

Chapter 2

The Historical Evolution of Health Concepts and Approaches: The Challenge of Complexity

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2.1 Introduction

An adage says that “myth is more potent than history” (Fulghum 1988, p. vii). Indeed, the myths of health care identified by Henry Mintzberg (2012) have proven to be stronger than both history and reality. They have played, and still play, a significant role in affecting health policies and practices, influencing the shapes of health care systems. The belief that the health care system is failing, the assumption that it could be fixed by detached social engineering and heroic leadership, the idea that public health care guarantees equality, while private health care ensures efficiency, the blind trust in the healing role of management models drawn on the for-profit sector, the emphasis on scale and measurement: all these are common prescriptions to cure the illness of current health care systems.

It is interesting to reconstruct, through an analysis of secondary sources, the period and the context in which these ideas emerged, and how they have affected

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medical and health care models over the course of time, thus leading to the consolidation of what Henry Mintzberg calls “myths.”

In this chapter, medical and health care models are diachronically examined to evaluate their relationship to the sets of beliefs identified as myths. This is an innovative perspective, considering that historical analyses of medicine and health care are typically intra-disciplinary and do not touch upon any underpinning foundations. The analytical narrative focuses on the unfolding over the centuries of the various myths. In the limited space available, only a synthetic outline can be presented, with the unavoidable consequence of oversimplifying complex phenomena; such an account is indeed sufficient to show that the sets of beliefs identified by Henry Mintzberg have significantly affected the functioning of health care systems in developed countries. These myths, being strongly conceived on a subconscious level, have had insidious effects on the broad concepts of “medicine” and “management.”

In particular, we can say, although bearing in mind the limits involved in the simplification and modelling of complex ideas into schemes, that the myth of heroic leader and the myth of measurement, which emerged in remote historical epochs, have consolidated over the centuries and blended with the other myths, reinforcing one another until assuming the current configuration of coherent frameworks that can be subsumed under the models of “biomedicine” and “scientific management.”

2.2 Healers as Heroic Leaders in Archaic Societies

The belief that “not only health but the overall system can be fixed by bringing in the heroic leader” (discussed in Chap. 6) can be traced back to archaic societies, where the healers had the attributes of heroic leaders in the sense intended by Henry Mintzberg. A common element of all the archaic healing cultures—Mesopotamic (3000 a.c.–2000 a.c.), Assyro-Babylonian (1792 a.c.–323 a.c.), Egyptian (3000 a.c.–2000 a.c.), Hebrew (1200 a.c.–550 a.c.)—was the recourse to the heroic figure of healers, who could solve health problems (and also more general problems) with their miraculous virtues and absolute wisdom deriving from their relationship with the supernatural.

Illness was seen as overwhelming and linked to the action of supernatural entities. According to this “theurgical model,” divinities, offended by human behavior, allowed malevolent entities to take control of an individual’s body or hint it with an object (a caterpillar, a stone, a sting). As a result, healers had to try to calm down the fury of the gods, acting as intercessors by means of superstitious practices, exorcisms, and mass offerings.

Related to the “theurgical” model, was the “magic” model of medicine. Magic was Man’s attempt to control, through irrational practices, the shadowy forces around him. Not rejecting the transcendent, the “magic” model acknowledged the validity of experiential remedies (amulets, individual or group rituals, gestures, herbal blends and potions) and conferred ever greater honours to healers.

In this framework, medical care could not be considered from a commercial perspective: healers acted not on the basis of scientific knowledge, but by virtue of a

supernaturally endowed gift; therefore they were not trained in the art of medicine, but rather were consecrated by ancestral faith healers, by virtue of a miraculous event linked to their birth or by what was considered a divine calling.

These “heroic leaders” considered Man in his wholeness and showed moral virtues consonant with their relationship with the transcendent. The extraordinary moral standing of healers was not significantly affected by the progressive abandoning of supernatural explanations in favour of a gradual repositioning within the domain of natural causes. Healers were increasingly substituted by schooled professionals who had the same heroic connotation and moral standing apart from the relationship with the transcendent: it is significant that in Babylonian times the Scribes abandoned the incurables while the healers treated them until their death.

2.3 Health Care as Private Profession in Ancient Times

In ancient times, the figure of the healer, who acted by virtue of his relationship with the transcendent, was progressively substituted by that of the private doctor, who acted on the basis of the scientific knowledge, assimilated through a long-lasting training. This evolution coincided with the development of a medical *tekne*, namely a body of theoretical and empirical knowledge managed by professionals, which can be put in relation to a ground-breaking cultural change: the occurrence of a deep fracture between Man and Nature: Man discovered himself to be an external actor able to control, by means of rational thought, the rest of Nature.

Hippocrates was the forerunner of this new approach, which rejected the supernatural and introduced clinical medicine, based on the observation, elaboration and reproduction of natural phenomena. He advocated a rational approach as opposed to the theurgic-magic conception of medicine: any possibility for divinities to provoke illness was refuted, as well as any validity for therapeutic activity aimed at awakening the pity of the divinities, while attention was paid to discovering the natural causes of illnesses. Doctors, endowed with specific intellectual and technical competences, had to address the condition of the patient in each specific situation, from a holistic perspective. The holistic approach typical of theurgic and magic medical models consolidated and led to the concept of complexity, according to which each organism is an open network of relationships and, therefore, a rich variety of elements—diet, psychology, social relations, experiences, hygiene, dreams, etc.—are to be considered when investigating the causes of illness.

Unlike the archaic age, an antagonistic attitude towards illnesses emerged, as proved by the frequent use of metaphors of war related to medicine. This was reflected in the doctor–patient relationship, as summed up in the Hippocratic Oath (the first deontological code of conduct, sworn by doctors and other health care practitioners professing to practice medicine ethically): it reveals how doctors exercised absolute power, making decisions for their patients, not informing them, not considering their preferences, not looking for consensus, not accounting to them (or to anybody) for diagnostic and therapeutic decisions.

Another pioneering figure was Galen, who added to the empirical observation the experimental method, thus further enriching the complex medical model. He suggested the existence of a strict link between physiology, personality and the external environment: for example, he asserted that bodily humours had not simply a biological fluid function, but also depended on the character as well as on the physical and sociopolitical environment.

Summing up, in ancient times there was the consolidation of the complex holistic conception of Man and the emergence of the idea (discussed in Chap. 8) of health care as a private service provided by ad hoc trained professionals. The fruitful merger of the scientific vocation of the Greeks with the efficient organization of the Romans led to the development of clinical medicine and to the construction of the first operating theatres and hospitals—the so-called *valetudinaria*—as structures of assistance created (prevalently in frontier areas) to treat and heal wounded legionnaires. These were mainly used by rich people to cure their relatives and slaves in a private, commercial framework.

2.4 Divine Engineering in the Middle Ages

The Middle Ages witnessed exploratory trends that went beyond the familiar to enter the sphere of the transcendent. In the Christian conception of the period, the main emphasis was no longer on a mysterious, unpredictable world, nor a knowable and controllable world, but an incommensurably distant God. All this had a marked impact both on medical theory and practice. From a religious perspective, only God, as Creator, could have a full comprehension of the universe, and significant aspects of the world (including illnesses) would forever remain mysterious and uncontrollable by Man.

Illness was seen as a natural occurrence related to the frailty of Man, represented by Adam's original sin and the fall from Eden. The biblical idea of disease was reinstated (substituting the notion of fault with that of sinful behavior). Pain was welcome as a way to amend sins. The new meaning that suffering acquired within the theological perspective stimulated attitudes of resignation and prayer rather than efforts towards treatment: healing was regarded as a function of God's grace.

Along with the rise of this new approach, the health care based on the *valetudinaria* model was challenged: the first hospitals in the fifteenth century were aimed at providing shelter for sick people who could not privately be assisted, because poor. These hospitals, deficient in terms of structural and hygienic conditions, as well as in terms of quality of care, were richly endowed with sculptures, paintings and works of art. The latter most probably had a therapeutic value: the biographical documents of the epoch show how, in order to lessen suffering, wide recourse was made to paintings of the Crucifixion, while during surgical operations—performed under extremely painful conditions—extracts from the Bible and from the lives of martyrs were read aloud.

Under the control of the Church, a new body of medical knowledge developed, which was detached from the reality of patient and founded on a top-down, uni-directional relationship between patients and doctors. The Church established what could be good or bad for the body and soul, thus expropriating doctors from the faculty of deciding what could be considered useful for healing the sick. Doctors were obliged to remain celibate (until 1452) and to ask for the permission of a priest to be allowed to cure patients (only after verifying that patients had previously confessed their sins, and by adhering to the detached model of health care). Detachment as regards bodily functions derived from the idea that the body was not only the fruit of divine creation but also an obstacle on the path towards God, in conflict with the soul, therefore there was a limit to hygienic procedures which were linked with bodily contact.

This detached model of health care questioned the so-called “popular medicine,” a range of consolidated holistic medical and nursing practices focused on a visceral knowledge of body/soul, provided by popular healers such as the barbitonsor, cerusius, cataract couchers, lithotomists, phlebothomists, herniotomists, booth-surgeons. Holistic healing practices were also carried out by the so-called *vetulae* (in Latin “old women”)—who possessed “first hand” knowledge of the body, due to their experience of childbirth and motherhood and to their daily “routines” for “survival.” The knowledge possessed by these *vetulae* was strongly refused by the Church, which declared that any woman daring to dispense medical care without prior medical education was a “witch” and, consequently, to be condemned to death.

This is the cultural basis of what Henry Mintzberg (2012) calls “the myth of clever social engineering” (see Chap. 5): “the health system can be fixed by experts, not people on the ground, who understand the problems viscerally, but specialists in the air, such as economists, system analysts and consultants.” The Medieval doctors can be considered the first “specialists in the air”: specialists of *sanitas corporis* and *salus animae*, who dispensed a detached, top-down care in conformity with the reigning perspective of the Church—the only faster mother that Science could find (Fielding 1913, p. 112). Later this detached, top-down conception will be consolidated in the development of modern medicine and will pass from medicine to health care, leading to a centralist approach to the administration of care, both at a macro- and a micro-level.

2.5 Mechanism and Measurement in the Modern Age

The modern age was the epoch of secularization: the starting point was not any more God, but Man, with his autonomy and possibility of exercising full control over natural phenomena. In the late sixteenth century, Bacon theorized that, through a “new” science, a powerful understanding of an essentially ordered physical world could be gained. This view was reinforced in the Newtonian mechanistic view of the world and continued to develop in the physical sciences throughout the eighteenth and nineteenth centuries, combined with a triumphal vision of unlimited

scientific progress. On the other hand, the medieval dualistic conception of body and soul consolidated during the Renaissance and reached its peak in the eighteenth century with the Cartesian idea of Man as a soul separated from the body and isolated from the external environment. The concept was then widely assumed and explored by many philosophers, from Locke to modern existentialists. Separations and dichotomies became fundamental pillars of modernity.

These ideas had a profound impact on the conception of medicine and of health/illness, stimulating the belief in the possibility of exercising full control over illnesses, with its potential for creating a new order of knowledge that relied on the possibility of measurement.

The ideal of objectivity gradually began to gain ground within medical disciplines, involving a scientific approach to the human body and, at the same time, its separation from subjective factors. While in the Middle Ages the dichotomy body/soul had been resolved by emphasizing the spiritual elements, in modern times there was an increasing focus on the organic components of pathologies. The human body was considered a machine, and health linked to its smooth functioning. A biomechanical approach, based on the application of the laws of physics, mechanics and chemistry to organic processes, took hold within medicine and established the research agenda for three centuries. It led to huge progresses in therapies, but also to an increasingly reductionist concept of medicine and an impoverished notion of the doctor–patient relationship.

In this context, hospitals were the fulcrum of the health care system, designed to pursue research and clinical aims, rather than charity and humanitarianism. They were consequently designed according to the rules of hygiene and hospital engineering, structured in relation to the scientific disciplines and organized in compliance with the bureaucratic hierarchical model. The latter was functional to specialization and research objectives, and favoured the development of clinical knowledge, but produced a focus on diseases rather than on patients, perfectly in line with the scientific conception of medicine and health/illness that had gradually been consolidating.

Hospitals were considered not only a treatment center, but also laboratories for the study of diseases to develop new knowledge and competencies, and, therefore, were completely separated from the daily lives of patients, clearly distinguishing the scientific knowledge (deriving from the academic disciplines) from the “non-scientific” knowledge (deriving from socio-cultural and environmental elements). A series of new techniques were introduced, such as the analytical observation of patients, the recording of a thorough description of their case histories and symptoms, the comparative study of clinical symptoms and anatomical lesions, the statistical recording of syndromes and the measurement of pathological phenomena by means of metric criteria. All these techniques were founded on the myth of measurement (discussed in Chap. 10) which consecrated hospitals as sanctuaries of objectivity and experimental knowledge.

The above trend accelerated during the nineteenth century, encouraged as it was by pharmacological and technological developments. On the one hand, progress in bacteriology strengthened the dualistic notion of illness as a conflict between two

opposing entities: the pathogenic micro-organism and the healthy macro-organism (later, the discovery of antibiotics added “therapeutic certainty” to the “causal certainty”). On the other hand, technological progress, notwithstanding its unquestionable benefits, amplified the divide between doctors and patients, further impoverishing their relationship.

2.6 Health in the Twentieth Century

The twentieth century can be considered the century of a new complexity, which has had a profound impact on medical and health care models.

The paradigm of modern science and, in particular, the triumphal vision of progress started to be questioned, as awareness of vulnerability and risks increased, favouring the progressive affirmation of a more complex and moderate relationship between Man and Nature, not in terms of control, but rather of harmony and interdependence. At the same time, the modern conception of Man based on the dichotomy body/soul was being discussed critically, and a more holistic vision of Man as the product of multiple linked factors emerged. Consequently, a new holistic conception of health, in line with the new conception of Man and his relationship with Nature, started to take shape in most Western societies.

This cultural revolution evolved jointly with other developments in the epidemiological field. While acute infectious illnesses declined, new pathologies emerged, generated by complex and combined causes, partly unknown and characterized by no clear pharmaceutical remedy. In addition, the abuse of antibiotics provoked the chronicization of pathogenic processes, and the transformation of the fight against bacteria from a patchy battle to a prolonged war, with neither winners nor losers. The epidemiological transformation promoted the epistemological change of medicine from a criterion of strong causality, typical of infectious diseases, to that of weak causality, typical of chronic degenerative pathologies.

The discovery of X-Rays at the end of the nineteenth century, the technological improvement of diagnostic tests, new and more effective drugs, advanced imaging equipment, the use of sophisticated devices and medical technology for treatment and rehabilitation, on the one hand, helped doctors to be more effective in early diagnosis and treatments, while, on the other hand, generated the risk of anonymous doctor–patient relationships. An increasing number of doctors started to rely more and more on test results, normality range for glycaemia, cholesterol, blood cells composition, blood pressure and others, rather than on their own capacity to consider the patient as a whole. The advancement of technologies pushed towards an extreme specialization, which could be managed in more and more complex delivery organizations, such as the ambulatory with many specialists, the hospital with dozen of specialized units, hundreds of beds for inpatient units and for outpatient treatment, thousands of doctors, nurses, professionals and administrative staff. Doctors, nurses, other professionals, patients and their relatives had to comply to the formal rules of the organization and, because of that, personal relationships

became weaker. Continuity of care was not guaranteed and only under certain conditions patients could ask to be treated by one specific doctor.

The twentieth century is also characterized, at least in Europe and Western developed countries, by the development of sickness funds, social insurance funds (voluntary or compulsory), private insurance integrated with national health systems (based on the principles of universal coverage, equity, solidarity), private insurance integrated by public financed programs for poor, elderly and disable people (US). For this reason hospitals and other delivery organizations, public or private, are conditioned by whole-system rules, such as structural and functional requirements, manpower standards in relation to beds, parameters related to funding or reimbursement systems (DRG's, length of stay, typology of treatment/surgical procedure, others).

In this increasingly complex environment, health care is affected by a large number of factors, such as

- Sociopolitical environment, in particular health care models (universal coverage, sickness funds, private insurance, public–private funding and delivery) and health policy (role of prevention, acute care, outpatient treatment, chronic disease, continuity of care, home care);
- Political-institutional processes, in particular priority-setting among different health conditions and the relation between different levels of the institutional system (State, Region, local health organization, hospital, etc.);
- Administrative models, in particular for public authorities, regulators, policy makers;
- Organizational models, in particular the functioning rules of hospitals and other delivery organizations;
- Technology, in particular drugs, equipment for laboratory tests and imaging devices and other medical technologies;
- Professional approaches, in particular new solutions to the specialization–integration challenge, due to the evolution from cure (for acute patients) to continuity of care (for chronic health conditions), from a focus on diseases to a focus on health.

2.7 The New Myths of the Twentieth Century

The transformations linked with scientific-technological developments and the changed epidemiological, socio-economic and political conditions formed the backdrop to the development of the welfare state model. Public rules, state control and financing through general taxation or mandatory sickness funds or social security funds, are considered conditions for guaranteeing universal coverage, solidarity among different groups of population and equity. The idea that health care should be publicized for the sake of equality (discussed in Chap. 9), was launched in the second half of the nineteenth century by Otto von Bismarck and was

developed in the period between the two world wars and consolidated after the second world war with the Beveridge reform in the UK and similar reforms in other countries during the 1950s–1970s of the last century. At the core there were a series of demands made by the “Movements for Health,” inspired by new ideas emerging in many industrialized countries: the concept of universalism, settled in the throes of the “liberation from need” principles sustained by the Atlantic Charter (1941); of “welfare from the cradle to the grave,” as recommended by the Beveridge Plan; and of health considered as “a state of total well-being—physical/psychological/social—and not merely absence of illness,” as recognized in the 1948 World Health Organization (WHO) constitution. The peak of the international cultural evolution on health matters was represented by the Alma Ata conference of 1978, which sealed a unifying vision of care for both the physical and psychic health of individuals.

After the 1973 oil crisis, all Western developed countries experimented a double trend: increasing public expenditure (in some of them, increasing public debt) and the awareness of the public bodies’ inefficiency. The dimension and the causes of the public sector inefficiency were analyzed both from the theoretical point of view and by empirical research.

From the theoretical point of view, the negative trade-off between the objective of getting short-term political consensus and that of pursuing efficiency and economic sustainability in the long run was underlined. So, public ownership and political power to appoint public and, in particular, health care managers, was considered as the main weakness: low efficiency prevented equity or caused high expenditure and increasing public debt. This theoretical approach was supported by an increasing volume of empirical research which compared the efficiency of public and private hospitals or other delivery organizations. The validity of this comparison is widely commented in this book (Chaps. 8 and 9). The consequences were the spreading of a managerial approach (so-called New Public Management) in the public sector and a new wave of privatizations.

At the beginning of the 1980s, the time seemed ripe for the introduction of “business” in the health care sector, in relation to a series of concomitant factors: the hegemony of Reaganian/Thatcherian-inspired policy; the reformist trend inaugurated by the United Kingdom linked to the diffusion of the New Public Management; the loss of legitimacy on the part of national and local governments following cronyism and the politically influenced degeneration of Health Authorities and organizations; the significant raising of citizens’ expectations combined with little trust in public institutions.

During the 1980s and the 1990s of the last century, many European countries approved reforms inspired by the **myth of business** (see Chap. 7), that pushed towards the introduction in public hospitals and other delivery organizations of business-like methodology and techniques such as planning, programming, budgeting systems, managerial and cost accounting, performance management, organizational restructuring, human resources management, rewarding systems. Sometimes economic and financial performance indicators were dominant, sometimes they were better balanced with health performance indicators, but anyway the

underlying principle was the positive effect of competition. Market and quasi-market competition was theorized and became the pillar of a trend towards mixed delivery systems, in which public and private (for profit and not-for-profit) hospitals and other delivery organizations compete with each other. Of course, it was acknowledged that the nature of health needs requires public rules, monitoring and control.

The competition among health care organizations and within each organization was also the driver of another trend that took place in particular with the new millennium: the idea, drawn uncritically from the scientific management applied to manufacturing and service sectors, that, in the global arena, dimension is a critical success factor (see Chap. 11). The reduction of unitary costs, the need to invest in new high-cost technologies (for example surgical robots, advanced imaging equipment, etc.), the evolution towards integrated care for larger groups of population, generated the expectation (or the illusion) that big organizations would be the right solution to deal with public expenditure constraints and cost-cutting policies. This idea, at the basis of the **myth of scale**, inspired a wave of mergers and acquisitions in private health care, as well as the dimensional growth of public hospitals and local health authorities. Italy is a very interesting experience for the myth of scale. As highlighted in Chap. 5, the number of the public health care organizations (HCOs) was reduced by 23% over the last decade, with an acceleration in the last five years, especially in regions under cutback plans. Mergers were driven by Regions, willing to play the role of holdings of health care organizations to enhance performance monitoring, especially on the financial side. It is a process of grip back in contrast to the “corporatization” wave which characterized the 1990s: while in the 1990s firm size was determined by the idea of manageability, in the new millennium size increase was decided in the perspective of technical optimization, pursuing abstract benefits without taking into account some hidden costs (such as those related to stakeholder coordination, employee motivation, increased cognitive complexity and the need for shared decision-making).

2.8 The Complexity Trajectory and the Myth of Health Systems’ Failure

All the myths that have characterized the history of health care systems must be considered in the perspective of a new trend of complexity, that is already here and that will characterize ever more the immediate future.

On the one hand, we are witnessing increasing scientific progress, which can be intended as the ability to solve problems in order to create, challenge and try to deal with new complexity. Health care systems, in the last quarter of century, have been affected by three main phenomena, which allow delivery of increasingly expensive and successful health treatments (as proved by the improvement of the statistics of life expectancy or infant mortality rates):

1. Development of ICT that provides an enormous capacity of data collection, computing, repository, storage, retrieval and in particular the Internet and digital revolution.
2. Genome discovery and genome sequencing at lower cost in very short time for an increasing number of persons, and consequent gene and cell therapies.
3. Nano- and new materials technologies that provide opportunities for the substitution of organs, nutraceuticals and regenerative medicine.

On the other hand, these trends are generating growing pressures over health care systems, thus giving the idea of their failure (discussed in Chap. 4). More specifically, these trends are

1. Pushing ahead the frontier of knowledge concerning the causes of disease, the prevention of disease and recovery opportunities for damage suffered by people.
2. Giving doctors (and other specialists) increasing power regarding the physical and mental well-being of people. The above trends reinforce the traditional hierarchical relationships and, consequently, a higher trust in the professionalism and morality of health professionals is required on the part of patients.
3. Dramatically changing past specialization patterns. The traditional professions and specializations (sectorised by diseases, organs, and procedures, for example cardio- and neuro-surgery) are becoming obsolete and will be destroyed; new interdisciplinary approaches and inter-professional approaches are and will be more and more required to deal successfully with health conditions in different settings (hospital for acute care, post-acute care for outpatients, community care settings, nursing homes, long stay organizations, homecare).
4. Dramatically strengthening patient access to information and knowledge. Discoveries relating to health, positive results of trials for specific illnesses, the availability of new drugs, technology or treatment are widespread through the Internet, more or less in real-time. Dozens of mass media programs on health, hundreds and thousands of websites that propose diagnosis and therapy to everybody, increase the expectations of patients. A growing number of patients privilege self-diagnosis and therapy, or contact doctors asking them to prescribe medical tests and exams, to pushing towards over-prescription behavior. In many cases, patients have not the knowledge to distinguish between websites which give correct (trustable) or incorrect (not trustable) information, between websites accredited or non-accredited by professional and scientific societies, public regulators and authorities. Because of patient pressures, doctors cannot resist because they are worried about the risk of malpractice procedures promoted by patients. The consequence of the digital and advanced therapies and health technology is the so-called "trust trap." The trap arises because, on the one hand, patients who are much more informed than before, trust their doctors less, and on the other they should or must trust their doctors, who have an increasing power over their health.

The increasing pressures generated by the above-mentioned trends give the idea that health care systems are failing, since they are raising the costs of care and, at the same time, they are profoundly changing the relationship between patients and doctors (as well as other health professionals, such as biologists, bio-engineers, nurses), so that the former are not available to pay for the advanced and more expensive care. This dynamics are at the basis of the myth of health care failure.

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