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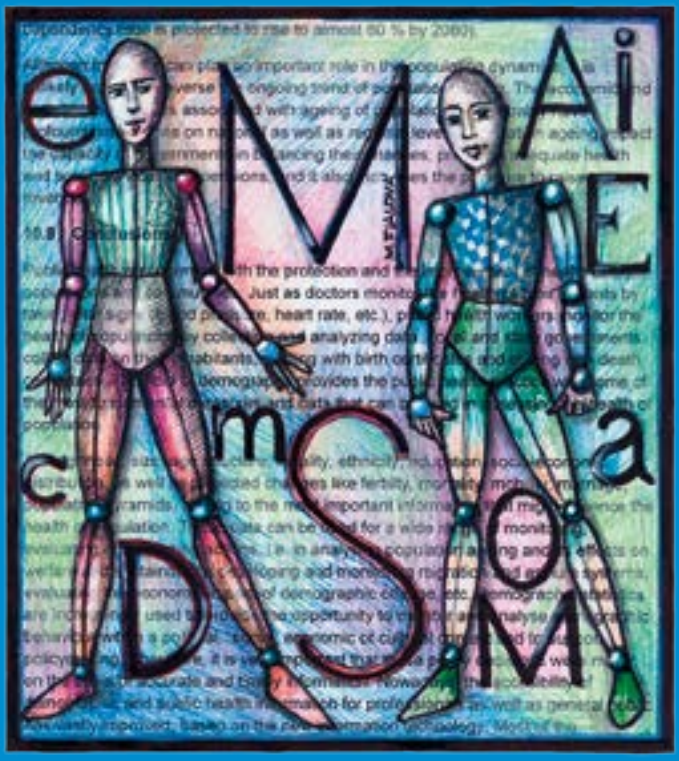
SOCIAL MEDICINE

An Introduction to New Public Health



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Published by Charles University
Karolinum Press
Typeset by DTP Karolinum Press
First edition

The text has not been revised by the publisher

ISBN 978-80-246-4276-5
ISBN 978-80-246-4307-6 (pdf)

Charles University
Karolinum Press 2019

www.karolinum.cz
ebooks@karolinum.cz

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1 AN INTRODUCTION TO SOCIAL MEDICINE

Current demographic, medical, social and economic development challenge health care systems which are confronted with the difficult task of providing accessible needs-oriented, high quality and cost-effective health care services to everyone.

Orientating health policy solely towards the health care sector is too limited. Modern health policy combines scientific, organizational and political efforts in order to promote the health of populations or defined population groups and creates health care systems which, for their part, show a stronger focus on people's needs and efficiency.

Quality, effectiveness, efficiency, free access, equitable and needs-oriented health services constitute the basis for an optimal level of health care services offered to the population in the long term. There is a need of new information, methods, research and analysis.

The scope of medicine has expanded during the last few decades to include not only health problems of individuals, but those of communities as well. Health development is essential to socio-economic development as a whole. Since health is an integral part of development, all sectors of society have an effect on health. The scope of medicine has extended from the individual to the community. Studying health and disease in the population is an important part of study and it copes with health challenges.

1.1 THE DEFINITION AND THE GOAL OF SOCIAL MEDICINE

Social Medicine is a socio-medical and interdisciplinary study focused on the characteristics, dynamics and determinants of population health and on health systems helping to protect, maintain, and increase the level of human health.

In the other words, **Social Medicine is the study of health and disease in the population, of their determinants and the provision of health care**.

Social Medicine is mainly concerned with the health situation, with the measurement of population health, and with genetic, social, and environmental factors influencing human health, disease and disability, health needs and demands, health care system and its components (structure and function), health policy (health programmes), evaluation of health systems and services, health legislation, health economy, health insurance, the relation between health and social care, informatics, and health management.

The goal of Social Medicine is to contribute to the population health, to define the health problems and needs, to identify means by which these needs can be met, and to evaluate the extent to which the health services and other activities do meet these needs.

1.2 THE SCOPE OF SOCIAL MEDICINE

At the risk of over-simplifying a complex picture, three main questions can be asked to create the framework of Social Medicine: (1) What are the level and the distribution of health?, (2) Why?, (3) What can be done to improve health? These questions are studied within the complex social environment (Fig.1.1).

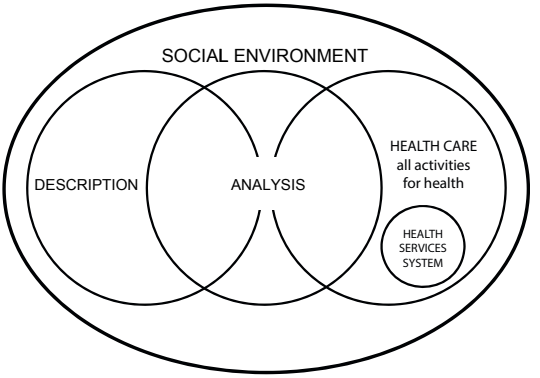

Fig. 1.1 The scope of Social Medicine

The first question concerns the description of the health status of a defined population and the comprehensive health situation of the society. There are some additional questions namely: what?, who?, where?, when?, how much / how many? Of much help are data and methodology of descriptive epidemiology which studies the occurrence of disease or other health-related characteristics in the human population. Major characteristics can be classified under the following headings: persons, place, and time. There are a lot of health indicators (mortality, morbidity) and large databases which can be used for detailed description.

The second question deals with determinants of health. All of them are physical, biological, social, cultural, and behavioural factors that influence health. A methodological tool is constituted by analytical epidemiology which examines associations that are commonly putative or which hypothesize causal relationships. The analytic study is usually concerned with identifying or measuring the effect of health-related causes (risk and protective factors) or has to do with the health effects of a specified exposure.

The third question is very broad. Answering it concerns health care, all that is done and can be done for better health by individuals, families, organizations, and institutions. In most illnesses, care is provided by non-professionals, including the patient himself, and is delivered in the context of the home and the family. Only a small proportion of the care required is referred to the primary care team, and an even smaller amount to the hospital and specialist sectors.

A specific area is health services system with all its health facilities and health professionals. Some help is offered by applied epidemiology. It includes application of descriptive and analytical findings, health strategy, setting of priorities and evaluation of health programs,

policies and services. Social Medicine make use of a lot of other research methods in the area of health services system, for example health services research, health system research, medical audit, health impact assessment, and health technology assessment.

The social environment is a powerful determinant of health. It refers to the immediate physical and social setting in which people live or in which something happens or develops. It includes the culture that the individual was educated or lives in, and the people and institutions with whom they interact.

In some types of social variables such as socioeconomic status (SES) or poverty, robust evidence of their links to health has existed since the beginning of the official record keeping. In other kinds of variables — such as social networks and social support or job stress, evidence of their links to health has accumulated over the past thirty years. Socioeconomic differences in health are large, persistent, and widespread across different societies; they display diverse ranges of health outcomes.

Social environment influences the description and the analysis of population health as well as the health care and the health services. Social Medicine is interested in all aspects of social environment, in its risk and protective factors, as well as in the relations among health, social environment, health care, and provision of health services.

The core principles of Social Medicine:

(a) Health and well-being constitute public goods and assets for human development and of vital concern to the lives of all persons, their family and community. The study of the comprehensive health situation is the first step of creating an evidence-based health policy and health improvement activities.
(b) Social and economic conditions have an important effect on health, disease and the practice of medicine, and these relations must be subjected to scientific investigation.
(c) Measures taken to promote health and combat disease must be social as well as medical. A responsible governance and effective leadership throughout society can bring about better result for health. Empowering of people, citizens and patients is critical for improving health outcomes, health system performance and patient satisfaction.

1.3 THE ROLE OF SOCIAL MEDICINE

There are five significant roles of Social Medicine:

(a) **Cognitive and methodological role** – Social Medicine deals with facts which can be defined, measured, and explained, it formulates and tests hypotheses.
(b) **Educational role** – people's knowledge and information are important determinants of population health. That's why Social Medicine is interested in the learning process, health education, health promotion, and health literacy.
(c) **Moral role** and the influence of human values and human rights – they are based on the fact, that health is an important human value and that health care means care for people. Health professionals have become increasingly aware of the ethical questions involved in medical practice and research.
(d) **Organizational role** is one of indispensable contributions of Social Medicine to health policy, health governance and health management. Social Medicine serves as a theoretical base of health care administration.

(e) **Integrative role** of Social Medicine – holistic approach helps to consider all aspects of health and it develops and evaluates the health system.

Social Medicine reflects the philosophy, religion and economic condition, the form of government, educational system, science, values and aspirations of any given period. It is widely believed than the level of society depends on the quality and distribution of health in the general population. Health in turn depends on human advancement and community development in various spheres.

1.4 CONCISE NOTES ON HISTORY OF POPULATION HEALTH

Excavations have revealed that Egyptians coped with a lot of issues of community health. Herodotus described the hygienic customs of the Egyptians as early as in the fifth century B.C – issues such as personal cleanliness, frequent bath, and simple dress were emphasized.

Hammurabi, a great king of Babylon who lived in the 18th century B.C., formulated a set of laws called the Code of Hammurabi that governed the conduct of physicians and provided for good health practices.

Early Hebrew society extended Egyptian concepts of disease and the community promotion of health by means of regulation of human conduct by the Mosaic Law or code which established the personal and community responsibility for health, maternal health, control of communicable diseases, segregation of lepers, fumigation and decontamination of buildings, protection of water supplies, disposal of waste, protection of food, and sanitation of campsites. Without the aid of fundamental knowledge of the nature of infectious diseases, the Hebrews managed to define conditions unacceptable for health and mobilized community forces against them.

The Greek era was extended over many centuries, but the Classic Period was represented by years about 480 to 146 B.C. Greeks excelled in physical aspects of personal health. Games, gymnastics, and other exercises were directed towards their ideal of physical strength, endurance, dexterity, and grace. The guiding philosophy was a harmonious development of all faculties. Physical exercises were supplemented by measures of personal cleanliness and in dietetics. The Classic Period emphasized the individual. As consequence, little attention was paid to environmental sanitation. Yet Hippocrates created the definitive treatise on environment and health in his trilogy Airs, Waters, and Places.

With the destruction of Corinth in 146 B.C., the health knowledge and practices of the Greeks migrated to Rome and were welcomed by the rising Roman Empire. In the philosophy of the Romans, however, it was the state rather than the individual which was of primary importance. The Roman advanced military, administrative, and engineering sciences all reflected many community health projects. Registration of citizens and slaves and periodic censuses were helpful in the planning of community health measures.

The downfall of the Western Roman Empire in 476 A.D. was related to social degeneration. The term "Byzantine", which refers to the Eastern Roman Empire, connotes bureaucracy, luxury, and sloth. Even in this period, Galen (130-201 A.D.) conducted experiments relating to health, however, the value of his work was limited by dogmatism. Suffice it to compare Galen's attempts to understanding disease with the later statement of Saint Augustine (354-430 A.D.): "All diseases are to be ascribed to demons."

The early years (476-1000 A.D.) of the medieval period of history are usually referred to as the Dark Ages. Western civilization was in a chaotic, almost formless condition. As the

only educated class was the clergy virtually the entire emphasis of that time lay on the spiritual aspects of life. Rejection of the body and glorification of the spirit became the officially accepted pattern of behaviour.

During the sixth and seventh centuries, Islam arose and, after the death of Mohammed, an era of pilgrimages to Mecca began. Each series of them was followed by a cholera epidemic. All through history, migrations have been a vehicle of disease spread.

The later medieval period is of special interest, because of severe pandemics of the time and the attempts to deal with the spread of disease. Leprosy spread from Egypt to Asia Minor, and then to Europe. Most nations decreed lepers unacceptable and "civilly dead", stripping them of their civil rights. In 1348 bubonic plague, or the Black Death, followed a path of devastation from Asia to Africa, to Crimea, Turkey, Greece, Italy and on through Europe. The Italian writer Boccaccio reported, that in the terrible outbreak in Florence that year, pity and humanity had been forgotten and families had deserted their sick ones. In England two million died, representing approximately half of the total population of the country.

Some communities took steps toward establishing control measures. In 1377 at Ragusa (Dubrovnik) it was required that travellers from plague areas stop at designates places and remain there for two months before being allowed to enter the city. Technically, this is the first official quarantine method on record. In 1383, Marseilles passed the first quarantine law and erected the first official quarantine station. Measures to control disease spread were not much effective. There was need for a scientific understanding of the occurrence and nature of the disease and its spread.

The Renaissance is associated with revival of learning which was germinated in Italy. This was stimulated by the fall of Constantinople in 1453. In many historians, the "Renaissance" as the term applied to western and northern Europe encompasses the period from 1453 to 1600. That era was particularly important because of its movement away from scholasticism towards realism.

An age of individual scientific endeavour, it ushered in a spirit of inquiry that would lead to the understanding of the cause and nature of several diseases. Fracastorius (1478-1553), a physician of Verona, theorized in 1546 that disease is caused microorganisms. He recognized that syphilis was transmitted from person to person during sexual relations.

Between 1600 and 1665, Europe suffered three severe pandemics of bubonic plague. In 1665, one of five of London's residents died from plague. In 1658, an English investigator Thomas Sydenham, made a differential diagnosis of scarlet fever, malaria, dysentery, and cholera. Sydenham is generally regarded as the first distinguished epidemiologist.

In the 1796 Edward Jenner, a British physician, showed that inoculation with cowpox virus can produce immunity against the smallpox virus and he scientifically demonstrated the effectiveness of smallpox vaccination.

The industrial revolution of the 18th century while bringing affluence also brought new problems – slums, accumulation of refuse and human excreta, overcrowding and a variety of health and social problems. Filth and garbage were recognised as man's greatest enemies and this led to a great sanitary awakening.

New discipline Public Health was officially recognized in England in 1837 when legislation relating to community sanitation was enacted. An important role was played by the "Chadwick's report" – the "Report on the Inquiry into the Sanitary Condition of the Labouring Population of Great Britain" – which was published in 1842. Edwin Chadwick, a civilian who had a special interest in social problems, presented more than just a popular appeal. His

colourful descriptions of the deplorable conditions of the time aroused the determination of well-meaning people to improve the conditions of the labouring class, particularly those of the child employment. Chadwick's report led to the establishment of kind of board of health in 1848 and John Simon was appointed the first health officer of London.

The bacteriology phase was initiated by the work of Louis Pasteur, Robert Koch, and other bacteriologists who demonstrated that a specific organism causes a specific disease. The French bacteriologist Louis Pasteur (1822-1895) discovered the fowl cholera bacillus and developed a method of inoculation against rabies. Robert Koch (1843-1910) discovered the tubercle bacillus and the streptococcus; he also discovered cholera vibrio which, as he demonstrated, was transmitted by water, food and clothing.

The modern era represent an organized attack on problems of health and disease, health care and society. Attention has been oriented on social insurance, the right to health care, health inequalities, determinants of health, health resources, prevention and health promotion, health systems, health programming etc.

1.5 ORIGINS AND EVOLUTION OF SOCIAL MEDICINE

The term "social medicine" was first used in 1848, when the French Revolution took place in February. In March of the same year, when revolutionary hopes were still running high, the French orthopaedist Jules René Guérin (1801-1886) used the term in Gazette Médicale de Paris. In his writing, he appealed to the French medical profession to act for the public good and to help create a new society as expected from the revolution. Guérin argued that the goal could be effectively achieved if knowledge and information regarding the relationships among medical issues, social factors and public affairs were systematically integrated into the framework of Social Medicine.

In Germany, a group of medical doctors and others led by Salomon Neumann, Rudolf Virchow and Rudolf Leubuscher promoted a health care reform after the revolution in March 1848. They came to understand the effect of social factors on health problems.

Virchow was a pathologist who provided empirical data supporting the argument that social conditions are important factors in the outbreak of an epidemic. His report, produced in 1848, on the typhus epidemic in the Upper Silesia region of Prussia is considered as a classic in the history of Social Medicine.

People are organisms biological and social simultaneously, human health and disease being thus affected by factors that are social as well as biological. Included in the basic idea and in the concept of Social Medicine is the fact that the interdisciplinary program between medicine and social science would provide medicine with the knowledge and the skills needed to analyse the social causes of health and illness in the same way as the alliance between medicine and laboratory sciences had provided new insights into the biological, chemical and physical bases of disease.

Rudolf Virchow and his colleagues proposed three basic principles regarding the academic and practical aspects of Social Medicine. They are as follows: (a) health of the population is a matter of direct social concern; (b) social and economic conditions have an important effect on health, disease and the practice of medicine, and these relations must be subjected to scientific investigation; and (c) steps must be taken to promote health and to combat disease, and the measures involved in such activities must be social as well as medical. These prin-

ciples have been retained until now, with no fundamental changes, even while being adapted to different societies and conditions over an extended period of time.

Social Medicine as a scientific medical discipline was established by Alfred Grotjahn (1862-1931), general practitioner in the workmen districts of Berlin who studied the relations between diseases and social living conditions. The results of his studies formed the base of a new branch – "Social Pathology", later called "Social Hygiene".

In the Czech medical society, Social Medicine emerged for the first time during the Fourth Conference of the Czech Natural Scientists and Medical Doctors (1908). The topics of that section were health insurance, social care, hospital care, children care, protection of the motherhood, and the fight against tuberculosis. The chairman of the above mentioned section, František Procházka (1864-1934), was later to become the first Czech university professor of Social Medicine. In one of his books (1925), he presented Social Medicine as a "sum of all health needs of social care".

The second Czech professor of Social Medicine, František Hamza (1868-1930) was I in a considerably advance of his time. He founded a sanatorium for children suffering from tuberculosis in Luž in 1900. He was the head of a department of the Ministry of Health (1919-1922) and also published the book "The Cogitation on Social health Care" (1921). He founded the Institute of Social Medicine at the Masaryk University in Brno in 1922 and became its first head.

The first modern textbook of Social Medicine was written by Hynek Pelc (1895-1942) in 1937.

Social Medicine being closely connected with the social and political life was in a difficult situation in Czechoslovakia after World War II with the Soviet pattern of the health care system implemented in health governance. Social Medicine as science was, however, still oriented on people's health and on a systemic approach in health care.

Nowadays, Social Medicine has to cope with many new problems that emerged in this period of political, economic, and social development. Every country needs specialists with good professional qualification in biostatics, epidemiology, health economy, health legislation and health management. Social Medicine is an important part of the medical curriculum and a Social Medicine course is offered at many medical schools in European countries.

Today, technical sophistication of modern medicine is no more a sufficient answer to everyday common health ailments of the whole population. Great efforts need to be made to promote sustainable health for the entire population. Social, economic and organizational aspects of health and disease have been accorded a new priority. That's why Social Medicine is an important part of scientific and political health strategy for 21st century.

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2 HEALTH AND DISEASE

2.1 HEALTH

Health of the people is not only the concern of health care providers. It is also the responsibility of individuals, families, and the community, their duty to identify and solve their own health problems through their active participation. Health is a social, economic and political issue and, above all, a fundamental human right. Inequality, poverty, exploitation, violence, and injustice are at the root of ill-health.

Health is no longer given in advance, it is produced, maintained, and enhanced. To be a passive and compliant patient who follows the physician's instructions is no longer sufficient. Enabling people to have control over their health and its determinants strengthens communities and improves lives. Without people's active involvements, many opportunities to promote and protect their health and increase their well-being get lost.

The World Health Organization described health in 1948, in the preamble to its constitution as **a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity**. At that time this formulation was ground-breaking because of its breadth and ambition. It overcame the negative definition of health as absence of disease and included the physical, mental, and social domains. Although the definition has been criticised over past seventy years, it has never been adapted.

There are, of course, a lot of other definitions of health, for example:

- Health is a state characterized by anatomic, physiologic, and psychologic integrity; by the ability to personally perform valued roles in family, at work, and in community; by the ability to deal with physical, biologic, psychologic, and social stress; by the feeling of well-being; and by the freedom from the risk of disease and of an untimely death.
- Health is a dynamic condition resulting from the body's constant adjustment and adaptation in response to stresses and changes occurring in the environment aimed at maintaining an inner equilibrium called homeostasis.
- Health is primarily a measure of each person's ability to do and become what the person wants to become.
- Health is seen as a resource for everyday life, not the objective of living. Health is a positive concept emphasizing social and personal resources as well as physical capacities. Health promotion is, therefore, not just the responsibility of the health sector but it goes beyond healthy lifestyles and well-being.