Design and health: A new paradigm

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The continuously expanding range of time, separating the two ends of the life spectrum from conception to death and the almost Faustian rush of man towards a permanent state of bodily wellness, designed to dispel the specter of death, are ever more anchored in and justified by cultural, social and environmental factors, which go well beyond the current practice of "medicalizing life".

More and more, we become aware that there is a very close connection between the environment (in the broadest sense of the term) and the illness or wellness of a person; and this should not come as a surprise.

The origins of the "right to environmental protection", and the importance of environmental protection in safeguarding human health, can trace their beginnings all the way back to Hippocrates, who wrote a treatise entitled "Air, Water and Places". These principles were explicitly mentioned by the founders of the Architectural Modern Movement and enshrined in the Charter of Athens, in 1933. Instead of focusing on the functional aspects of the built environment, the Charter gave absolute priority to air, light and sunshine, considered conditions necessary for the (psychological) well-being of individuals living in physical spaces. More recently, in the Rio Declaration on the Environment and Health, it is stated that: "...human beings are entitled to a healthy and productive life in harmony with nature".

Notwithstanding this, not enough attention as yet has been paid to the very complex intertwining of social and environmental causes of some of the most widespread diseases. Increasingly, psychosocial deseases, chronic diseases, stress-related illnesses, if for no other reason than for the aging of the population are a greater drain on resources than acute diseases.

Given this backdrop, the crux of the matter for us as designers and decision-makers is to try to pinpoint the ways and means to understand the how of coming up with appropriate design and decision-making strategies to create the appropriate environmental conditions in order to prevent the onset of pathogenic phenomena and to restore wellness when it has been damaged.

It is, in particular, the designer who influences not only the physical health-promoting aspects of an environment, but who also has an impact on the social aspects as well, the ultimate goal being not necessarily just coming up with a

design for a building, but also understanding the impact that design might have in terms of social behavior. (Indeed, it is by no means a coincidence that the goal of utopians such as Philaretes, More, ".. has always been to create an ideal city for an ideal society").

For all these reasons, the new design strategies must draw their inspiration from a more multi-faceted and modern understanding of and interpretation of the terms "health", "care", "illness", "wellness" and "health care facility".

Health is, in and of itself, an ambiguous concept. It can be defined as a "natural constant" in terms of being a measurement of the degree to which the biological functions of a person are in good working order. Health becomes a "historical variable", however, when subjected to varying interpretations deriving from the changing of cultural, anthropological, social and economic factors over time and space. [In classical Greece, to grow old in good health was a great good fortune, whereas today, in economically and technologically advanced countries, to grow old in good health, is considered a right. Many pathologies, such as the recently emerging phenomenon of "constant fatigue", were unknown in the past, yet exist today].

If we were to accept the notion that "health" can be defined both in "negative terms" ..... as an absence of illness or feelings of anxiety, pain or stress; or in "positive terms", such as .... the existence of a state of wellness,, then the environment can become a resource if it is used to support the process of re-establishing conditions of health and well-being, or where it does not do this it becomes a pathogenic factor.

Part of the definition of health in "positive terms", thus, stresses relationships between people and the environmental context of the person, unlike what happens in the "negative definition" of health, which is centered on the individual and only in the individual's capacity as a sick person.

In Western European thought, the Cartesian split between the world of the spirit and the material world, was an important cultural factor in the development of a bio-medical approach to health. This approach is predicated upon identifying specific parts of the body as the origin of the disease, which is that pathology hindering the good biological working order of the individual. This philosophy has strongly colored modern medical practice and has had an impact on contemporary practice, in the delivery of health care services. Treating the individual, has increasingly meant treating the organism, and not the individual in his or her totality. Aligned on this side of the interpretation of health care, has been an increasing use from the 1980s onward of what Norman Jewson in 1976 termed "hospital medicine".

A social approach to health has included, in those factors influencing an understanding of and determination of a state of health, a number of items such as lifestyle, economic conditions, cultural influences, and working conditions. This approach, like the bio-medical approach, tends to define health in negative terms, so much so that, most research is concentrated on identifying the social factors responsible for diseases.

A social vision of health has introduced a series of new variable in carrying out diagnoses with regard to a state of health. This vision has paved the way for an application of the concept of health, not only to single individuals, but to the various permutations of the nuclear family, the neighborhood, the city and the country. This means that, the object being diagnosed and subjected to health care treatment and improvement of the state of health is, in the main, actually outside the person, him or herself.

Nowadays, the key to interpretation underpinning the most advanced bio-psycho-social approach, shows that the health of a population is determined mainly by the environmental, social, cultural and economic conditions, wiping out the divisions separating the various specialized disciplines dealing with human health.

The transition from a bio-medical approach to health to a bio-psycho-social approach to health is expressed in the table: (where you can see a different view of health, a different object to focus, …): and consequently different features of healthcare facilities. The whole concept of health care is, clearly, closely linked to the concept of wellness, and reflects an evolution in the approach to disease.

Bio-medical approach to health	**Bio-psycho-social approach to health**
Rigid adherence to the biomedical model	Multi-dimensional view of health
Attention solely to acute episodic	Chronic illness manag.mt.
Focus on individuals	Focus on communities and other defined populations
Cure as uncompromised goal	Adjustment and adaptation to disease for which there is no cure.
Focus on disease	Focus on the diseased person and the disease

In Herodotus we find that treating the ill, (he writes) ".....does not require the services of physicians. The ills are brought to the main square and those who are suffering from the same malady or who know someone with the same disease, come up and give advice about which remedies worked to eliminate the disease and which were useful to others ...".

This was in Babylon, so long ago it is lost in the mists of time. Nonetheless, what Herodotus recounts with his tale of the ill, shows that, even then, there was nostalgia for times gone by, where there was a strong sense of community and community care, where ills were shared and this has been lost. The community participated in the illness, consoled, helped and did away with the loneliness of the sick person. In brief, one gets the feeling that, in the deepest sense of the terms, cure is care.

Oversimplifying a bit, one could say that, for many centuries, treatment was given basically in homes or in the community, and that the home and the community are, historically, the physical locus of therapeutic activities which can be summed up in the term care.

In the years ranging from 1800 to 2000, disease was treated in medical institutions, usually in the form of hospitals. Subsequent to the advancement of medical knowledge and medical technology in terms of diagnosis and therapy, disease treatment was definitely considered appropriate therapy "to the detriment of" care in the broader sense of the term.

Nowadays, there is an increasing awareness that treatment of disease must be based upon an interactive relationship of communication, where patients play an active and fundamental role in their own treatment and recovery. [The patient is the prime mover of his or her treatment].

Moreover, the physician-patient relationship of care, assumes even greater prominence from a human and indeed even a moral point of view, when death occurs. Studies have shown that 70% of incurable patients in technologically advanced societies, die alone, the only presence that of computerized life-support equipment. One European hospital has a computer system - which relatives may consult- which signals those patients with low life expectancy; said patients are forced to yield their place to others, given health care procedures which force budget cuts. This computer, which provides the patient's clinical history and can document the patient's condition in real time, thus passing sentence, has been called the "Doomsday machine".

This leads us to raise the question of what is known as "palliative care", i.e. medical treatment which does not necessarily treat the disease, but rather deals with the pain and the quality of life of the patient. Palliative care requires a rethinking, not only of the very nature of the process of providing health care, but also of the places where care is to be given. Against this therapeutic backdrop, home and the community become the prime pillars of support of treatment. Ever since a hospital or clinical setting providing health care, has prevailed over time, attention has become focused on the physical aspects of disease, often neglecting the social causes of some of the more serious illnesses, both physical and mental. Up until the end of the 19th century, physicians living and laboring in close contact with worker and peasant families, felt that there was an unbroken continuum going from a commitment to scientific, technical and clinic work to humane and social work. The diagnoses of physicians and –consequently- their treatments took into account the entirety of the patient's life, including psychological, environmental and social elements, thus reconciling the part with the whole, the sick organ with the sick body, the sick body with the individual, the individual with his or her environment and the environment with society. Treating a sick person meant treating the pathology and reforming/improving living and working conditions, both inside and outside the patient.

One could say that from the year 2000 onwards, health care bouncing back and forth between extremes throughout history has, once more, elected, as its locus, home and the community. Nonetheless, the renewed emphasis on home and community care comes with changes in approach and attitude. Home and the community are where even therapeutic care is provided, not only caregiving, as has been the case throughout history up until 1800. The great technological advances in terms of diagnosis and therapy have also played a very significant role and have created a situation whereby it is technology itself which has begun its uncoupling from the hospital setting and has relocated to the community.

(There is no doubt that the direct link between these two visions of home and community, as the locus of health care, harkens back to the idea of care as cure, by means of a support network of social ties and emotional ties linked to the people to whom care is provided).
In the light of what has been stated, it is important to understand what the features of a new system whose goal is the administration of health might be.
If there is to be a reorganization of the type of health care services and the sites of health care delivery, then this implies, first and foremost,

doing away with the false dichotomy between health care and caregiving. Of course, in a health care system, the main element the hospital plays a strategic role. The hospital itself, though, cannot enclose within itself the entirety of hospital care. It is necessary to have a wider understanding of care; health care should be a complex process of health recovery/maintenance/improvement, thereby broadening the scope of health care strategies and delivery over an entire time and space continuum. The time factor refers to the fact that treatment has no end, but is merely an ongoing process which is continuously adjusted according to an ever changing set of requirements and needs. The space continuum refers to the fact that therapeutic action concerns, at one and the same time, both the objects of the system and the physical site of the system: from the city to the neighborhood to homes to caregiving facilities.

Cities, in particular, should without a doubt be considered a target for action, in order to promote both the wellness and the wellbeing of people.

Cities are not mere agglomerations of buildings and roads; they are, first and foremost, made up of the citizens living in them. The term citizen is well-expressed in Latin with the two terms urbs and civitas; civitas is to be understood as being a socially cohesive group of people. Promoting health means creating environments which in turn can promote a sense of community.

The very best type of health care corresponding to this viewpoint of delivery, within the context of continuity, is not that of setting up polar structures around which care activities can be organized, but rather a health care delivery system predicated upon the creation of a framework or widespread network of services which delivers services to where they are used, per se, are accessible, including physically accessible.

This network should be in reference both to all those institutional structures delegated to the delivery of health care services and to all other players involved in the management of health care issues.

Given this new prospect of a network of services for the delivery of health care, then hospitals have a role to play, too, not only in their usual role as the site of therapy delivery, but also by means of being an active intermediary for the promotion of community health. In this way, hospitals, in their capacity as organizations promoting services and community-based health, are no longer mere physical containers but provide an outreach to the community.

Given the type of illnesses prevalent in industrialized countries, there is a clear-cut trend towards an upswing in chronic diseases, taking the place of infectious diseases, and of mental illnesses caused by psychological and social stress (i.e., anxiety, depression, etc), and by aging.

Providing diagnoses and treatment/cures is no longer a biological and organic issue but is also, clearly, a social issue as well. Providing therapy thus also includes an environmental and social scope. According to data provided by the IFTF, the elements promoting health are broken down as follows: access to care 10 %; genetics 20%; environment 20%, health behaviors 50%. This means that the range of the therapeutic effects of medicine must be much broader than the mere treatment of a given pathology.

As far as chronic and terminal diseases sare concerned, it is essential that therapeutic support continue over time and that there be easy access to health care support . Thus, the sites of daily life home and the community are increasingly the locus of health care. Unlike infectious diseases, which are episodic in nature, chronic diseases require repeated care intervention, delivered over a span of time.

Moreover, given that the biological social-psychological model has become the uncontested model for an understanding of health issues, it then follows that diagnosis understood as a summary assessment of multidimensional factors and treatment understood as a holistic response to the need to recover/improve a condition of wellness must, of necessity, count

upon the sustained and integrated support of a number of disciplines, both clinical and psychosocial, dealing with the various elements underpinning the notion of health.

As was clearly stated by the Ljubljana Charter (1996) on the reform of health care, in the health services, ".... there is a need for a broader vision than that of traditional curative care, in the basic training, specialization and continuing education of health care personnel. Quality of care, disease prevention and health promotion should be an integral part of training" and an important performance of the facilities. This would presuppose the establishment of new professions particularly professions dealing with the "treatment" of the psychological and social determinants of wellness/illness and the retraining of already existing health care staff, both in terms of managing and treating new disease patterns and bad health patterns, and in terms of adopting the idea of promoting wellness in medical and therapeutic practice.

In this way, the therapeutic effectiveness of hospitals will depend upon staff training and updating. Generally speaking, much will also depend upon the knowledge base in terms of research output available within the hospital premises.

Hospitals play an essential role in promoting health, providing effective health care and creating health. This role is fundamentally linked to the hospital's ability to spread beyond its boundaries the knowledge acquired on its premises, to implement this knowledge at the level of the health and community care network and to encourage self-care. In terms of the former, what is necessary is to input into the health care network all the data and knowledge deriving from scientific research and the specialized skills available within the confines of the hospital. In terms of the latter, what is necessary is to ensure that hospitals provide health-promoting input into the community.

Data management efficiency is strategically vital in terms of providing quality and effectiveness of health care. Computer technology will, in the future, be an indispensable immaterial infrastructure by means of which hospitals will be able to choose to play their vital role, as driving engines of health promotion on a community scale, by interlinking and integrating the various physical facilities making up the nodes of the network.

The driving force behind an effective relationship of data exchange, between hospitals and other network facilities is the widespread use of treatment technologies in community-based facilities instead of in highly specialized centers. The provision of, for example, endoscopy or dialysis services in the community helps in the management of patient records and X-rays and promotes an increasingly widespread culture of self care, where the hospital's main role is that of providing information. Integrated patient records i.e., each patient having one single record instead of multiple separate ones, often kept in separate wards dealing with separate disciplines though pertaining to a single patient are now current practice.

In conclusion we can assess that there is, now, a shift of perception of hospitals as providers of health management from a managed care point of view to a managing care point of view. This implies organizing a coordinated system which provides pre-admission assessments, patient education, admission procedures and post-release patient monitoring and control. This means that the hospital architecture needs to be totally reinvented, reshaping the future.