

# InterlinkInsight

Perspective For Business Performance

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Towards the Healthy  
Dynamics of Business

## FROM THE PUBLISHER'S DESK



**Dear Readers,**

An age-old proverb like 'Health is Wealth' has come to sharper focus after pandemic. In fact, gone are the days where cure was sufficient for the younger generation who is looking at prevention as an essential factor for maintaining their health. As a result, they are choosing healthy options.

In order to look at this geopolitical climate and changing expectations of health, even industry dynamics are likely to change keeping in tune with the environment.

On the other hand, technology is progressing on all fronts like from drug discovery to drug delivery as well as healthcare provisions from teleradiology to tele prescription. Tremendous amount of impact is also seen on healthcare business as well as delivery.

Patients having their different behaviours whether in community like hospitals or outside as individuals are also coming into focus as habits and behaviours have to move towards healthy lifestyle.

World without India is no longer an equation which has been observed during pandemic where we sent Indian vaccines to many countries to fulfil their demands, hence slowly we need to also capture footprints as we have done with APIs and formulations.

This interlink insight issue which is between celebrations like Diwali and Christmas will provide you some interesting material to read and gather momentum for new year 2022.

Wish you celebrations of Christmas, new sessions as well as new year 2022.

Have a good reading!!!!

Dr. R. B. Smarta  
Chairman & MD

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**Publisher** - Dr. R. B. Smarta

**Editorial Team** - Mr. Milind Kokje, Ms. Mansi Jamsudkar.

**Design & Production** - Mr. Rajkumar Natekar.

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# Healthy Dynamics of Indian Health Business



*Pharma is one of the industries which has experienced several disruptions in the past few years. Through this article, I would like to highlight some healthy dynamics in the health business which can be explored by pharma players to go stronger and healthier in their business.*

*-By **Dr. R. B. Smarta***



Pandemic-induced dramatic disruptions are all over the industry, what is highly prominent is a rise of willingness towards inventing and adapting hybrid solutions in every aspect of the business. My personal experience speaks louder for me in this case. The organization which used to play entirely on fields is undergoing a paradigm shift toward a hybrid working model and I'm happily witnessing the emergence of hidden skills of my workforce in every possible aspect of my business. That makes me invent this phrase- 'The change is inevitable, necessary and could be disruptive.'

Likewise, the Health business is also getting adaptable towards such changes like never seen in many decades. Those who are not upgrading to the newer version of themselves are getting lost in the race.



THE CHANGE IS INEVITABLE, NECESSARY AND COULD BE DISRUPTIVE.

Let's have a look at some dynamics of health businesses that can make a healthy environment for health-centric sectors in 2022 and beyond-

### **1. Cure Dynamics to Healthy Quality of Life Dynamics**

No surgery can be completed without anesthesia; however, successful surgery is of what use if your patient is going to recover slowly or never. Hence, along with a physician, surgeon, and anesthetist, interventions from Nutritionists are equally crucial for a patient to actually recover and remain healthy for longer.

Life-threatening conditions like cancer couldn't be bearable without nutritional interventions. Oncology nutritionist links the patients with the healthcare team and assists the crucial integration of nutrition to improve clinical outcomes. Nutritionist involvement in various aspects ranging from managing the eating patterns of queasy patients to selecting the proper food for them. This fuels the recovery of cancer patients by maintaining their energy levels, retaining strength, managing weight, sustaining nutrient stores, etc.

Hence, it is not surprising that nutritional interventions are going to be one of the healthy dynamics for health businesses.

### **2. Pathy-agnostic Dynamic of Health Business**

The current standards of conventional medicinal approaches are no longer working for the patients as the state of a single -Pathy dependence is somewhat frustrating and disillusioning. As the one-size approach is no longer entertained by patients, a personalized solution with holistic-oriented healing (in other words, integrative medicines) is the healthy dynamic that is shaping health businesses differently today. This dynamic is not only benefiting the patient but

also fuelling the innovations in healthcare products in Pharma, Nutra, Ayurveda, etc.

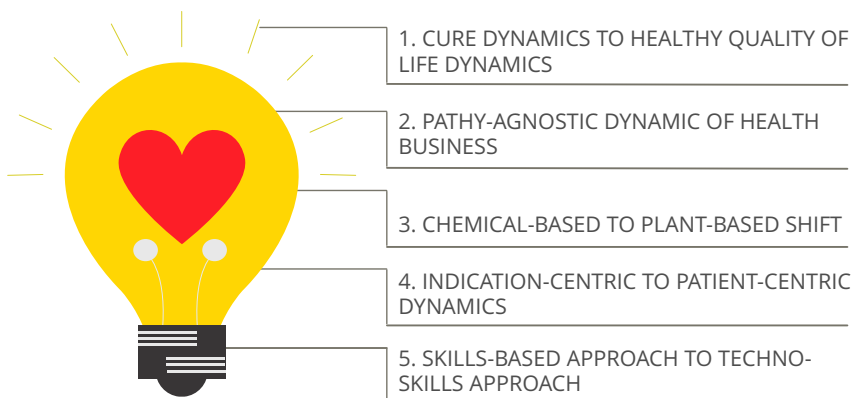
Integrative medicinal systems involve highly trained and skilled primary care physicians, patient education, disease prevention strategies, self-care and even the relationship and collaboration with patients are resulting in the best outcomes for each individual.

This shift is positively boosted in India by the government's approach towards integrating Ayurveda in -Pathy centric medical education.

**3. Chemical-based to Plant-based Shift**

The shift from chemical health solutions to natural ones is not new in the recent scenario. The obvious rise in consumer awareness and innovators' novel approach toward clean solutions with nutraceutical, phytopharmaceuticals, ethno-pharmaceuticals, herbal medicines, etc are driving the markets crazy and health businesses healthier and even more promising.

Even though they are chemicals, phytoconstituents are entirely different entities that are experiencing a good amount of acceptance by consumers. India is filled with herbs containing such precious phytoconstituents, which are nothing but a key to open healthy dynamics in Indian health businesses. As these miracle herbs contain miracle substances in every single part of their bodies, miraculous innovations in the health business are not unrealistic to work on (I might sound impractical, however, nothing wrong in keeping the expectations alive in Sanjivani!!!! Just a thought...)



5 Healthy Dynamics of Pharma Business

**4. Indication-centric to Patient-centric Dynamics**

Pharmaceutical companies and organizations across the industry are looking for a way to prioritize patient outcomes and deliver care on-demand. No wonder patient centricity is ranking first on the charts of the health business.

Although the term 'patient-centric health' sounds quite straightforward, it involves putting imaginary concepts together and making them work

realistically. For instance, let's take a very recent example- covid self-detection kit. I think no explanation is required to describe Mylan's strategic 'patient-centricity' which is not only realistic but also affordable.

No doubt, the patient-centric dynamics of the health business have got a bright future.

### **5. Skills-based Approach to Techno-skills Approach**

Although active learning, problem-solving, decision making, and critical thinking are the aspects that are emphasized worldwide, rapid adoption of new technologies and allied applications are highlighting the skills gap and emerging as a competitive edge for the health businesses. Knowledge-based, task-oriented approaches are insufficient to bridge the gap between theory and practice. Hence, practicing technical skills and competencies is the need of the hour and this can be only achieved by keeping up with the recent technological advancements.

Major players are increasingly exploring the applications of AI and machine learning in every aspect of their business, pharma players will need to explore technological innovations to remain competitive and sustainable.

### **Making Future in Pharma**

While pursuing pharma business each one of us must understand that our business is most prone to disruptions and the evolving consumer and patient have very different expectations from industry players. They want to experience all those changes which are part of healthy dynamics like patient-centric approach, tech-savvy skills, moving towards natural based treatment and feel they should be immune to a new environment.

Here is what every pharma player should keep in mind while dealing with the changing dynamics of the health business-

- Along with the core treatment comprising of several drugs and physicians' interventions, increasing nutritional role in recovery and rehabilitation needs to be recognized.
- -Pathys are an irreplaceable part of the healthcare systems, supportive approaches in the form of Integrative medicines for the existing -pathy oriented treatments should be considered as an area of innovation for pharma players.
- Plant-based product development is on the rise; a robust regulatory framework can boost the international footprint of Indian pharma players.
- Innovating in the area of personalized patient-centric pharmaceutical products will go a long way in the health business.
- Lastly, the co-existence of skills and technology will make the pharma business scenario much more productive and novel.

While working on these dynamics of business, not only consumer's health is going to be nourished and cherished, pharma businesses will also experience a 'healthy shift' in totality.

**About Author-**

*Dr. R. B. Smarta- Founder and Managing Director of Interlink Marketing Consultancy Pvt. Ltd. Being a thought leader in Pharmaceutical, Nutraceutical and wellness industry, he has been contributing globally through Interlink Consultancy and building business performance of his clients for 33 years. Having a Master's degree (M.Sc.) in Organic Chemistry in Drugs, MMS in Marketing, PhD in Management, and FRSA (Fellow of Royal Society of Arts) London, he is-perusing his passion of converting science to Business. Besides being a consultant, he has been teaching at IIM, prestigious management institutes, Pharmacy College, Pharmacists Associations, guiding PhD students and written as many as 7 Books on Management, Pharma, Nutra, Foods domain, and many articles in prestigious journals/magazines.*







# Tech-applications in Health



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*Owing to the ever-growing innovations encompassing vaccines, medical devices, machines, procedures, systems, etc., there are endless revolutionary opportunities lying before Pharma and the healthcare sector. This article highlights how these technologies are shaping health differently and what are the possible opportunities which can be explored.*

*-By **Mr. Ram Amancha***

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“Health, diet and nutrition”, are some of the keywords whose search volume is beyond a million, says Google.

With Covid-19 Pandemic, this search volume raged and positioned the Pharma, Nutra industry for further expansion and growth in the year 2022 and 2023 with technology integration.

### **Innovation Needed Areas**

For most problems, technology is a solution, but can technology alone solve many problems? Not really. We need to depend on humans, data, and technology for effortless solutions.

Since most of the tier-2 and tier-1 population searching for better products for health and having access to details, Pharma and Nutra companies should go the extra mile to gain consumer trust. The new generation consumers are well-aware and conscious about their health that they are no longer blindly following the prescriber's solution and taking time to go through the ingredients. Customers do research the functioning of every ingredient in a supplement these days.

Regulations are one of the pain points in this industry and most solutions were not tech-dependent; again, Blockchain could be a great fit here as there are multiple parties involved and the process is complex. Since the governments still seeking /drafting suggestions, pharma and Nutra companies could ally to implement technology faster.



TECHNOLOGIES SUCH AS BLOCKCHAIN WILL HELP COMPANIES TO PROVIDE THE MOST TRUSTABLE AND TRANSPARENT DETAILS TO THE USER. RIGHT FROM SOURCING THE INGREDIENTS TO PACKAGING AND SALE, IF THE USER CAN VALIDATE DETAILS, THESE TECH ENABLED COMPANIES WILL HAVE A HIGHER EDGE.

### **Demand Shift and Trends**

The market is poised to witness significant growth owing to the increase in demand for preventive healthcare and the rise in supplements and supplement products, which stimulates the demand for nutraceutical-containing products. In terms of bringing transparency and credibility amongst the consumers, Nutraceutical players are putting considerable effort into educating the consumers by sharing detailed information about the product, its benefits, and roles.

These efforts would be worth taking as a stronger category for nutraceuticals products in a health and wellness segment can be built upon it. Industry players must undertake initiatives like implementing Blockchain Technology or other technology services to focus on improved quality standards of the product,

enhanced transparency, and competitive pricing.

### **Data is Gold Mine**

Pharma and Nutra companies should utilize the data maximum to develop new products. For example, if a company has more than a lakh employees, educate the company to maintain good health records of the employees, depending on the shift, nature of work, pharma and Nutra companies could develop and supply these products to improve employee's health and overall productivity of the company.

Instead of depending on individuals, aggregate the data, conditions and develop products according to the need/ demand and predictions. Machine learning and Artificial Intelligence come in handy here.

### **Quality Matters**

To retain consumers and remain appealing to new users, the quality standards of the dietary supplements are crucial to maintaining. Consumers are demanding quality and safety in supplements.

Third-party quality certifications provide a safety net for brands and they help to ensure safer, accurately manufactured, and labelled products, helping to instil confidence and trust in a product. Certifications show that a comprehensive quality system is maintained and managed by a trained quality team and these certificates should be available to the general public and if these certificates are generated on Blockchain, trust is assumed 100%.

### **Personalization**

I believe in the next decade, products will be customized according to the consumer. Unlike current products which are mass-produced for generic use, we will see a trend where the consumer will seek customized products for their specific conditions. Products such as customized toothpaste, shaving cream, skin solutions, etc. along with dietary supplements. This is possible only with technology. The consumer will be tracking their conditions on a mobile app or web app and companies will have access to this data by protecting consumers' basic information by keeping the privacy concerns in place and developing products around those specific conditions.

Precision molecular measurement would be more accurate and well-timed and personalized profiling of the individuals will be easily accessible.

An integrated tech system will help in establishing a single formulation. Generation of nutrition data will be a long-term recurring process for analytics and research experiments. About 15% of the respondents, however, believe that tech integration in nutraceuticals will not impact or shape the industry shortly.



AI WILL PLAY A VITAL ROLE IN CREATING CHANGES AND UPGRADING APPROACHES IN NUTRACEUTICALS. DATA DRIVEN METHODS AND CUSTOMISATION WILL FORM A PART OF THE NEW TREND. THIS WILL FURTHER HELP PERSONALISE NUTRITION TO TAKE ROOTS IN HEALTHCARE...

## Possible Applications

### 1. Improved sales support apps

If an app can assist the sales rep, there is nothing like it. Chatbot enabled or ML-powered sales support apps could help reps know about the product and could lead to more sales.

### 2. Training and assessment apps

What we learned during Pandemic are remote learning and remote teaching. Staff located across the country can use these tech-enabled learning, training, and assessment apps to improve the performance of employees based on schedules or on-demand.

### 3. AI-powered inventory management system

This will enable high-level tracking of inventory along with eliminating the use of paper and human errors, thus increasing the efficiency of the services along with auto-reminders, auto-fill requests, payment processing, etc.

There is a huge demand for pharma and nutraceutical players because of increased awareness about health and as I said, these tech-enabled companies will lead the future in these industries.

### About Author-

*Mr. Ram Amancha is techie with 18+ years of IT industry experience with a mission to develop world-class decentralized applications from Bharat for Bharat. He has worked with some of the fortune 500 companies before starting his entrepreneur journey back in 2013 and developed a few products and provided services for 100+ clients and helped 100+ young individuals to gain skills and grow on the corporate ladder.*





# Healthy Diversification In Nutra



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*Pharma industry's growth has been impacted with difficulty to launch new drug molecules and new generics, put new fixed dose combinations and innovative products. Globally and in India too there is a consumer led movement from "Illness centric to Wellness centric" health care.*

*-By Dr. D B Anantha Narayana.*

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With 'Covid' disrupting life since 2019 more and more consumers want to take care of their health, reduce number of visits to their doctors and focus on building immunity, reduce stress, help maintain positive mood and importantly overall have adequate energy to deal with day-to-day life. Though specific data is not available, proportion of consumers taking vitamins, minerals and botanical based products including Ayurvedic products have risen substantially in these times. Supplements and Nutraceuticals are taking centre of attraction and usage as many of them do not need a healthcare professional's advice and some of them would need a physician's approval if not a prescription.

Hence, Pharma needs to look at supplements and Nutraceuticals as an area of future growth.



INNOVATIONS IN PRODUCT OFFERINGS WHICH CAN BE STAND-ALONE PRODUCTS REPLACING CURRENT DRUGS, OR ADD-ONS TO THE CURRENT MEDICATIONS ARE TWO BIG BASKETS.

### **Therapeutic areas**

The segment of pain management, and treatments for bones, joints, muscles, headache, migraine offer a big area. More than 25% of arthritic patients and cardiac patients cannot consume current anti-inflammatory NSAIDS drugs. Boswellia serrata, Hirabool, Ginger, Guggul, offer safe and effective actives. A number of externally applied products that offer immediate relief can make combos to oral products. The basket of actives is too large to list here.

Disturbed lifestyle and unhealthy eating habits have affected liver health and as many as 50 different botanicals and nutraceuticals can be found for innovation. Forced stay indoors, lower consumption of fluids and not visiting loo often have impacted kidney health and increased incidences of urinary stone and infection. Punarnava, Gokhru, Varuna, Palash are few herbs, and D-Mannose are sure shot actives to develop for this area. Guduchi, Ashwagandha, Amla, Tulsi, Kalmegh amongst more than 20 herbs, and Zinc, Vitamin C, Vitamin B12, Vitamin D are some of the top immuno modulators to look at. Ashwagandha, Kalonji, Bhoringaraj, Valerian, Jatamansi, Sarpagandha, passion flowers, Ginseng offer strong stress busters and mood elevators. Niche products can be developed for problems of female consumers including for cycle disturbances, PCOD, thyroid. Many leads are available for gastro intestinal disturbances like acidity, IBS, constipation, more than 25 leads with published data for add-on to anti-diabetic medication exist. The list can be expanded with expert advice.

### **Channels for Marketing**

Pharma, with its ethical marketing and network with physicians can use the current marketing model for these products too. New OTC routes, OTX routes, online marketing and direct to consumer marketing are other channels.

Pharma who have deep pockets can venture into new verticals with some investments- like FMCG marketing and the growing area of direct selling business. Business heads need to think out of the box and not get bogged down for the need of “evidence for the product”. Searching the cloud reveals scientific data on these leads, with even human clinical trials data would be available in published literature for many of such leads. Considering to make “ingredient led claims” instead of product led claims opens up innovative marketing communications, thereby reducing the need for high investment in Human studies. 'Move away from evidence-based paradigm for products, as products are made of ingredients and ingredient's efficacy leads to product deliveries'.



OFFERING SUPPLEMENTS AND NUTRACEUTICALS IN ONCE-A-DAY USAGE FORMAT WOULD BE NOVEL IDEAS. HIGH COMPETENCY OF PHARMA SCIENTISTS IN ANALYTICAL TECHNOLOGY WOULD ADD VALUE TO ENSURE PRESENCE AND DELIVERY OF ACTIVES THROUGH THESE PRODUCTS.

### **Pharma's Competency**

Pharma industry's competency in high quality of science, technology, product development, distribution, communication and supply chain management augurs well to enter this area. Supplements & Nutraceuticals offerings can be formulated into innovative delivery systems either through food formats or through conventional drug formats. Herbal infusions, granules, chewies, lozenges, through fortified tea, biscuits, nutri-bars with different substrates of millets/grains/pulses, fruit bars are exiting food formats for innovations. Drug formats – Capsules, Tablets, Liquids, and modified drug delivery formats are the other routes for which Pharma R&D have the necessary competence.

Large capacity for these formats exists and a well collaborated development work with suppliers is working and does not need fresh capital investment in plants and machinery.

### **Regulatory Scenario**

Unlike a decade ago, a clear and forward looking balanced functional foods and Nutraceuticals regulations exist in India today. A recent amendment of September 2021 has addressed a number of industry inputs. Ingredient based health benefit claims are permitted in the regulation.

Categories like “Special foods for dietary use” and “Special food for medical purposes” permit products which can make specified data-based health claims. The latter category permits marketing through prescriptions of Physicians. Only in case of strong disease risk reduction claims, a prior approval of the claim from the foods authority is required.

**India's strength**

Historical documented literature in traditional texts provide more than 1500 ingredients and botanicals for consideration as actives. About 400 botanicals are permitted in the nutra regulation for product development. About Rs 2000 crore worth standardised herbal extracts, standardised to one or more marker compounds of high quality and free from contaminants are produced in India. This herbal extract sector also offers tailor made extract development and production. About Rs 1500 crore worth essential oils and fractionated oils are produced in India. A network of national laboratories and private R&D laboratories exists with varied competencies to develop innovative supplements and nutraceutical products. The traditional food industry and their R&D are also looking to innovate food products that can provide wellness benefits. Human resource from Ayurvedic experts to pharmacists, pharmacologists, pharmacognosists is available to support such innovations

Indian Pharma industry needs to contribute to 'Atmanirbhar Bharat' building on the national strength of knowledge, expertise, and develop and promote Local ingredients for consumer good.

Experts believe the next 30% of growth for pharma industry is in wellness sector of supplements and Nutraceuticals. Why wait, take the step.

**About Author**

*Dr. D B Anantha Narayana*

*Chair, Scientific Panel, FF & Nutraceuticals, FSSAI.*







# Sustainable Proteins



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*Sustainable protein sources allow to understand how alternative proteins such as plant, fungal, algal, and insect protein, can take the place of more costly and less efficient animal-based sources. Alternative proteins are therefore needed to cover the demand considering the components of sustainability and food security. - By **Mr. Narayan Sainathan, Ms. Krutika Bhangale.***

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Protein plays a critical role in human nutrition. Although animal-derived proteins constitute most of the protein we consume, plant-derived proteins can satisfy the same requirement with less environmental impact. One of the grand challenges facing the world today is to ensure that the growing population has access to an adequate, sustainable, and nutritious food supply.

Sustainable protein sources allow to understand how alternative proteins such as plant, fungal, algal, and insect protein, can take the place of more costly and less efficient animal-based sources.

Alternative proteins are therefore needed to cover the demand considering the components of sustainability and food security. Additionally, consumer preferences have shifted toward more plant-based and meat-alternative diets due to increased awareness of unsustainable meat production and preference for environmentally friendly production methods, leading to an even higher demand for alternative protein.



ALTERNATIVE PROTEIN'S ABILITY TO MITIGATE THE IMPACT OF FOOD PRODUCTION ON CLIMATE CHANGE, ANIMAL WELFARE, AND PUBLIC HEALTH WHILE SIMULTANEOUSLY OFFERING GREAT OPPORTUNITIES FOR INNOVATION, IMPACTFUL INVESTMENT, AND ECONOMIC GROWTH WOULD SHIFT THE MARKET TOWARDS INCREASED ALTERNATIVE PROTEIN PRODUCTION AND CONSUMPTION.

Alternative protein is a general term that includes all protein sources intended as substitutes for animal-based meat, seafood, eggs, and dairy products. An exception is insect protein, which is also considered to be an alternative protein source even though it could be considered an animal protein according to its taxonomic classification. Alternative proteins can also be described as novel food produced by combining various ingredients into eatable food to mimic animal meat, seafood, fish, and dairy.

Alternative protein companies, including start-ups, corporations, and even established meat processors, intend to target consumers with plant- or meat-based diets alike by placing the alternative protein products on the same shelf as meat products. This will allow customers to consume an environmentally friendly product without compromising on taste, flavour, appearance, or texture.

Therefore, the key promises of alternative proteins include among others redesigning the way meat, fish, and dairy are produced and consumed to feed the growing world population while tackling animal welfare and environmental concerns. We separate the market of alternative proteins into five categories: 1) plant-based, 2) algae- based, 3) insect-based, 4) fermented, and 5) lab-grown protein



Fig.1 - Characterization of Alternative Proteins

## Characterization of Alternative Proteins

**1. Plant-based alternative proteins** are the most common meat analogues, delivering a direct replacement for animal-based products. Sustainability: Plant-based alternative proteins require 47–99 % less land, emit 30– 90% less GHG than conventional meat production, and cause 51–91 % less nutrient pollution in aquatic systems. Consumer acceptance: Studies revealed that out of the five alternative protein categories, plant-based alternative proteins hold the highest consumer acceptance, with 75.3% consuming more plant-based alternative protein food, though they would pay slightly less for these alternatives compared to meat products (0.83x).

**2. Algae alternative proteins**, or microalgae, are single-cell proteins produced from biomass that emerges from various microbial. We intentionally list algae alternative proteins as a separate category to plant-based proteins as they significantly differ in nutritional value, cultivation methods, and end-use and economic efficiency compared to plant-based alternative proteins. Use cases: Algae alternative proteins can be consumed as dietary supplements in the form of powders, pills, or tablets. The most common species, Spirulina and Chlorella, can also be consumed as extracts or processed in pasta, biscuits, and other functional food products. Sustainability: Microalgae can demonstrate growth rates of up to 5–10 times of conventional food crops and can display 15–30 times the lipid productivity of common crops.



STUDIES REVEALED THAT FERMENTED ALTERNATIVE PROTEINS RECEIVED 60.6% CONSUMER ACCEPTANCE TO CONSUME MORE PRODUCTS OF THIS CATEGORY OVER TRADITIONAL ANIMAL MEAT

Furthermore, they have very low land requirements and minimal fresh water needs and can be produced under extreme conditions, resulting in positive environmental impacts. Consumer acceptance: In studies, 60.7% of participants stated their willingness to consume algae-based proteins over conventional meat products and would pay 24% less for them than meat products.

**3. Insect proteins** can be turned into flour or eaten whole for human and animal consumption. Insect proteins contain up to 70% of protein of dry matter and have high nutritional value, including high levels of calcium and iron. Sustainability: Edible insects are environmentally friendly due to the little space required for insect cultivation, as insects can live in high densities; for instance, two thousand crickets can be cultivated in one square meter. Consumer acceptance: The acceptance levels of eating insects are still low for western consumers, compared to those in Asia, South America, and Africa, where almost 2,000 insect species are consumed in 113 countries. Edible insects received the lowest consumer acceptance and willingness to pay, with only 30.7% of participants willing to consume insect proteins.

**4. Fermented alternative protein** companies develop meat substitutes using controlled microbial growth and enzymatic conversions of major and minor food components. This requires the cultivation of microbial organisms to attain more of the organism as a source of protein or to extract certain ingredients such as flavourings, enzymes, and fats to improve the nutritional value in terms of fibre and protein. Sustainability: Fermentation-derived protein has great sustainability benefits as it reduces GHG emissions while using less water and land. For instance, mycoprotein uses only a fraction of the agricultural land and GHG emissions that chicken, pork, or beef require. Consumer acceptance: Consumer insight study revealed that fermented alternative proteins received 60.6% consumer acceptance to consume more products of this category over traditional animal meat. Consumers are willing to pay 24% less compared to animal-based proteins positioning fermented proteins as the alternative protein source.

**5. Lab-grown proteins** belong to the emerging field of cellular agriculture, which aims to make traditional livestock production unnecessary. Lab-grown proteins are also known as cultivated, cultured, cell based, and in-vitro meat, and they come in the form of replicated animal meat, fish, seafood, dairy products, and eggs. They all describe meat grown outside of an animal (in a laboratory) with identical cellular, nutritional, and sensory characteristics. Sustainability: The sustainability advantages of lab-grown proteins are numerous: a. they provide edible meat without having to slaughter animals, b. they do not require therapeutic antibiotics, thereby reducing health threats posed by antibiotic resistance, and c. they cut livestock GHG emissions by 78–96% while using 99% less agricultural land. Consumer acceptance: Studies

revealed that 47% of the asked respondents would already be willing to eat lab-grown proteins over traditional meat, indicating a high potential for consumer acceptance of such novel food sources. Despite the high production costs, consumers would pay significantly less for these alternatives compared to meat products (0.69x).

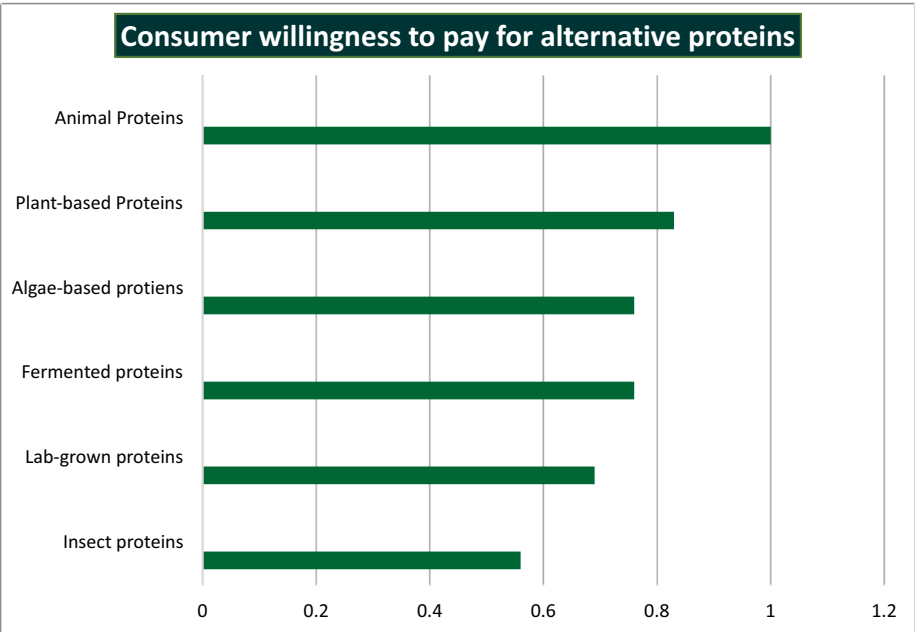


Fig.2- Consumer willingness to pay for alternative proteins

Source- Interlink Knowledge Cell

**Growth Drivers for Sustainable proteins**

**1. Accelerated Innovation and Investments**

Advancements in food processing technology will improve modern processing techniques such as 3D printing, shear cell technology, and extrusion methods. This will support the goal of alternative protein companies to create a product that consumers will perceive as analogous to animal products by replicating the appearance, flavour, structure, and composition of animal products. For instance, the 3D printing process allows the recreation of a muscle-like matrix through plant-based pastes. Improvements upon these techniques will result in an increased product availability of alternative protein foods with similar or even identical characteristics to their meat counterparts in the future.

**2. Increasing awareness**

A shift toward mindful eating in conjunction with increasing awareness of current unsustainable meat production and consumption is another key driver of alternative proteins. As part of this shift, millennials increasingly demonstrate a preference for “mindful eating,” resulting in purchasing preferences for brands and foods that come from sustainable sources and thus a conscious engagement with food production and consumption. Consequently, due to

increased awareness of sustainability, diets and preferences shift away from animal meat to alternative proteins, opening new lucrative markets for startups, incumbents, and investors alike.

### **3. Shifting consumer preferences**

Most high-income countries are approaching a food consumption level close to saturation, with an average daily per capita consumption of around 3500 kcal. With consumption at such high levels, additional income does not result in further increases in calories consumed, but it may instead result in additional spending toward diet diversification, improved quality, and convenience, or toward food that satisfies shifting consumer values such as higher protein levels and healthier diets.

### **4. More mainstream applications**

With the growing interest in protein worldwide, alternative protein sources will begin to appear in more mainstream applications. Food products can be fortified with protein by adding fractionated concentrates and isolates of plant-based proteins. Manufacturers may even combine different types of protein sources to maximize taste, texture, and cost while also considering consumer demand.

All five of the alternative protein categories described in this article provide an exciting outlook for the future. They can substantially reduce GHG emissions as well as land and water usage by providing a valuable source of food to the growing world population. The growing market volumes, consumer acceptance levels, and key drivers mentioned above are effective indicators of whether alternative proteins will be able to take over the conventional meat market in the future and tackle the grand food challenges. However, the scalability of alternative protein production methods remain a crucial question and hurdle in order to contribute to sustainable and healthy food production and consumption. Therefore, for the foreseeable future, the meat and alternative protein industries will coexist, resulting in great opportunities for synergies.

#### **About Authors**

*Mr. Narayan Sainathan*

*CEO, INDICHEM INTERNATIONAL*

*Ms. Krutika Bhangale*

*Manager Techno Commercial (Food and Nutrition)*

*INDICHEM INTERNATIONAL*





# Facilitating through Regulations



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*While availability of standard, safe and efficacious medicine is an integral component of healthcare system, the other factors such as dissemination of factual information, easy access and affordability of medicines, rational use of medicines and preventing its misuse are also of paramount importance. - By **Mr. S.W. Deshpande, Mr. Nilesh Gandhi.***

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Ideally, regulations and its implementation require balanced approach in view of highly technical and complex nature of manufacturing, sale and distribution of the medicines. Therefore, the emphasis should be on Corrective and Preventive Action [CAPA] and not necessarily penal measures. However, over a period of last 20 years or so emphasis has shifted to penal measures and the technical flavour of implementation is diminishing. This approach coupled with various factors such as lack of uniformity and clarity in implementation, variable policies and interpretations, neglect of good distribution, storage and dispensing practices, etc. are posing numerous challenges to the pharmaceutical industry.

### **The major regulatory challenges are -**

**1) Thrust on penal measures** – The Drugs and Cosmetics Act, 1940 has been amended in 1955, 1960, 1964, 1982 and 2008. It can be seen that each of the amendment has resulted in increase in fine and punishment for all offences. Such continuous enhancement of punishment under the act shows predominant thrust on the penal measures. Even in case of administrative measures, it is seen that emphasis is on penal measures such as suspension and cancellation of sale licenses and manufacturing licenses. In the process, the key element CAPA in the quality management system for the purpose quality enhancement has been overlooked.

**2) Lack of impact of penal measures** – Main objective of the implementation should be upgradation of Quality Management System through continuous focus on CAPA. Though, the effect of thrust on penal measure has not been scientifically assessed, from the static number of not of standard quality drugs for last twenty years and large number of pending prosecutions in the court, indicates lack of impact of penal measures. Thrust on penal measure does not seem to have impact on upgradation of quality management system and the purpose of ensuring availability of safe, standard and efficacious medicines seems to have been defeated.

**3) Unintended consequences of 2008 amendment** – By 2008 amendment, punishment for various offences under the act has been substantially enhanced with major restrictions on bail. Purpose of such enhanced punishment to have deterrent effect of offenders carrying out clandestine activity of manufacture, sale and distribution of adulterated and spurious drugs also does not seem to have been achieved. On the other hand, the unintended consequences of 2008 amendment are unnecessary harassment of licensed and bonafide manufactures due to misinterpretation of definition of spurious drugs and adulterated drugs. There have been instances wherein not of standard quality drug failing in assay parameters have been categorised as spurious drugs, causing arrest and prosecution of licensed bonafide manufacturer under the amended Act.



**4) Mechanical decision to institute prosecution in respect of not of standard quality drug** – The purpose of guidelines issued by the central government under section 33(P) of the act for taking action on not of standard quality drugs is to provide relief to licensed, bonafide manufacturer. However, the authorities in State Drugs Control Offices as well as in CDSCO, are taking action on mathematical basis without taking into consideration the merits of the case including dispute raised about the method of analysis, improper storage condition, etc. The decision to prosecute is also being taken without taking into consideration principles outlined in DCC guideline that the weapon of prosecution should be used sparingly and judiciously and that prosecution should be launched where administrative measures have failed to have desired effects. This results in large number of prosecutions without appreciating the important issues argued on technical basis resulting in harassment of the licensed and bonafide manufacturers.

**5) Administrative action by the licensing authorities** – The licensing authorities are quasi-judicial authorities and are therefore expected to take judicious decision based on merits of the case. However, it is noticed that the actions are taken mechanically and suspension orders or cancellation orders invariably follow the show cause notice without taking into consideration the explanation, compliance report and clean track record of the licensee.

**6) Actions by the Drugs Control Officers beyond their jurisdiction** – Drugs inspectors are appointed for local area assigned to them and can exercise powers in their local jurisdiction. However, there are instances wherein drugs inspectors are issuing notices to the manufacturers located beyond their jurisdiction threatening prosecution, asking for list of directors, their PAN cards, mobile numbers etc. based on minor offences such as some labelling errors, colour of capsules not displayed on label, drug reported to be misbranded or drug reported to be substandard where guidelines do not contemplate prosecution. This results not only in harassment but also unethical practices.

**7) Prevalence of spurious drugs in market** – Detection of even a single case of spurious drugs in the market is a big hassle for the licensed manufacturer and also affects the brand value of the product. There have been instances wherein the original manufacturers face the difficulties in getting cooperation from the regulatory agencies and the manufacturer is directed to go to police and lodge FIR. In few cases, though the manufacturer has initiated investigation and detected case of spurious drug, the brand name and the name of the original manufacturer is displayed on website of CDSCO causing loss of reputation of the original manufacturer. There have been instances wherein even the product licenses of the original manufacturer have been cancelled instead of taking action on real culprit. Notices are also issued to the original manufacturer and they have to establish that the product in question is not their original product.



IN INDIA THE STATUTORY SUPPORT FOR REGULATING QUALITY OF MEDICINES IS PROVIDED UNDER DRUGS AND COSMETICS ACT, 1940 AND RULES, 1945, MEDICAL DEVICES RULES, 2017, NEW DRUGS AND CLINICAL TRIALS RULES, 2019 AND COSMETICS RULES, 2020. DISSEMINATION OF INFORMATION BY WAY OF ADVERTISEMENT IS REGULATED UNDER THE DRUGS AND MAGIC REMEDIES (OBJECTIONABLE ADVERTISEMENT) ACT, 1954 AND RULES, 1955 AND PRICES ARE CONTROLLED / MONITORED UNDER THE DRUGS (PRICES) CONTROL ORDER, 2013 AND MISUSE / ABUSE OF NARCOTIC AND PSYCHOTROPIC SUBSTANCES IS SOUGHT TO BE PREVENTED UNDER NARCOTIC DRUGS AND PSYCHOTROPIC SUBSTANCES ACT, 1985 AND RULES, 1985.

**8) Neglect of good distribution and good storage practices** – Stability of the drugs is directly linked to its manner of transport, distribution and storage. Therefore, compliance of proper storage conditions during transport, distribution and storage is very critical for retaining the potency of drug. However, in practice it is noticed that this aspect is completely neglected in the distribution network. The drug products being temperature sensitive are reported to be not of standard quality if not stored properly. However, even in such circumstances, manufacturer is held accountable and has to face trial.

**9) Lack of clarity on e-commerce and e-Pharmacy** – With advent of technology and ever-increasing use of technology in healthcare, the trend of advertising and marketing on social platform is on the rise. Many e-pharmacies have started business in India. However, there is no clarity in the act and rules about the status of e-pharmacy and e-commerce. The regulatory officers are however taking the view that e-commerce or e-pharmacy is not recognised in the act.

**10) Absence of definition of Over The Counter (OTC) drugs** – The term 'OTC' is not defined under the act and rules. Therefore, there is no clarity as to which drug is considered as OTC drug and can be promoted as such and can be sold over the counter.

**11) Need for new approach** – Central government has constituted a committee to draft entirely new Drugs and Cosmetics Act replacing the existing Act. This opportunity should be used to bring about radical changes in the framework of law and philosophy of implementation. Under the new legislative regime emphasis should be on technical and science base implementation. There should be decriminalisation of the act by incorporating concept of compounding of offences and adjudication. All unintentional, inadvertent non-compliance, bonafide mistakes, minor offences should be dealt with by imposing substantial fine through adjudication. Only cases of spurious, adulterated drug and grossly substandard drug should be taken to court and should be vigorously followed. Emphasis should also be on CAPA to ensure the

compliances. To realise these objectives, following provisions will have to be incorporated in the act.

i. Provision for adjudication and compounding of offences – Filing of large number of prosecutions including prosecutions of minor offences have only resulted in pendency of cases in the courts for 10 to 15 years or sometimes even more and therefore the deterrent effect is lost. It is often said that justice delayed is justice denied. With a view to ensure speedy disposal of matters, it is necessary to provide for adjudication and compounding of offences as a substitute for prosecution. All offences except offences related to adulterated and spurious drugs and cosmetics can be adjudicated or compounded depending on the gravity of offences.

ii. Establishment of Appellate Tribunal –Central government or state governments should establish Appellate Tribunal to hear appeal from the decisions of Adjudicating Officer. Such tribunal should comprise of retired judicial officer as Chairman to be assisted by the technical expert with at least twenty years' experience and retired regulatory officer not below the rank of Joint Commissioner or Joint Drugs Controller.

iii. Provisions for issuing compliance notice – To avoid indiscriminate issue of notices threatening prosecution by the drugs inspector and issue of show cause notices by the licensing authorities for suspension or cancellation of licenses and mechanically resorting to penal action like suspension or cancellation of licenses, provision for issuing compliance notice for minor non-compliance and for non-compliance of conditions of manufacturing and sale license should be incorporated in the act. Compliance should be norm and penal action should be taken only if the licensee fails or neglects to ensure compliance.

iv. Constitution of Techno Legal Committee – With a view to ensure that the technical contentious issue and cases of not of standard quality drugs are examined judiciously and merit, a Techno Legal Committee should be constituted. This committee can act as an appellate authority to hear appeal against the order of the licensing authority. Such committee can comprise of retired judicial officer and a technical expert and a senior retired regulatory officer.

v. Regulatory recognition to e-pharmacy – E-pharmacy should be recognised in the act by incorporating definitions of e-pharmacy, e-portal, market place, etc. Sufficient safeguards should be provided to prevent misuse and protecting the interests of patients.

vi. Incorporate definition of OTC drugs – The term 'OTC' drug should be defined under the act and a schedule incorporating list of OTC drugs and the mechanism / criteria for shifting prescription drugs to OTC drugs should be drafted.

### **About Authors**

Mr. S.W. Deshpande

Founder, Pharmalex

[Complete legal solution]

Former Joint Commissioner, FDA, Maharashtra

Mr. Nilesh Gandhi

Founder, Pharm Astute and Associate, Pharmalex

Former Assistant Commissioner, FDA, Maharashtra





# Going Beyond India-Bangladesh



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*The Pharma sector is said to be one of the promising industrial sectors of Bangladesh. Looking at challenges and some of the market opportunities the market of Bangladesh seems to be stable and attractive for the purpose of business expansion. -By Dr. R B Smarta, Mr. Ratnakar Manchakatla*

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The pharmaceutical sector of Bangladesh is one of the strongest pillars of the country's economy. Even during the pandemic, this industry remained robust. Bangladesh ranked 71 among the 134 countries exporting their medicinal goods. The CAGR, for five years, stood between 15%-16%. As a Least Developed Country (LDC), it has been exempted from the patent and data protection which is valid until 2033 in accordance with the agreement with TRIPS and the World Trade Organization (WTO). Bangladesh is the only LDC that fulfills 98% of the country's pharmaceutical demands.

The market of Bangladesh seems to be an extremely lucrative hub for growth and investments. Let us have a look at some of the challenges as well as growth drivers in the pharma business of Bangladesh.

### Market Overview

The Pharmaceutical industry is amongst the most developed industries of Bangladesh. It contributed 1.83% of the country's overall GDP in 2020. The manufacturing capabilities are so strong that it appeases 98% of the local demands the remaining percent is constituted of products having specialized nature such as vaccines and anti-cancer medications.

Bangladesh is not only strengthening its pharmaceutical domain but is also venturing into allied medicinal fields such as Ayurveda, Homeopathy, and Unani systems. Furthermore, currently, around 257 pharmaceutical companies exist in Bangladesh. The prime functional aspects of the pharmaceutical industry in Bangladesh include the Active Pharmaceutical Ingredient (API) and Finished formulation segments.



THE PHARMA COMPANIES IN BANGLADESH ARE LOOKING FORWARD TO EXPAND THEIR BUSINESS GLOBALLY. AS THE COST OF LABOR IS 4-6 TIMES CHEAPER THAN INDIA, EXPANDING BUSINESSES LIKE CLINICAL TRIALS, CONTRACT MANUFACTURING OF APIS, SUPPORT IN TERMS OF QUALITY CONTROL CAN LEAD TO GROWTH.

When it comes to generic products, Bangladesh stands at an advantageous position since the country is considered as a Least Developed Country (LDC) and the resultant exemption from patents has resulted in a formidable generic market. The production with respect to generic medications range up to 400 drugs by over 5000 registered brands. Additionally, generic drugs meet 4% of the country's need for anti-cancer products.

### Key Market Players

Various local players are emerging as strong market players in the field of Pharmaceuticals of Bangladesh due to significant capital investments and a conducive regulatory environment. Square, Beximco, and Incepta are the

leading companies of the country. With a plant in Kenya, Square pharmaceuticals has become an MNC. Square occupies 16% of the overall market share followed by Incepta having a share of 10.21%.

## Market Growth Drivers

The TRIPS agreement has benefitted the pharma industry of Bangladesh enormously. As a result, various policies and regulations came into existence with an aim to increase the output and the performance of Bangladesh pharma. Let us have a look at some of the factors that are further driving the pharmaceutical domain of the nation.

**1. Increased sensitivity towards health:** With time, the people of Bangladesh have become more aware of proper health, nutrition, pollution and lifestyle. Advancements in technology, digital revolution and rise in per capita income of the people are also the key reasons. Furthermore, the life expectancy of the people in Bangladesh has risen. The life expectancy which was an average of 66.4 years in the year 2002 has gradually increased to 72.6 years in 2020. This number would only increase in the future which leads to a conducive environment for pharma.

**2. Natural geography:** The geography of Bangladesh is such that it frequently experiences various natural calamities. Phenomena such as cyclones, tornadoes and floods might be destructive in nature for the country but it is a blessing in disguise from the pharmaceutical perspective. This is because such calamities ensure the constant demand for medicines.

**3. Spurt in the economy:** The strengthening of the economy of Bangladesh is turning the tides in its favor for the pharmaceuticals as well. The per capita income of the country is over 2200 dollars during FY 2020-2021, which was an 8% increase when compared with the previous year. With the increase in GDP, the per capita income is bound to increase as well. According to a report, over 33 million middle-class families reside in Bangladesh which constitutes 22% of the overall population. This leads to an increase in expenditure by not only the people but also the government.

**4. Population Growth rate:** The country has a population of over 166 million and in terms of population density ranks 11th globally. Moreover, the average annual growth rate of the country is around 1.01%. This indicates an increase in consumption and thereby an increase in the demand for pharmaceuticals.

**5. Export rate:** In the FY 2019-20, the value of the export revenue of Bangladesh was around 136 million, the following year witnessed revenue of 169 million. Moreover, Bangladesh exports to over 150 countries including countries like Myanmar, Sri Lanka, Afghanistan, Slovenia, and Vietnam to name a

few. The list also includes countries such as the US, Australia and Germany. Moreover, some key pharma companies such as Beximco Pharma and Incepta have received the US FDA and MHRA certification to enter their respective countries and export the products.

### Challenges That Can Pave the Way for Growth...

Bangladesh and India share an amicable relationship. We can utilize the challenges faced by Bangladesh as opportunities and overcoming these challenges would generate and expand our businesses as well.



BANGLADESH IS HIGHLY DEPENDENT ON IMPORTS AS ALMOST ALL THE RAW MATERIALS AND MOST APIS ARE IMPORTED FROM COUNTRIES LIKE INDIA AND CHINA. THUS, TO REDUCE THE DEPENDENCE ON IMPORTS, BANGLADESH GOVERNMENT TOOK INITIATIVE TO SET UP API PARK.

### Let us have a look at some of the challenges:

**1. TRIPS agreement:** Even though currently Bangladesh is considered as an LDC and the TRIPS agreement is valid till 2033, Bangladesh is aiming to exit as LDC by 2026. This will impact the pharma market adversely as the exemption from the patent obligation would expire too. This would mean that the industry would need to pay royalties to all the patented formulations or technologies which will thereby result in an increase in the prices of drugs.

**2. More focus on R&D:** The research and development sector of Bangladesh needs to be boosted. A majority of pharma companies prefer manufacturing known and established formulations. Having said that, some areas such as developed meter dose inhalers, lyophilized injections and other delivery systems do exist in which the research is quite advanced.

**3. API dependence:** Bangladesh imports 80% of its API requirements from China and India leading to a significant expenditure on importing. However, the country is advancing in API independence with initiatives such as the API park at Munshiganj being set up.

**4. Counterfeit products:** Bangladesh is facing severe issues of counterfeit products in the market even under a presence of a strict quality standard mechanism leading to huge losses by the companies.

### Promising Future

Bangladesh is a developing country, yet the rate and progress with respect to pharmaceuticals are rapid and admirable. It would be extremely interesting to see the nation overcoming its challenges, particularly in the R&D and API dependence sectors. Furthermore, the market is thriving with opportunities



for other countries and we must start assessing and analyzing what works the best for us.

### **About Authors**

*Dr. R. B. Smarta- Founder and Managing Director of Interlink Marketing Consultancy Pvt. Ltd. Being a thought leader in Pharmaceutical, Nutraceutical and wellness industry, he has been contributing globally through Interlink Consultancy and building business performance of his clients for 33 years. Having a Master's degree (M.Sc.) in Organic Chemistry in Drugs, MMS in Marketing, PhD in Management, and FRSA (Fellow of Royal Society of Arts) London, he is-perusing his passion of converting science to Business. Besides being a consultant, he has been teaching at IIM, prestigious management institutes, Pharmacy College, Pharmacists Associations, guiding PhD students and written as many as 7 Books on Management, Pharma, Nutra, Foods domain, and many articles in prestigious journals/magazines.*

*Mr. Ratnakar Manchakatla - a Management Trainee for Interlink and a Pharma graduate from Shri D. D. Vispute College of Pharmacy and Research Center, Panvel. He is part of the Interlink's project management team. Also, being the part of 'Interlink knowledge cell', he wrote various articles and chapters in the domain of Pharma, Nutra and healthcare.*



# Behavioural Healthcare in Hospitals



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*Pandemic has brought the extra-focus on health and healthcare infrastructure. Providing necessary mental health services is also one of the major areas of concern which India is dealing with. Various aspects of behavioural health including depression, anxiety, substance abuse, etc. require considerable attention in today's scenario. To efficiently meet people's behavioural healthcare needs, hospitals and government have to be more vigilant in terms of mental healthcare services. - By Dr. R. B. Smarta, Published in Asian Hospital & Healthcare Management Editorial*

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In a country like India, where there is no scarcity of human resources, material supplies, and even the infrastructures are getting developed and impacted positively, healthcare still remains a matter of concern. Majority of the Indian population describes good health as a 'disease free condition', but mental health is not often prioritised by them. Mostly in rural areas, where there is a minimum access to even primary healthcare services, people prefer Babas and God-men for mental illnesses.

Behavioural health, which is not only about the mental health, but also consist of several disorders such as inattention, hyperactivity, impulsivity, defiant behaviour, drug abuse, criminal activity, etc, it is still a very new and upcoming concept in India.



LOOKING AT THE INDIAN HOSPITAL SERVICES FOR BEHAVIOURAL HEALTH, THERE IS A STRONG NEED FOR INNOVATIVE HEALTHCARE PROGRAMMES TO IMPROVE THE BEHAVIOURAL HEALTH SERVICES. MOREOVER, GOVERNMENT INITIATIVES TOWARD BEHAVIOURAL HEALTHCARE ALONG WITH SOME POLICIES FACILITATING HOSPITALS TO OFFER ADVANCED SERVICES IS A NEED OF THE HOUR...

Following can be some innovative steps on which Indian hospitals and government can work to build stronger behavioural healthcare facilities in the country-

### **I. Integrated Behavioural Health**

Integrated behavioural healthcare, also known as 'behavioural health integration', is a blended care provided to treat medical conditions and behavioural health issues associated with it. It's a new way of 'caring for the whole person' and emerging as a high-quality healthcare service. This patient centric approach focusing on overall health of individuals can be introduced in Indian hospital facilities for better treatment outcomes.

Along with improved health and patient experience, this service can also reduce unnecessary healthcare expenditure and delays in treatments. Other benefits associated with integrated behavioural healthcare are-

- Patients with chronic health conditions are often susceptible to behavioural health issues and integrated behavioural healthcare actively addresses this concern and provides services with overall health benefits.
- Most of the time, patients are attracted towards the healthcare facilities which they are familiar with. Rather than going to a behavioural healthcare setting, they prefer the facilities which work like 'one-stop shopping'. Hence, for hospitals, integrated behavioural healthcare can be a good move to make.
- Having a behavioural health clinician in the facility can help medical providers

- to cope up with the patient's behaviour related problems more precisely.
- In terms of cost, integrated behavioural healthcare can even bring down the expenditure involved in actual behavioural healthcare services as the patient's health condition becomes much better till the time of actual treatment.

Integrating behavioural health services can be an essential step to initiate overall health impact on patients.

**Possible impact-** Prevention, early detection, timely treatment and management of behavioural health problems can be achieved through Behavioural health integration.

## 2. Technological Transformation

A range of disruptive technologies that can transform behavioural health ecosystems are emerging in the recent scenario. Virtual assistants are one of those technologies which is increasingly penetrating healthcare facilities. These are AI chatbots and emotion-based algorithms which offer psychological support and information by using natural interaction.

Such chatbots can be implemented by behavioural healthcare providers which can not only bridge the gap between care but also can offer 24/7 service and support to the patient. TESS is an emerging example of such chatbots which delivers strategies to attain emotional well-being.

NeuroFlow is a digital consumer experience technology which can monitor and exchange health information remotely between the patient and caregiver. Along with this, it also manages patient relationships and connects them with some experience-enhancing auxiliary tools. This technology is of great help in integrated behavioural healthcare.

**Possible impact-** Digital care provides ease of behavioural health counselling even from home where patient is surrounded by his loved ones which can lead to better outcomes. Moreover, digital apps can be highly helpful in updating caregivers about patient's health status with real-time communication. Managing behavioural health can become easier and more impactful with digital interventions.



THE TECHNOLOGIES INVOLVED IN DIAGNOSTIC SUPPORT, NEUROLOGICAL INTERVENTIONS, ETC. ARE ALSO SHAPING ENTIRE HEALTHCARE DIFFERENTLY. PHYSICAL, AUGMENTED AND VIRTUAL REALITY PROVIDING HYPER-REALISTIC VIRTUAL ENVIRONMENTS AND OFFERING INDIVIDUALISED PSYCHOLOGICAL INTERVENTIONS ARE ALSO WELL ACCEPTED BY PATIENTS RECENTLY.

### 3. Innovative Programmes

Ranging from school children to adults and elderlies, psychological difficulties can be faced by anyone due to any reason. The hospitals and government have to be vigilant about ensuring the well-being of the people through an active collaboration between people and health practitioners.

An Indian hospital, Fortis, is an excellent example to mention over here. The hospital not only offers high-quality patient care but also promotes several programmes to boost the psychological health of the society. Few can be named as School Mental Health Programme, Sport Psychology, Organisational Psychology Initiative, etc. In these programmes, they conduct interactive talks, workshops where various aspects of behavioural health are touched effectively.

Government and hospitals should promote such programmes while supporting the infrastructure.

**Possible impact-** Such programmes are essential in early detection and prevention of behavioural health problems amongst community. Moreover, patient can become self-efficient in terms of managing his behavioural health with little medical interventions.

### 4. Data Sharing

During the pandemic, willingness amongst consumers to share health related data has increased to the noticeable extent. In future, there is a high possibility that consumers may share their behaviour health data as well. This data can be passively collected via sensing technologies which will lead to increased access to behavioural health treatment.

Sharing data will not only inform the current health status of a person but also will allow early identification of the health issues before they arise.

This step requires advanced governance standards and a secure centralised database as ensuring consumers' privacy will remain a crucial factor.

Data sharing is becoming a reality in California with essential steps being implemented at the regulatory level. The legal guidelines published by the government of California are promoting efficient sharing of behavioural health and substance use disorder information which is strongly backed by database security technologies like block chain. This will be a revolutionary step for the behavioural healthcare of California.

**Possible impact-** Real time data sharing is an essential step while treating the patient with behavioural health issues. It can prevent the unnecessary delays in the diagnosis and treatment of mentally ill patient and cause better communication amongst health providers.

**Towards Overall Health**

Addressing behavioural health issues of the population is an immensely important step towards improving the overall health. Huge number of adults and even a considerable count of adolescents are struggling with mental illness, however, not everyone is able to receive the required treatment. Policymakers and healthcare providers have to look into allocating more resources to behavioural health and redesigning the care models to target overall health of the patient.

The world has encountered enormous challenges in 2020, however, some disruptions in healthcare are evolving as future prospects. Governance and healthcare providers should strategically think in terms of using different technologies, scientific insights, data, business models etc. to transform behavioural healthcare services in India. To improve health and wellness and to create strong societies, such steps must be prioritised.

**This article of Dr. R B Smarta is published in Asian Hospital & Healthcare Management Editorial.**

*Dr. R. B. Smarta- Founder and Managing Director of Interlink Marketing Consultancy Pvt. Ltd. Being a thought leader in Pharmaceutical, Nutraceutical and wellness industry, he has been contributing globally through Interlink Consultancy and building business performance of his clients for 33 years. Having a Master's degree (M.Sc.) in Organic Chemistry in Drugs, MMS in Marketing, PhD in Management, and FRSA (Fellow of Royal Society of Arts) London, he is-perusing his passion of converting science to Business. Besides being a consultant, he has been teaching at IIM, prestigious management institutes, Pharmacy College, Pharmacists Associations, guiding PhD students and written as many as 7 Books on Management, Pharma, Nutra, Foods domain, and many articles in prestigious journals/magazines.*



# The Rising Significance of Integrated Medicines



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*Nutritious diet followed by daily exercises and meditation is crucial in today's hectic lifestyle, finding ways to balance our daily life with integrated medicine practices is the need of the hour.*  
-By [Interlink Knowledge Cell](#).

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Integrated medicine is a patient-centric approach that is inclusive of all conventional drug regimens such as allopathy and homeopathy. It combines conventional and modern medicinal practices in an evidence-based and rational manner prioritizing the health of the patient. With evolving times, the nature, the overall complexity, and the limits of integrated medicine are also evolving.

The following could be the drivers of Integrative medicines in the recent scenario of prevention and patient-centric healthcare-

### **1. Upsurge in the Application during the Pandemic**

The integrated medicinal approach includes a spectrum of approaches such as exercise, health and nutritional supplements (nutraceutical origin), nature therapy, and holistic intervention resulting in the betterment of physical as well as mental health of people. This was particularly useful during the pandemic since immunity had taken a hit and preventative measures were the need of the hour. The lockdown that was imposed disrupted daily life patterns and led to sleep disorders and an unhealthy lifestyle. Along with that, psychological disorders such as depression were also observed.



## **INTEGRATIVE MEDICINES- NOT JUST DISEASE-FOCUSED SYSTEM BUT AN HEALING ORIENTED APPROACH**

### **2. Increasing Nutritionist's Interventions**

Identifying the right medicinal practitioner is pretty hard since it is a continuously evolving process. Medicinal practitioners can be classified according to their specialty such as dermatologists, dentists, etc. In the case of healthcare institutions, such specialists provide overall holistic care to the patients. The basic criteria however remain the same, selecting on the basis of the type of practice we are looking for and looking at the success rate of the practitioner in that field. A recent trend that has been observed in hospitals is the increase in the involvement of nutritionists providing post-discharge health advisory services (most prevalent in the cases like cancer). Hence, patients are becoming vigilant about their healthcare facility selection depending upon the care and expertise the particular facility is providing. This could be the reason why nutritionist-induced integrated medicinal practices are in demand.

### **3. Skilled Medical Practitioners employing Integrated Approaches**

Any kind of disease condition can be classified as follows:

1. Low involvement, low risk
2. High involvement, high risk

The approach related to the use of integrated medicine must be according to the type of disease condition. For instance, in case of high involvement and high-risk disease conditions, conventional medicines must be preferred since they



have evolved from ages and integrated medicine must be adopted only in a preventative or recovery capacity. In the case of low-risk conditions, they can be used under a doctor's supervision. Hence, only highly skilled and well-positioned physicians are currently practicing integrative medicinal applications.

#### **4. AYUSH Facilitation**

The increasing efforts from the Ministry of AYUSH in terms of integrating the modern medicinal systems with traditional medicine systems could become the most prominent growth-boosting factor for Integrative medicines in India. Involving the Ayurveda syllabus in the MBBS education curriculum is a must mention step which AYUSH is facilitating recently.

Moreover, during a pandemic, the emphasis of AYUSH on traditional remedies to boost immunity and preventive health has significantly increased consumer acceptance towards integrative approaches.

#### **An Integrated Approach to Health and Well-being**

The hectic and sedentary lifestyle of people is causing grave chaos in their health and well-being. The pandemic has added to the ever-increasing stress of the people. In such a scenario, an integrated approach is one of the best options to develop immunity and maintain our well-being. Today's hectic lifestyle demands a balance integrated medicinal approach in order to sustain productivity.

'Nutrition-Performance', 'Nutrition-Fitness-Meditation' would be the mantra to practice an integrated approach in our day-to-day lives. A nutritious diet is essential but for multi-taskers, performance nutrition is a need for the hour. Thus, a balanced diet followed by exercise and meditation is a key to a healthy lifestyle.

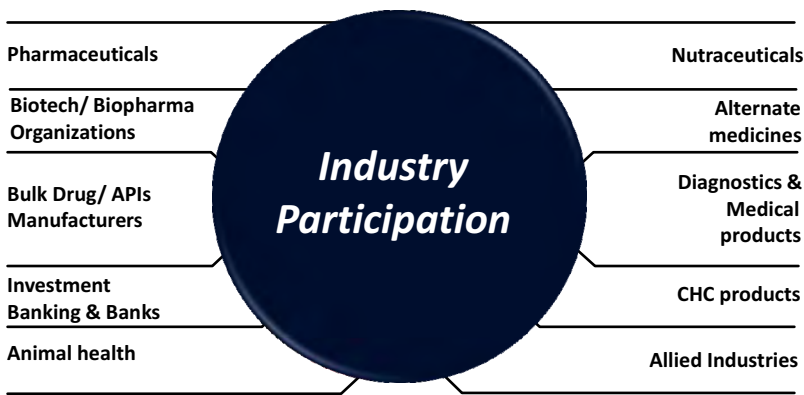
#### **About Author**

Interlink Knowledge Cell



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