

DPU

Dr. D. Y. Patil Vidyapeeth, Pune

(Deemed to be University)

Category - I University Graded by UGC

(Re-accredited by NAAC with a CGPA of 3.62 on a four point scale at 'A' Grade)

(An ISO 9001 : 2015 Certified University)



CONVOCAATION ADDRESS



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Convocation Address

Tenth Convocation of
Dr. D. Y. Patil Vidyapeeth, Pune
(Deemed to be University)
(Saturday, 13th April, 2019)

Universal Health Coverage: Integrative Model for New India

By

Professor Bhushan Patwardhan, PhD, FNASc, FNAMS
Vice Chairman, University Grants Commission
New Delhi

Universal Health Coverage:

Address schema

- World Health Day 2019
- Health and Medicine
- Health Care and Medical Care
- Commodification and Commercialization
- Evidence and Ethics
- AYUSH in Public Health
- Education and Research
- Integrative Approach

The former Governor of Tripura and founder of the University Dr D.Y. Patil, Chancellor Dr P.D. Patil, Vice President Mrs Bhagyashri Patil, Vice Chancellor Dr N.J. Pawar, Secretary Somnath Patil, Registrar Dr A.N. Suryakar, members of Board of Management, Academic Council, and other bodies of the University, Faculty members, staff, students, parents and distinguished personalities on the Dais and in the audience; I am happy to be here on the occasion of 10th Convocation ceremony of Dr D.Y. Patil Vidyapeeth (DPU), Pune. Today, the University has conferred degrees on 613 UG, 739 PG, 25 PhD candidates and Doctor of Letters honorary degrees on Sant Shri Suman Bhai and Shri B J Khatal Patil a centenarian. I congratulate all the successful students and wish them all the very best for bright future.

This progressive Category-I Deemed to be University has earned reputation for quality education especially in medicine and biomedical sciences. DPU has been reaccredited by NAAC with 'A' Grade. I take this opportunity to congratulate Chancellor Dr P.D. Patil for his relentless efforts in development high quality educational institutes now conglomerate as a University at 70 in overall and 46 in University category of NIR Franking. His entrepreneurship, continuous quest for excellence and spiritual mindset have helped this University to rapidly grow and gain global recognition. At this point, I would like to acknowledge contributions from former Chancellor late Prof K.B. Powar and Former Vice Chancellor Prof P.N. Razdan. I am happy to note that in addition to excellence in teaching, DPU has ventured in cutting edge research in biomedical sciences such as stem cells and molecular diagnostics.

Since DPU is involved more in medical education, in the convocation address, I plan to share my views about health and medicine.

World Health Day 2019

Just last week on Sunday 7th April the World Health Day 2019 was celebrated worldwide. This year tag line is “Universal Health Coverage – everyone, everywhere” #HealthForAll. Quality, accessible Primary Health Care (PHC) is the foundation for Universal Health Coverage (UHC). The United Nation's Sustainable Development Goals 2030 also aims to achieve universal health coverage under Goal 3. The WHO's Alma-Ata Declaration is a milestone in the field of public health; it identified PHC as the key to attaining of the goal of “health for all” by 2000. While this goal was too ambitious on a global scale, it did help popularize the concept of PHC, which is focused on basic health determinants such as nutrition, safe water, and sanitation. Now, with WHO tag line 2019 #HealthForAll, the circle is complete; however, achieving this laudable goal still remain a distant dream after 41 years.

It is estimated that over 50% population in the world are not able to receive health services and over 100 million are pushed into poverty due to out of pocket expenses on health. In reality, most of these expenses are incurred for treatments, therapies and medicines. UHC is about ensuring quality health services are available, accessible and affordable to all people. UHC includes prevention, promotion, treatment and rehabilitation services, however the treatment component overshadows.

Health and Medicine :

Let's begin with understanding the term health. Health is something very important and crucial for life and existence for everyone. In many cultures and traditions the proverb “health is wealth” is popular. The etymology of term health is very interesting. Health in Old English actually means “wholeness, sound or well”. Health also denotes prosperity, happiness, welfare, preservation, and safety. Sanskrit word used in Ayurveda is Swasthya, which is very profound that indicates equilibrium, a balance, and a state of harmony within self. Indian medical heritage Ayurveda defines health in much broader manner as 'Prasanna atma – indriya-mana' where body, mind and spirit are in the state of homeostasis and happiness or bliss.

Health is one of the fundamental human rights. The concept of health is not limited to individuals, but also relates to community health, public health, human health, animal health, plant health, environmental health and also extends to specific ecosystems like oceans, rivers, habitats, universities, cities, and nations. The concept of 'one health' aimed at expanding interdisciplinary collaborations and communications in all aspects of health care for humans, animals and the environment is taking strong roots globally.

The World Health Organization (WHO) defines health as “a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity”. However, there is no reliable way to measure well-being, and so, the absence of disease or infirmity is generally perceived as health. Therefore, disease treatment gets more attention and priority over prevention and promotion of health. Nutrition, Life style, Environment and Genetics are the key determinants of health, which are like four pillars of any foundation. When any one becomes weak, a support system is needed as medical treatment or medical care (Figure 1).

Health is not a commodity that can be acquired passively. Medicines are to treat diseases but there is no magic pill to acquire health. While it is possible to diagnose and treat diseases, it is very difficult to measure

or attain true health. There are doctors with medicines and surgeries to treat diseases but for attaining health an individual has to actively participate in the process.

Health Care and Medical Care :

Broadly, the preventive aspects of health care are covered under public health, and the curative aspects are covered under medical care. Health care is provided at various levels. Primary care is the first point where patient enters the system. This involves preventive care, first aid, and immediate medical assistance. Secondary care is mainly emergency services, and tertiary care is specialized services. Medical care is limited to professional treatment of illness or injury by providing diagnostic, therapeutic, and surgical services. At present, health systems focus more on *sick care than health care*.

To attain UHC in India, it is necessary to provide thrust on the basic public health determinants such as water supply, environmental sanitation and nutrition. At the grassroot level, PHC workers are responsible to deliver health care. Nurses, pharmacists, Asha workers, nutritionist, social scientist and social workers and many other paramedical workers form backbone of PHC.

A good health care system is supposed to deliver need based quality services to people. Public health is defined as the science and art of preventing disease, prolonging life, and promoting health through the organized efforts, and informed choices of society, and people. Many times, health is perceived to be dependent upon medical care and considered as a commodity, which can be acquired through medicines. The medical care is dependent upon hospitals. Hospitals are inter-dependent upon doctors. Doctors are inter-dependent upon diagnostic and drugs. Diagnostics are linked to pathological laboratories while drugs are linked to pharmaceutical companies. Patients are dependent upon doctors - and insurance. Many times, in this vicious cycle of dependency, the interests of people and patients are ignored (Figure 2).

The health care model based on treatments and therapeutics was probably more relevant in the twentieth century when the world was facing major threats due to infectious disease. The curative approach - with an excessive focus on diseases, diagnostics, and drugs - has overshadowed holistic methodology of health promotion and prevention. In the twenty-first century, Non Communicable Diseases (NCDs) and lifestyle disorders have emerged as major threats. The aging population is increasing. More emphasis on prevention strategies can reduce disease complications, and the duration of morbidity before death. Several non-pharmacological approaches through traditional medicine, yoga, meditation, exercise, nutrition, lifestyle modification etc are recognized to play a vital role in disease prevention and health promotion.

Commodification and Commercialization :

Current model of 'health care' seems to be based more on creating 'health scare'. The business of medical industry is linked to ill health of the people. There is growing realization that such a model will be difficult to sustain for long. It is important to ensure patient rights and safety at all levels. The pharmacovigilance needs to be strengthened to ensure safety of drugs and therapies.

The state of global health has been an issue of concern especially due to the ever-rising costs. Historically, the medical profession was a noble and service-oriented profession. Providing health care to people was considered the responsibility of the king, or the government. Universal health care coverage was the generally accepted norm. Charging fees for medical services was not common. Over a period of time this

fee-for-service culture became deep entrenched, and slowly the medical profession became commercial.

At present, pharmaceutical and insurance companies seem to be driving medical practice in clinics and hospitals. Doctors are inundated with lucrative incentives, and because of this, the way in which they practice medicine is altered. The technology and pathology report culture are replacing clinical bedside orientation of medical practice. The patient - doctor relationship is reduced to conveyor belt commerce.

The root causes of many problems in today's health care systems are related to the commercialization of this sector. The private service providers are perceived to be giving better quality health care than the government, of course at hefty charges. The increasing costs of health care has necessitated insurance coverage. Growing influence of market forces and predominance of curative practice has led to commodification of health care and a situation known as the *medicalization of society* (Figure 3). Many experts and voluntary organizations are now demanding the *socialization of health care* as a policy.

A report by the Institute of Medicine suggests that about one-third of health costs are wasted due to unnecessary and harmful, early elective deliveries. This amounts to nearly \$1 billion every year. A sharp rise in lifestyle disorders like obesity, cancer, medical emergencies, and Alzheimer's disease add to the already burdened health care system. According to the US Department of Human Health and Services, near 70% of deaths are due to cardiovascular disease, diabetes, and cancer, which, together account for nearly 75% of all health care expenditures. Tobacco use followed by poor diet and low physical activity remain the major causes of death in rich countries. According to the American College of Lifestyle Medicine, almost 80% of chronic diseases are preventable, and manageable by non pharmacology interventions through systematic application of lifestyle modification as medicine.

Evidence and Ethics :

There seem to be a massive erosion of trust, ethics and values that elevated practice of medicine in the past to a truly noble vocation. Modern medicine is often described as scientific Evidence-Based Medicine (EBM). Work of famous scientist Archie Cochrane on efficacy, effectiveness and evolution meta-analysis as a method of summarizing the results of randomized trials have led to a powerful tool in form of 'Systematic Reviews' for clinical decision making. These efforts lead to evolution of EBM as a new approach to bring more rational and analytical evidence for research backed practice of medicine. The principles of EBM consider consistency and quality scientific evidence in clinical practice.

The practice of EBM also requires strong grounds of ethics. Increased commodification and commercialization coupled with dwindling quality and ethics in medical practice are posing new challenges. The clinical process has undoubtedly become more scientific and evidence-based, but at the same time it has become protocol driven, algorithmic and mechanical. From a classic case of thalidomide disaster of 1962 to a recent story of statins, several cases have shown compromised levels of ethics under the commercial influence. A recent book 'Death of a Whistle-blower and Cochranes's Moral Collapse' by renowned medical scientist Dr Peter Gotzsche published just in February 2019 is indicative of how the ethics are being compromised for commercial reasons at the highest level.

A landmark study by Dr Martin Makary of Johns Hopkins University published in BMJ in 2016 states that medical error is the 3rd leading cause of death in the US. According to the Agency for Health care Research and Quality, over 770,000 injuries and deaths are reported in the United States due to adverse drug events.

The situation is nearly identical in the United Kingdom where nearly 10% of the patients suffer adverse drug events. We need to introspect why mortality is reported to be reduced when doctors are on strike and it increases when nurses on strike.

The credibility of scientific especially clinical research and drug trial data is in question. Prof John Ioannidis from Meta-Research Innovation Center at Stanford (METRICS) of Stanford University has been involved in meta research that indicate that most published research findings could be false. Predatory publishers are using all kinds of deceptive practices to lure gullible researchers. Just this month, Hyderabad-based OMICS was fined \$50 million by JUS Court for unfair, deceptive business practices. In general, academic integrity and research quality seem to be on decline. While the levels of scientific evidence are increasing the levels of ethics in profession seem to be declining (Figure 4).

AYUSH in Public Health :

The world morbidity statistics indicates urgent need for prevention and control of NCDs as the most important targets of UHC. Integrative interventions based on Ayurveda (diet and lifestyle modification) and Yoga (mind and body synergy) can play significant role in prevention of NCDs. India has a large number of doctors from Ayurveda, Yoga, Unani, Siddha, Sowa Rigpa, and homoeopathy (AYUSH) systems. They come with different kinds of skills, and can make contributions to the health care system. AYUSH doctors can offer valuable advice about diet, and lifestyle along with time-tested herbal medicines—especially for chronic diseases. Yoga offers physical exercises, and breathing, meditation, and relaxation techniques, which can play important roles in the prevention of several chronic diseases. Most of these treatments are easy, accessible, and affordable. For acute conditions, and quick symptomatic relief, AYUSH doctors can be trained to use modern medicines at least for primary care. Such an integration of modern medicine and AYUSH doctors can be complementary.

There are increased attempts to involve AYUSH practitioners in the public health system to enhance universal health coverage. Recent studies undertaken by Ministry of AYUSH have shown that simple interventions through Ayurveda and Yoga can help in prevention of NCDs such as diabetes, cancer, musculoskeletal conditions and asthma. In India an experiment is under consideration where the mainstreaming of AYUSH in health care is supported by the government. If this happens, the present doctor to patient ratio will be improved and the cost of health care might be brought down considerably.

Already, few progressive pharmaceutical companies are thinking of innovative business models based on disease prevention and health promotion. The focus now is more on reducing morbidity by improving immunity, reducing inflammation and strengthening mental health. These approaches strengthen an argument that present models of treatment-centric curative approaches in health care need to be refocused on health promotion, and disease prevention.

Education and Research :

“Education Must Make Healthy Minds, Not Just Wealthy Careers”... Dr B.M. Hegde

Current education at Universities of Health Sciences is focused more on curative / disease treatment approach than preventive/ promotive health. Most of the Universities of 'Health Sciences' in India deal more with 'Medicine' and not enough with 'Health'. To achieve UHC goal, the medical education requires major reforms in India.

The critics argue that the medical colleges are producing graduates who are not well equipped to tackle society's health care needs. Medical graduates generally possess theoretical knowledge; however, clinical and problem-solving skills that form the core of clinical competence are often inadequate. The practicing doctors are not sufficiently able to integrate the advances in basic sciences and research with clinical disciplines. It is critical that medical students learn to manifest the qualities of compassionate, communicative and socially responsible physician.

The graduate level curriculum should be focused on knowledge, attitude and skills required for primary health care and family medicine. The modern medicine students must get formally oriented to AYUSH so that they are better equipped to deal with NCDs and lifestyle diseases. AYUSH graduates must get basic skills of primary health and emergency medicine. Professional development of para medical staff and primary health-care workers is much needed. They know the traditions, cultures and practices of their communities and can play vital role especially during an outbreak or emergency.

Medicine curriculum should get interdisciplinary flavor to broaden the knowledge base and stimulate inquisitiveness of students. Medicine practice is an 'art' where diagnosis needs logic and acumen; treatment needs rational, evidence, science and technology. Emergence of new specializations such as medical humanities, clinical engineering, medical informatics are indicative of the interdisciplinary trend.

At post graduate levels interdisciplinary research is necessary for all medical graduates. In the United States, the Flexner Report of 1910 was a landmark event that gave a big boost to biomedical research through intensive programs aimed at developing high quality *physician scientists*. This opened new avenues for development of specialties and super specialties. In India, both modern and AYUSH institutions should undertake transdisciplinary research based on best from both the disciplines. This can lead to several high impact projects and an opportunity of global leadership in biomedical sciences. The MD-PhD programs may be useful to move in this direction.

To support this view, I wish to present a quick look at the Nobel prizes for last few years. In 2014, Japanese scientists showed that simple methods like inducing stress through lowering pH may transform mature somatic cells into pluripotent stem cells. In 2015, Dr. Youyou Tu work on artemisinin discovered from traditional Chinese medicinal plant; in 2016, Dr Yoshinori Ohsumi research on autophagy indicated how fasting can help control cancer; in 2017 Drs Jeffrey Hall, Michael Rosbash and Michael Young showed how internal clocks and biological rhythms govern human life; in 2018 Drs James Allison and Tasuku Honjo showed Cancer treatment is possible by immune regulation. Such advanced research in biomedical sciences also highlight value of basic concepts drawn from Ayurveda and Yoga such as Prakriti, Upavasa, Rasayana, Ritucharya etc. Few noteworthy efforts include Science Initiatives in Ayurveda and Ayurvedic Biology led by Dr M S Valiathan now supported by Department of Science and Technology; Reverse Pharmacology, Pharmacoepidemiology led by Dr Ashok and Rama Vaidya supported by Indian Council for Medical Research, TKDL, AyuSoft and Ayugenomics supported by CSIR and Ministry of AYUSH. These innovative initiatives are likely to have significant impact on understanding of modern biology and take us to the future personalized medicine.

I am happy to know that this University offer a wide range of health care related programs in Medicine, Dentistry, Ayurved, Physiotherapy, Nursing is involved in integrated healthcare teaching, learning and

transdisciplinary research integrating biotechnology, modern medicine, dentistry and AYUSH systems including Ayurveda, Yoga, Naturopathy and Homoeopathy.

Presence of eminent cardiologist and medical scientist Prof B.M. Hegde on the Board of Management of this University speak volumes. It is reassuring that the University is putting resources for bringing good talent and state of the art facilities in emerging areas like stem cells, regenerative medicine and molecular diagnostics. Presence of decorated scientists in biomedical sciences like Dr Ramesh Bhonde and Jayant Pal among others. Vice Chancellor Prof N.J. Pawar himself is distinguished academician and able administrator. Chancellor P.D. Patil is providing visionary leadership and strong support for cause of excellence. In my opinion, DPU is the appropriate place for integrative education and research bringing best of eastern wisdom and western science for the cause of UHC and health for all goals.

Integrative Approach

“The entire world consists of teachers for the wise”...Charak Samhita

It is high time to discard the silos mentality. Modern medicine alone cannot fulfil our present requirements. Biomedical professionals should not monopolize medical care, or health care. The limitations of modern medicine—especially in managing NCDs, chronic, behavioural, and lifestyle diseases—are becoming clearer. The present approach of evidence-based medicine must not become too rigid, and restrictively protocol based. Modern medicine cannot lose sight of the person behind the patient. At the same time, Ayurveda and Yoga professionals cannot continue to position themselves as ancient traditions anymore. They cannot exist merely on pride, and past glory; nor can they remain ritualistic. They must emulate modern science. They must be open to questioning and experimentation. They may be proud of their experiential heritage, but must also respect value of experimental evidence.

There is an urgent need to integrate modern and traditional systems. Practitioners' mindsets should be marked by mutual respect—accepting the strengths and limitations of their own medical systems. Practitioners from different spheres need to collaborate, and work together, instead of being at loggerheads. Various regulatory councils like MCI, CCIM and professional associations like IMA, NIMA can play proactive role to build new bridges and knowledge corridors.

The WHO recognizes that each country is unique, thus need to focus on own priorities and develop its own ways to achieve UHC. Therefore, India must develop own strategy for UHC pivoted to its culture and traditional medicine practices comprising AYUSH systems. There is emerging consensus that inclusion of AYUSH services might help to empower people to be proactive to take charge of their health and health system.

The role of diet, lifestyle and power of mind coupled with capacity to self-heal cannot be ignored. To make health for all a reality, we need to empower individuals and communities take care of their own health. It is certain that UHC goals cannot be attained only with medicine.

India has unique opportunity to demonstrate role of AYUSH systems in transforming current health scenario. The evidence based integration of modern medicine and AYUSH systems can prevent enormous loss of lives and resources. Already some efforts in this direction are in progress in India and abroad. For instance, S-VYASA Bengaluru has undertaken large studies on integrative management of diabetes and

cancer. Prestigious international institutions including Harvard Medical School, Massachusetts General Hospital, University of California at San Francisco, MD Anderson Cancer Center, Memorial Sloan Kettering Cancer Center are involved in collaborative research on Yoga and Ayurveda.

The true spirit of integration is bringing rigor of science and avoiding the temptation of taking any sides—be it modern medicine, Ayurveda, Yoga or any other system. True integration is about an unbiased attempt to strike a mutual, trust-based balance between the various systems in the best interest of the people.

Dear students, you should know that the advances in artificial intelligence may soon take over several functions of doctors. Recently, a Chinese robot named Xiao Yi developed by Tsinghua University has passed China's National Medical Licensing Examination with flying colors. Future doctors need to be humble and caring in their approach. The confidence, assurance, compassion and warmth shown by doctor to patient in distress is said to be more powerful than any existing medicines, or therapies. These humane qualities might make human doctors indispensable in the future age of robots.

The quintessential mission of medicine besides treatment is to prevent disease, promote health, restore vigour, and help ensure the highest quality of life, at every stage of life. The entire scientific and medical community—scientists, doctors, public health professionals, nurses, paramedics and social workers—should work together to meet this grand challenge, and embrace integrative approaches to health care, thus furthering the goal of health for all.

Finally, for the young doctors graduating today, I would like quote by visionary scientist Thomas Edison "The doctor of the future will give no medication, but will interest his patients in the care of the human frame, diet and in the cause and prevention of disease.". This is very evident now. Prevention shall remain the hallmark of future!

The sustainable development goals and universal health coverage can be a reality by effective implementation of schemes like Ayushman Bharat and National Health Protection Scheme in the right spirit by mainstreaming the potentials of AYUSH. This is an opportunity to build New India's innovative health care model pivoted on principles of disease prevention and health promotion utilizing strengths of AYUSH systems that also provides insurance cover to poor and health assurance to all.

I would like to end my address with a promise implicit in the Vedic exhortation:

Figure 1
Determinants of Health



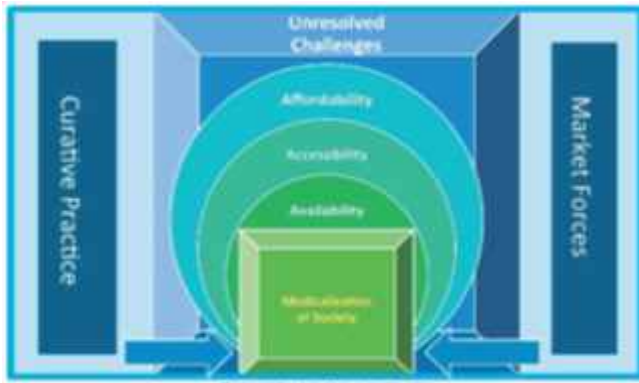
Figure 4
High Evidence – Low Ethics?



Figure 2
Vicious cycle of dependence



Figure 3
Medicalization of Society





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