing system, and so on. In order to study a marketing system, it should be recognized that the description of a system should specify the environmental constraints, resources, components (including structure, functions, and goals), performance measures, and management and control of the system.

As can be seen from this outline of the systems analysis approach, it is inclusive of all other approaches used to study pharmaceutical marketing. Additionally, the systems analysis approach allows both positive and normative studies of pharmaceutical marketing at the micro level (pharmaceutical organization) as well as at the macro level (pharmaceutical marketing system) to be used.[17]

Chart-2

Levels of Marketing System



1.5.5 Future Trend through CEO's perspective:

Executives working at global to national level having various opinion on how pharmaceutical marketers are going to face challenges with the changing dynamics. Below mentioned report published by Price Water house Coopers on the basis of opinions of CEOs about the future challenges organizations going to face.

2016 US CEO Survey top findings:

US CEOs believe growth will flow to companies that are both better at reading the dangers and faster in responding to the opportunities.

Running a global business is poised to become even more complex during 2016. Last year, CEOs were concerned about increasing regulation, the rapid development of technology and its potential to disrupt, and whether they could attract the talent they need to continue to grow. While those concerns have not significantly abated, new concerns have arisen.

In 2016, US CEOs recognize that trade, economic models, and regulatory frameworks are splintering increasingly along regional or national lines. More than their peers globally, US CEOs see a threat to the open Internet that many businesses rely on. They worry about harnessing technology needed to unlock the possibilities presented by the increasing data available while safeguarding that data and other assets.

How do they respond? They are going back to their core focus on customers, regulators and talent. They are working to make clear the connection between what their organizations can do better than any other with how they're going to get it done.

CEOs expect that in the near future, many of their customers and prospective employees will seek to understand the “purpose” of business and the impact that operations have on the wider world. And where customers and talent go, investors will follow. As eBay Inc. President and CEO Devin Wenig puts it, with competition coming from every angle, “purpose doesn’t have to be a do-good mission. Purpose is, ‘What’s the hole in the universe if your company isn’t there?’ To me, that sits above your brand, above your strategy, above your operations.”

Ultimately the CEO must deal with matters of the head and the heart to secure the confidence of all their stakeholders to move ahead.

In 2016, US CEOs:

Expect:

1. US market prospects to outshine in low-growth world
2. Over-regulation to continue to pose a threat to their business growth
3. Regionalization in trade and divergence in economic models and regulatory frameworks, with threats to open Internet
4. Customers and other stakeholders will expect business to demonstrate a higher purpose over the coming years
5. Prospects improve for laying the groundwork for US tax reform

Plan to:

6. Strengthen the technology foundation to set their business apart
7. Do more deals, especially domestically
8. Hold fast in China, while recognizing the bumps along the way
9. Anticipate the needs of future customers and other stakeholders

10. Prepare the Millennials for leadership roles

Explanation of report of Deloitte: (2015 health care outlook India)

Spending on health care in India was an estimated five percent of gross domestic product (GDP) in 2013 and is expected to remain at that level through 2016. Total health care spending in local-currency terms is projected to rise at an annual rate of over 12 percent, from an estimated $96.3 billion in 2013 to $195.7 billion in 2018. While this rapid growth rate will reflect high inflation, it will also be driven by increasing public and private expenditures on health.

India's public health care system is patchy, with underfunded and overcrowded hospitals and clinics, and inadequate rural coverage. Reduced funding by the Indian Government has been attributed to historic failures on the part of the Ministry of Health and Family Welfare (MHFW) to spend its allocated budget fully.

This is despite increasing demand, due, in part, to growing incidence of age- and lifestyle-related chronic diseases resulting from urbanization, sedentary lifestyles, changing diets, rising obesity levels, and widespread availability of tobacco products. India's health care sector witnesses close to 50 percent spend on in-patient beds for lifestyle diseases, especially in urban and semi-urban pockets.6 In addition, India has one the world's highest numbers of diabetes sufferers, at more than 65 million individuals. This trend has resulted in the mushrooming of super specialty hospitals to combat lifestyle diseases.

The statistics for India's health infrastructure are below that of other large countries. The U.S. has one bed for every 350 patients while the ratio for Japan is 1 for 85. In contrast, India has one bed for every 1,050 patients. To match bed availability to the standards of more developed nations, India needs to add 100,000 beds this decade, at an investment of $50 billion.12 Also, India's expenditure on health care information technology (HIT) is considerably low. Hospitals in India will need to increase their IT spend considerably to provide improved and patient-centric service.

The shortage of qualified medical professionals is one of the key challenges facing the Indian health care industry. India's ratio of 0.7 doctors and 1.5 nurses per 1,000 people is dramatically lower than the WHO average of 2.5 doctors and nurses per 1,000 people. Furthermore, there is an acute shortage of paramedical and administrative professionals. The situation is aggravated by the concentration of medical professionals in urban areas, which have only 30 percent of India's population. Many patients, especially those living in rural and semi urban areas, are still receiving services from unqualified practitioners. The industry needs an additional 1.54 million doctors and 2.4 million nurses to match the global average.

HIT advances may help to mitigate some professional and infrastructure deficiencies. Telemedicine is a fast-emerging sector in India. In 2012, the telemedicine market in India was valued at $7.5 million, and it is expected to rise 20 percent annually, to $18.7 million by 2017. Telemedicine can bridge the rural-urban divide by extending low-cost consultation and diagnostic facilities to the remotest areas via high-speed Internet and telecommunications. In addition, India's solid mobile technology infrastructure and the launch of 4G is expected to drive mobile health (mHealth) adoption. Currently, there are over 20 mhealth initiatives for spreading awareness of family planning and other ailments – the industry is expected to reach $0.6 billion by 2017.

One way to increase India's health care funding and access is through innovative public-private partnerships. While an appropriate model for partnerships at the primary, secondary, and tertiary levels still remains a distant dream, participation by the government and private sector will help create a blueprint for such partnerships to create an infrastructure for the future. One such example in India is SRL (Diagnostic), which has partnered with the Himachal Pradesh State Government to set up and operate 24 labs in the large state-run hospitals in various districts, thereby bringing superior diagnostics services to the doorstep of people in remote areas.

Among other suggestions to improve care, companies should leverage information technology (IT) to create patient-centric healthcare systems that can improve response times, reduce human error, save costs, and impact the quality of life. At the same time, the government should focus on establishing more medical colleges and training institutes to provide the requisite doctors, dentists, nurses and paramedics. The government also should invest in preventive and social medicine by promoting health education and preventive health-care concepts.[18]

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