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# Planning and Managing Health Systems

## Learning Objectives

Upon completion of this chapter, the student should be able to:

1. Define the role of management at all levels of health service and public health organization;
2. Apply management theory to health planning and the New Public Health;
3. Continue preparation for leadership roles in health service organizations.

## INTRODUCTION

Health systems are complex organizations and their management is an important concept in the New Public Health. Health is a major sector of any economy and often employs more people in the industrialized countries than any other industry. Health has complex networks of services and provider agencies, including funding through public or private insurance or through national health service systems. Whether insurance is provided by the state or through private and public sources combined, skilled management is required at the macro- or national and the micro- or local level, including the many institutions that make up the system. Management training of public health professionals and clinical services personnel is a requisite and not a luxury.

Planning and management are changing in the era of the New Public Health with advances in prevention and treatment of disease, population health needs, innovative technologies such as genetic engineering, new immunizations that prevent cancers and infectious diseases, prevention of non-communicable diseases, environmental and nutritional health, and health promotion to reduce risk factors and improve healthful living for the individual and the community. Modern and successful public health also must address social, economic, and community determinants of health and the promotion of public policies and individual behaviors for health and well-being. The social capital and norms that promote cooperation among people are the basis of a “civil society” (i.e., the totality of voluntary, civic, and social organizations and institutions of a functioning society alongside the structures of governmental and commercial institutions). Health systems are ideally knowledge- and evidence-based in using technologies

available in medicine and the environment to promote the health and well-being of a population, including security against the effects of threatened terrorism, growing social isolation, and inequities in health. Management in health can learn much from concepts of business management that have evolved to address the economic and human resource aspects of a health system at the macrolevel or an individual unit of service at the microlevel.

The New Public Health is not contained within one organization, but rather reflects the collective efforts of national, state, regional, and local governments, many organizations in the public and non-governmental sectors, and finally efforts of individual or group advocates and providers and the public itself. The political level is crucial for adequate funding, legislation, and promotion of health-oriented policy positions and in public health management. The responsibility for health management is shared across all parts of society, including individuals, communities, business, and all levels of government.

The New Public Health identifies and addresses community health risks and needs. Planning is critical to the process of keeping a health system sustainable and adaptable and in creating adequate responses to new health threats. Monitoring, measurement, and documentation of health needs are vital to design and adapt an effective program and to measure impact. Data on the targeted issues must be accessible while protecting individual privacy.

Health is a hugely expensive and expansive complex of services, facilities, and programs provided by a wide range of professional and support service personnel making up one of the largest employers of any sector in a developed country. Services are increasingly delivered by organized groups of providers. But all health systems operate in an environment of economic constraints, imposing a need to seek efficiency in the use of resources. How organizations function is of great importance not only for their economic survival, but also, and equally important, for the well-being of the clients and providers of care.

An organization is two or more people working together to achieve a common goal. Management is the process of defining the goals and making effective use of an organization to attain those goals. Even very small units of a human organization require management. Management of human resources is vital to the success of an organization, whether in a production or service industry. Health systems may

vary from a single structure to a network of many organizations. No matter how organizations are financed or operated, they require management.

Management in health care has much to learn from approaches to management in other industries. Elements of theories and practices of profit-oriented sector management can be applied to health services even if they are operated as non-profit enterprises. Physicians, nurses, and other health professionals will very likely be involved in the management of some part of the health care system, whether a hospital department, a managed care system, a clinic, or even a small health care team. At every level, management always means working with people, using resources, providing services, and working towards common objectives.

Health providers require preparation in the theory and practice of management. A management orientation can help providers to understand the wider implications of clinical decisions and their role in helping the health care system to achieve goals and targets. Students and practitioners of public health need preparation in order to recognize that a health care system is more complex than the direct provision of individual services. Similarly, policy and management personnel need to be familiar with both individual and population health needs and related care issues.

## HEALTH POLICY AND PLANNING AS CONTEXT

Health has evolved from an individual one-on-one service to complex systems organized within financing arrangements, mostly under government auspices. As a governmental priority, health may be influenced by political ideology, sometimes reflecting societal attitudes of the party in power and sometimes apparently at odds with its general social policy. Following Bismarck's introduction in Germany in 1881 of national health insurance for workers and their families, funded by both workers and their employers, most countries in the industrialized world introduced variants of this national health plan. Usually, this has been at the initiative of socialist or liberal political leadership, but conservative political parties have preserved national health programs once implemented. Despite the new conservatism since the 1990s with its pre-eminent ideology of market forces, the growing roles for national, state, and local authorities in health have led to a predominantly government role in financing and overall responsibility for health care, even where there is no universal national health system, as in the USA. The UK's National Health Service (NHS), initiated by a Labour government in 1948, has survived through many changes of government, including the conservative Margaret Thatcher period in which many national industries and services were privatized.

Health policy is a function of national (government) responsibility overall for health, but implementation is

formulated and met at state, local, or institutional levels. The division of responsibilities is not always clear cut but needs to be addressed and revised both professionally and politically within constitutional, legal, and financial constraints. Selection of the direction to be taken in organizing health services is usually based on a mix of factors, including the political view of the government, public opinion, and rational assessment of needs as indicated through epidemiological data, cost-benefit analysis, the experience of "good public health practice" from leading countries, and recommendations by expert groups. Lobbying on the part of professional or lay groups for particular interests they wish to promote is part of the process of policy formulation and has an important role in the planning and management of health care systems. There are always competing interests for limited resources of funding, by personnel within the health field itself and in competition with other demands outside the health sector.

The political level is vitally involved in health management in establishing and maintaining national health systems, and in determining the place of health care as a percentage of total governmental budgetary expenditures, in allocating funds among the competing priorities. These competing priorities for government expenditures include defense, roads, education, and many others, as well as those within the health sector itself. Traditionally, there are competing priorities between the hospital and medical sector and the public health and community programs sector. A political commitment to health must be accompanied by allocation of resources adequate to the scope of the task. Thus, health policy is largely determined by societal priorities and is not a prerogative of government, health care providers, or any institution alone.

As a result of long struggles by trade unions, advocacy groups, and political action, well-developed market economies have come to accept health as a national obligation and essential to an economically successful and well-ordered society. This realization has led to the implementation of universal access systems in most of the industrialized countries. Once initiated, national health systems require high levels of resources, because the health system is labor intensive with relatively high salaries for health care professionals. In these countries, health expenditures consume between 7 and nearly 18 percent of gross domestic product (GDP). Some industrialized countries, notably those in the former Soviet bloc, lacking mechanisms for advocacy, including consumer and professional opinion, tended to view health with a political objective of social benefits, and also as a "non-productive" consumer of resources rather than a producer of new wealth. As a result, budget allocations and total expenditures for health as a percentage of GDP were well below those of other industrialized countries (Figure 12.1). Salaries for health personnel in the Semashko system were low compared to industrial workers

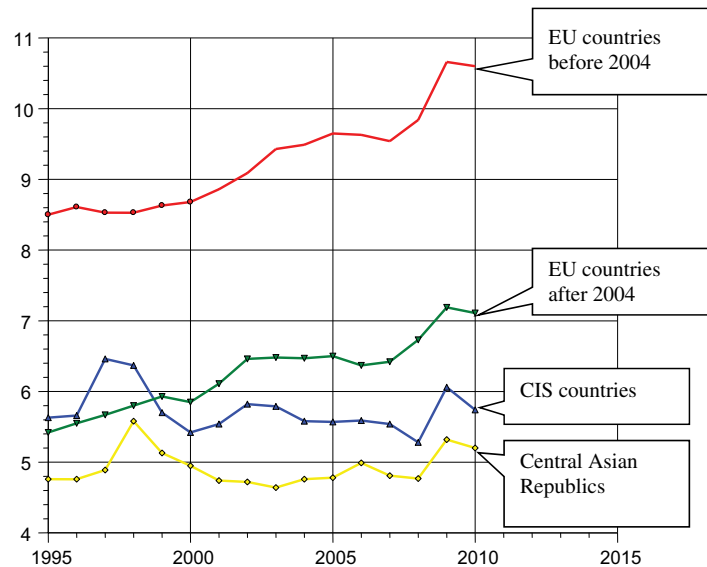


FIGURE 12.1 Total health expenditure as percentage of gross domestic product (GDP), World Health Organization estimates.

in the “productive” sectors. Furthermore, industrial policy did not promote modern health-related industries, compared to the military or heavy industrial sectors.

The former socialist countries of Eastern Europe which have joined the European Union (EU) have gradually increased allocation to health from 5.44 percent of GDP in 1995 to 7.1 percent in 2010, while the pre-2004 members of the EU increased their expenditures from 8.5 percent of GDP to 10.6 percent. The average spend in the Commonwealth of Independent States (Russia, Ukraine, and others) increased from 5.6 percent in 1995 to 5.74 percent in 2010, and in the Central Asian Republics (Kazakhstan, Uzbekistan, and others) from 4.8 percent in 1995 to 5.2 percent in 2010 (WHO Health for All database, January 2013). However, Russian health expenditure in 2011 was still only 6.2 percent of GDP and there is a lingering idea of health being a non-productive investment. The developing countries generally spend under 4 percent of GNP on health, because health is addressed as a relatively low political priority, and they depend very much on international donors for even the most basic of public health programs such as immunization.

Financing of health care and resource allocation requires a balance among primary, secondary, and tertiary care. Economic assessment, monitoring, and evaluation are part of determining the health needs of the population. Regulatory agencies are responsible for defining goals, priorities, and objectives for resulting services. Targets and methods of achieving them provide the basis for implementation and evaluation strategies. Planning requires written plans that include a statement of vision, mission objectives, target strategies, methods, and coordination during the implementation. Designation and evaluation of responsibilities, resources to be committed, and

participants and partners in the procedure are part of the continuous process of management.

The dangers of taking a “wrong” direction may be severe, not only in terms of financial costs, but also in terms of high levels of preventable morbidity and mortality. Health policy is often as imprecise a science as medicine itself. The difference is that inappropriate policy can affect the lives and well-being of very large numbers of people, as opposed to an individual being harmed by the mistake of one doctor. There may be no “correct” answer, and there are numerous controversies along the path. Health policy remains more an “art” than the more quantitative and seemingly precise field of health economics. Societal, economic, and cultural factors as well as personal habits have long been accepted as having an important impact on vulnerability to coronary heart disease. But other factors such as the degree of control over one’s life, as suggested in studies of British civil servants, religiosity, and the effects of migration on families left behind are part of the social gradients and inequalities seen in many disease entities, with consequent excess morbidity and mortality in some contexts, such as in Russia and Ukraine.

Health policy, planning, and management are interrelated and interdependent. Any set goal should be accompanied by planning how to attain it. A policy should state the values on which it is based, as well as specify sources of funding, planning, and management arrangements for its implementation. Examination of the costs and benefits of alternative forms of health care helps in making decisions as to the structure and the content of health care services, both internal structures (within one organization) and external linkages (intersectoral cooperation with other organizations). The methods chosen to attain the goals become the applied health policy.

The World Health Organization's (WHO's) 1977 Health for All strategy was directed at the political level and intended to increase governmental awareness of health as a key component of overall development. To some degree it succeeded despite its expansive aspirations, and even after nearly 40 years, its objectives remain worthwhile even in well-developed health systems. Within health, primary care was stressed as the most effective investment to improve the health status of the population. In 1993, the World Bank's *World Development Report* adopted the Health for All strategy and promoted the view that health is an important investment sector for general economic and social development. However, economic policies promoting privatization and deregulation in the health sector threaten to undermine this larger goal in countries with national health systems.

In the USA, major steps are being taken to increase coverage of health insurance for all as the number of uninsured Americans declined from 50 million people uninsured in 2010 to 48.6 million in 2011, edging down from 16.3 to 15.7 percent of the total population. Further decline in the uninsured population is expected as the Patient Protection and Affordable Care Act (PPACA, or "Obamacare") comes into effect in the coming years, bringing many millions of Americans into health insurance and meeting federal standards of fair practices such as eliminating exclusion for pre-existing conditions by private insurers. The PPACA comes into effect on 1 January 2014 and will guarantee coverage for pre-existing conditions, and ensure that premiums cannot vary based on gender or medical history. It will subsidize the cost of coverage, and new state-based health insurance exchanges will help consumers to find suitable policies. It will introduce many preventive care measures into public and private insurance plans, and will promote efficiencies in the health systems including reduction in fraudulent claims and wasteful funding systems. All of this will require skilled management in the components of the health system (see Chapters 10 and 13).

In the New Public Health, health promotion, preventive care, and clinical care are all part of public health because the well-being of the individual and the community requires a coordinated effort from all elements of the health spectrum. Establishing and achieving national health goals require planning, management, and coordination at all levels. The achievement of health advances depends on organizations and structured efforts to reach health goals such as those defined above, and more recently by the United Nations (UN) in the Millennium Development Goals (MDGs) (see Chapter 2), and requires some understanding of organizations and how they work.

## THE ELEMENTS OF ORGANIZATIONS

The study of organizations developed within sociology, but has gradually become a multidisciplinary activity involving

many other professional fields, such as economics, anthropology, individual and group psychology, political science, human resources management, and engineering. Organizations, whether in the public or private sector, exist within an external environment, and utilize their own structure, participants, and technology to achieve goals. For an organization to survive and thrive, it must adapt to the physical, social, cultural, and economic environment.

Organizations participating in health care establish the connection between service providers and consumers, with the goal of better health for the individual and the community. The factors for this include legislation, regulation, professionalism, instrumentation, medications, vaccines, education, and other modalities of intervention for prevention and treatment. The social structure of an organization may be formal (structured stability), natural (groupings reflecting common interests), or open (loosely coupled, interacting, and self-adjusting systems to achieve goals).

Formal systems are deliberately structured for the purposes of the organization. Natural systems are less formal structures where participants work together collaboratively to achieve common goals defined by the organization. Open systems relate elements of the organization to coalitions of partners in the external environment to achieve mutually desirable goals. In the health system, structures should focus on prevention and treatment of disease and improvement in health and well-being of society. The social structure of an organization includes values, norms, and roles governing the behavior of its participants.

Government, business, or service organizations, including health systems, require organizational structures, with a defined mission and set of values, in order to function. An organizational structure needs to be tailored to the size and complexity of the entity and the goals it wishes to achieve. The structure of an organization is the way in which it divides its labor into distinct tasks and coordinates them. The major organizational models, which are not mutually exclusive and may indeed be complementary, are the pyramidal (bureaucratic) and network structures. The bureaucratic model is based on a hierarchical chain of command with clearly defined roles. In contrast, the matrix or network organization brings together professional or technical people to work on specific programs, projects, or tasks. Both are vital to most organizations to meet ongoing responsibilities and to address special challenges.

## SCIENTIFIC MANAGEMENT

Some classic organization theory concepts help to set the base for modern management ideas as applied to the health sector. *Scientific management* was pioneered by Frederick Winslow Taylor (1856–1915). His work was pragmatic and based on empirical engineering, developed in observational studies carried out for the purpose of increasing worker,

and therefore system, efficiency. Taylor's industrial engineering studies of scientific management were based on the concept that the best way to improve worker productivity was by designing improved techniques or methods used by workers. This theory viewed workers as instruments to be manipulated by management, and assumed that efficient, rationally planned methods would produce better industrial results and industrial peace as the tasks of managers and workers would be better defined.

Time and motion studies analyzed work tasks to seek more efficient methods of work in factories. Motivation of workers was seen to be related to payment by piecework and economic self-interest to maximize productivity. Taylor sought to improve the productivity of each worker and to make management more efficient in order to increase earnings of employers and workers. He found that the worker was more efficient and productive if the worker was goal oriented rather than task oriented. This approach dominated organization theory during the early decades of the twentieth century.

Resistance to Taylor's ideas came from both management and labor; the former because it seemed to interfere with managerial prerogatives and the latter because it expected the worker to function at top efficiency at all times. However, Taylor's work had a lasting influence on the theory of work and organizations.

## BUREAUCRATIC PYRAMIDAL ORGANIZATIONS

The traditional pyramidal bureaucratic organization is classically seen in the military and civil services, but also in large-scale industry, where discipline, obedience, and loyalty to the organization are demanded, and individuality is minimized. This form of organization was analyzed by sociologist Max Weber between 1904 and 1924. Leadership is assigned by higher authority, and is presumed to have greater knowledge than members lower down in the organization. This form of organization is effective when the external and internal environments, the technology, and functions are relatively well defined, routine, and stable.

The pyramidal system (Figure 12.2) has an apex of policy and executive functions, a middle level of management personnel and support staff, and a base of the people who produce the output of the organization. The flow of information is generally one way, from the bottom to the top level, where decisions are made for the detailed performance of duties at all levels. Lateralizing the information systems so that essential data can be shared to help staff at the middle and field or factory-floor levels of management is generally discouraged because this may promote decentralized rather than centralized management. Even these types of organization have increasingly come to emphasize small-group loyalty, leadership initiative, and self-reliance.

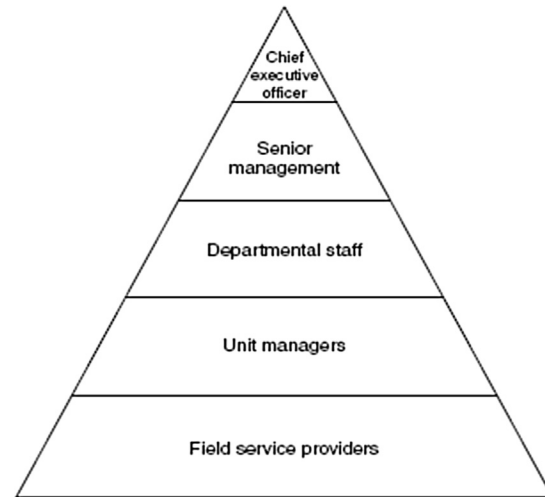


FIGURE 12.2 Pyramid structure of organizations.

The bureaucratic organization has the following characteristics:

- There is a fixed division of labor with a clear jurisdiction and based on assignments, which are subject to change by the leader.
- There is a hierarchy of offices, with each lower functionary controlled and supervised by a higher one.
- A documented, stable set of rules governs decisions and actions.
- Property and rights belong to the office, not the person in the office.
- Officials are selected on the basis of qualifications; salaries and benefits are based on technical competencies.
- Employment is viewed as a tenured career for officials, after an initial trial period.

The bureaucratic system, based on formal rationality, structure, and discipline, is widely used in production, service, and governmental agencies, including military and civilian departments and agencies.

## ORGANIZATIONS AS ENERGY SYSTEMS

Health systems, like other organizations, are dynamic and require continuous management, adjustment, and systems control. Continuous monitoring and feedback, evaluation, and revision help to meet individual and community needs. The input–process–output model (Figure 12.3) depends on feedback systems to make the administrative or educational changes needed to keep moving towards the selected objectives and targets.

Organizations use resources or inputs that are processed to achieve desired results or outputs. The resource inputs are money, personnel, information, and supplies. Process is the accumulation of all activities taken to achieve the results intended. Output, or outcome, is the product, its marketing,

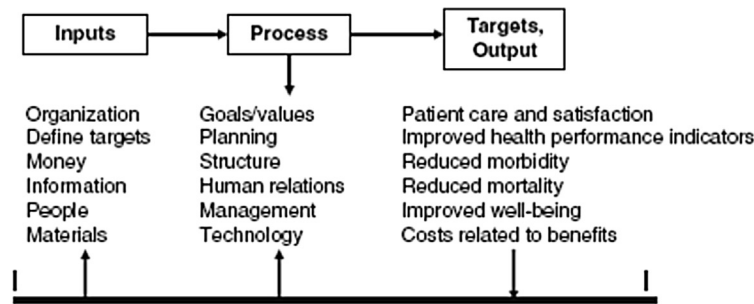


FIGURE 12.3 Organizations as energy systems.

its reputation and quality, and profit. In a service sector such as health, output or impact can be measured in terms of reduced morbidity and/or mortality, improved health, or number of successfully treated and satisfied patients at affordable costs. The management system provides the resources and organizes the process by which it hopes to achieve the established goals.

Program implementation requires systematic feedback for the process to work effectively. When targets are set and strategy is defined, resources, whether new or existing, are placed at the service of the new program. Management is then responsible for using the resources to achieve the intended targets. The results are the outcome or output measures, which are evaluated and fed back to the input and process levels.

Health systems consist of many subsystems, each with an organization, leaders, goals, targets, and internal information systems. Subsystems need to communicate within themselves, with peer organizations, and with the macro (health) system. Leadership style is central to this process. The surgeon as the leader of the team in the operating room depends on the support and judgment of other crucial people on the team, such as anesthesiologists, operating room nurses, pathologists, radiologists, and laboratory services, all of whom lead their own teams. Hospital and public health directors cannot function without a high degree of decentralized responsibility and a creative team approach to quality development of the facility.

Health systems management includes analysis of service policy, budget, decision-making in policy, as well as operation, regulation, supervision, provision, maintenance, ethical standards, and legislation. Policy formulation involves a set of decisions made in pursuit of a course of action for achieving selected health targets, such as those in the MDGs or continuing to update *Healthy People 2020* health targets in the USA (see Chapter 2).

## Cybernetics and Management

*Cybernetics*, a term coined by Norbert Wiener, refers to systems or organizations which are dependent on each other to function, and whose interdependence requires flexibility of

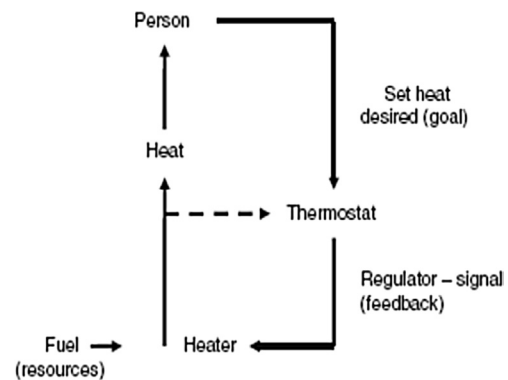


FIGURE 12.4 Cybernetic feedback control organization.

response. Cybernetics gained wide credence in engineering in the early 1950s, and feedback systems became part of standard practice of all modern management systems. Its later transformations appeared in operating service systems, as information for management. Application of this concept is entering the health sector. Rapid advances in computer technology, by which personal computers have access to Internet systems and large amounts of data, have already enhanced this process. In mechanistic systems, the behavior of each unit or part is constrained and limited; in organic systems, there is more interaction between parts of the system. The example used in Figure 12.4 is the use of a thermostat to control the temperature and function of a heater according to conditions in the room. This is also described as a feedback system.

Cybernetics opens up new vistas on the use of health information for managing the operation of health systems. A database for each health district would allow assessment of current epidemiological patterns, with appropriate comparisons to neighboring districts or regional, state, and national patterns.

Data would need to be processed at state or national levels in comparable forms for a broad range of health status indicators. Furthermore, the data should be prepared for online availability to local districts in the form of current health profiles. Thus, data can be aggregated and disaggregated to meet the management needs of the service, and

may be used to generate real targets and measure progress towards meeting them. A geographic information system may demonstrate high rates of a disease in a region due to local population risk factors, and thus become the basis for an intervention program.

In the health field, the development of reporting systems based on specific diseases or categories has been handicapped by a lack of integrative systems and a geographic reporting approach. The technology of computers and the Internet should be used to process data systems in real time and in a more user-friendly manner. This would enable local health authorities and providers to respond to actual health problems of the communities.

Health is a knowledge-based service industry, so that knowledge management and information technology are extremely important parts of the New Public Health, not only in patient care systems in hospitals, but also in public health delivery systems in the community, school, place of work, and home. Mobilization of evidence and experience of best practices for policies and management decision-making is a fundamental responsibility of health leaders. The gap between information and action is wide and presents an ethical as well as a political challenge. Regions with the most severe health problems lack trained personnel in assessment and exploitation of current state-of-the-art practices and technology in many practical public health fields, including immunization policy and in management of risk factors for stroke.

Knowledge and evidence are continuously evolving, but the capacity to access and interpret information is commonly poorly implemented in many countries so that very large numbers of people die of preventable diseases even when there are, overall, sufficient resources to address the challenges. International guidelines are vital to help countries to adopt current standards and make use of the available knowledge for public policy. Political support and openness to international norms are crucial to this process of technology diffusion and building the physical and human resource infrastructure needed to achieve better population health with current best practices. Development of health standards in low-income countries is progressing but is seriously handicapped by low levels of funding, lack of emphasis on training sufficient and appropriate human resource personnel and administrative support to promote measures which can save millions of lives. In high-income countries, the slow adoption of best international health standards can have harsh effects on population health, such as in the long delay in adopting national health insurance in the USA. In the European context, the EU has failed to adopt a harmonized recommended immunization program, which is badly needed for the new and potential members, as well as the older member countries. In countries of the former socialist bloc, mortality rates from stroke and coronary heart disease are slowly declining but remain two to

four times higher than in countries of Western Europe (see Chapter 5). Systems management requires access to and the use of knowledge to bridge these gaps.

Adoption and adaptation of knowledge to address local problems are essential in a globalized world, if only to prevent the international spread of threatened pandemics or adoption of unhealthy lifestyles (diet, smoking, and lack of exercise) to middle-income countries, which are developing a growing middle class alongside massive poverty. The application of knowledge and experience that has been successful in leading countries can foster innovation and create experience that may generate a local renewal process. Management is crucial to address the complex “strategy areas for improving performance of health organizations: standards and guidelines, organizational design, education and training, improved process, technology and tool development, incentives, organizational culture, and leadership and management” (Bradley et al., 2012). Managing a knowledge-based service industry or facility relies on leadership, collaboration to realize the potential of technology, professional skills, and social capital to the address the health problems faced by all countries.

## TARGET-ORIENTED MANAGEMENT

The management of resources to achieve productivity and measurable success has been characterized and accompanied by the development of systems of organizing people to create solutions to problems or to innovate towards defined objectives.

### Operations Research

Operations research is a concept developed by British scientists and military personnel in search of solutions for specific problems of warfare during World Wars I and II. The approach was based on the development of multidisciplinary teams of scientists and personnel. The development of the Anti-Submarine Detection Investigation Committee for underwater detection of submarines during World War I characterized and pioneered this form of research. The famous Bletchley Park Enigma code-breaking success in Britain and the Manhattan Project, in which the USA assembled a powerful research and development team which produced the atomic bomb, are prime World War II examples.

Team- and goal-oriented work was very effective in problem solving under the enormous pressure of wartime needs. It also influenced postwar approaches to developmental needs in terms of applied science in such areas as the aerospace and computer industries. The computer hardware and software industries are characterized by innovation conceived and developed through informal working groups with a high level of individual competence, peer group



dynamism, and commitment to problem solving. Thus, the “nerds” of Macintosh and Microsoft beat the “suits” of IBM in innovation and introduction of the personal computer. Similar startup groups, such as Google and Facebook, successfully took the Internet to startling new levels of global applications, showing the capacity of innovation from California’s Silicon Valley and its counterparts in other places in the USA and worldwide.

In the health field, innovation in organization developed prepaid group practice which became the health maintenance organization (HMO), and later the managed care organization (MCO), now a major, if controversial, factor in health care provision in the USA. Other examples may be found in multidisciplinary research teams working on vaccines or pharmaceutical research, and in the increasingly multidisciplinary function of hospital departments and especially highly interdependent intensive care or home care teams.

### Management by Objectives

The business concept of management by objectives (MBO), pioneered in the 1960s, has become a common theme in health management. MBO is a process whereby managers of an enterprise jointly identify its goals, define each individual’s areas of responsibility in terms of the results expected, and use these measures as guides for operating the unit and assessing the contributions of its members.

The common goals and then the individual unit goals must be established, as well as the organizational structure developed to help achieve these goals. The goals may be established in terms of outcome variables, such as defined targets for reduction of infant or maternal mortality rates. Goals may also be set in terms of intervening or process variables, such as achieving 95 percent immunization coverage, prenatal care attendance, or screening for breast cancer and mammography. Achievements are measured in terms of relevancy, efficiency, impact, and effectiveness.

The MBO approach has been subject to criticism in the field of business management because of its stress on mechanical application of quantitative outcome measures and because it ignores the issue of quality. This approach had great influence on the adoption of the objective of “Health for All” by the WHO, and on the US Department of Health and Human Services’ 1979 health targets for the year 2000, later as Healthy People 2010, and now, based on these experiences and new evidence, renewed as Healthy People 2020. Targeting diseases for eradication may contribute to institution building by developing experience and technical competence to broaden the organizational capacity.

However, categorical programs or target-oriented programs can detract from the development of more comprehensive systems approaches. Addressing the MDGs of reducing child and maternal mortality is at odds to some extent with targeting poliomyelitis for eradication and

reliance on national immunization days, which distract planning and resource allocation for the buildup of the essential public health infrastructure for the basic immunization system so fundamental to child health. Immunization and human immunodeficiency virus (HIV) control draw the major part of donor resources in developing countries, while education for strengthening human resources and infrastructure draw less donor attention. A balance between comprehensive and categorical approaches requires very skilled management. The MDGs agreed to by the UN in 2001 as targets for the year 2015 provide a set of measurable objectives and a formula for international aid and for national development planning to help the poorest nations, with the wealthy nations providing aid, education, debt relief, and economic development through fairer trade practices. They are now being reviewed for extension to 2020 based on experience to date, with successes and failures, and recognizing the vital importance of non-communicable diseases as central to the health burden of low- and middle-income countries.

### HUMAN RELATIONS MANAGEMENT

Management is the activity of coordinating and integrating organizational resources, including people, money, materials, time, and space. The purpose is to achieve defined/stated objectives as effectively and efficiently as possible. Whether in terms of producing goods and profits or in delivering services effectively, management deals with human motivation and behavior because workers are the key to achieving goals. Knowledge and motivation of the individual client and the community are also essential for achieving good health. Thus, management must take into account the knowledge, attitudes, beliefs, and practices of the consumer as much as or more than those of the people working within the system, as well as the general cultural and knowledge level in the society, as reflected in the media, political opinions, and organizations addressing the issues.

Management, like medicine, is both a science and an art. The application of scientific knowledge and technology in medicine involves both theory and practice. Similarly, management practice involves elements of organizational theory, which, in turn, draws on the behavioral and social sciences and quantitative methodologies. Sociology, psychology, anthropology, political science, history, and ethics contribute to the understanding of psychosocial systems, motivation, status, group dynamics, influence, power, authority, and leadership. Quantitative methods including statistics, epidemiology, survey methods, and economic theory are also basic to development of systems concepts. Comparative institutional analysis helps principles of organization and management to develop, while philosophy, ethics, and law are part of understanding individual and group value systems.

Organizational theory, a relatively new discipline in health, as an academic study of organizations, addresses health-related issues using the methods of economics, sociology, political science, anthropology, and psychology. The application of organizational theory in health care has evolved and become an integral part of training for, and the practice of, health administration. Related practical disciplines include human resources, and industrial and organizational psychology. Translation of organizational theory into management practice requires knowledge, planning, organization, mobilization of professional and other staff support for evidence-based best practices, assembly of resources, motivation, monitoring and control. Health organizations have become more complex and costly over time, especially in their mix of specializations in science, technology, and professional services.

Organization and management are particularly crucial for successful application of the principles of the New Public Health, as it involves integration of traditionally separate health services. Delegation of responsibilities in health systems, such as in intensive care units, is fundamental to success in patient care, with nurses taking increasing responsibility for the management of the severely ill patient suffering from multiple system failure. Delegation or devolution of health care responsibilities to non-medical practitioners has been an ongoing development affecting nurse practitioners, physician assistants, paramedics, community health workers and others, as discussed in Chapter 14. It is a vital process to provide needs not met by physicians because of shortages and inappropriate location or specialty preferences that leave primary care or other medical specialties unable to meet community and patient needs.

### The Hawthorne Effect

Elton Mayo of the Harvard School of Business carried out a series of observational studies at the Hawthorne, Illinois, plant of the Western Electric Company between 1927 and 1932. Mayo and his industrial engineer, along with psychologist colleagues, made a major contribution to the development of management theory. Mayo began with industrial engineering studies of the effect of increased lighting on production at an assembly line. This was followed by other improvements in working conditions, including reduced length of the working day, longer rest periods, better illumination, color schemes, background music, and other factors in the physical environment. These studies showed that production increased with each of these changes and improvements. However, the researchers discovered, to their surprise, that production continued to increase when the improvements were withdrawn. Furthermore, in a control group where conditions remained the same, productivity also grew during the study period. These results led Mayo to conclude that the performance of workers

improved because of a sense that management was interested in them, and that worker participation contributes to improved production.

Traditionally, industrial management viewed employees as mechanistic components of a production system. Previous theory was that productivity was a function of working conditions and monetary incentives. What came to be known as the Hawthorne effect showed the importance of social and psychological factors on productivity. Formal and informal social organizations among management and employees were recognized as key elements in productivity, now called *industrial humanism*. Research methods adapted from the behavioral sciences contributed to scientific studies in industrial management. Traditional theories of the bureaucratic model of organization and management were modified by the behavioral sciences. This led to the emergence of the systems approach, or scientific analysis to analyze complex structures or organizations, taking into account the mutually interdependent elements of activities, interactions, and interpersonal relationships between management and workers.

Some revisits to the Hawthorne studies suggest that the data do not support the conclusions, and offer a different interpretation. One is that informal groups such as workers on a production line themselves set standards for work which assert an informal social control outside the authority system of the organization. The informal cohesive group can thus control the norms of the amount of work acceptable to the group, i.e., not “too much” and not “too little”. Others point out that the effects were temporary and that there were extraneous factors, but the added value of the Hawthorne effect remains part of the history of and had a culture-changing effect on management theory.

The Hawthorne effect in management is in some ways comparable to the placebo effect in clinical research and health care practice. It is also applied to clinical practice, whereby medical care provided by doctors is measured for specific “tracer conditions” to assess completeness of care according to current clinical guidelines. Review of clinical records has been shown to be a factor in improving performance by doctors in practice, such as in treatment of acute myocardial infarction, management of hypertension, or completeness of carrying out preventive procedures such as screening for cancer of the cervix, breast, or colon (see Chapters 3 and 15). Awareness of being studied is a factor in improved performance or response to an intervention. Studies of clinical practice-based research or public health interventions need to consider whether different types of studies and outcomes are more or less susceptible to the Hawthorne effect (Fernald et al., 2012).

### Maslow’s Hierarchy of Needs

Abraham Maslow’s hierarchy of human needs made an important contribution to management theory. Maslow

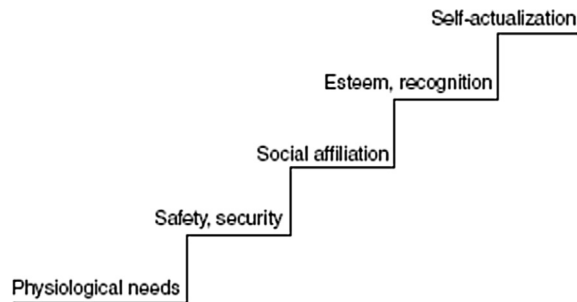


FIGURE 12.5 Maslow's hierarchy of needs.

(1908–1970) was an American psychologist, considered “the father of humanism” in psychology. Maslow defined a prioritization of human needs (Figure 12.5), starting with those of basic physical survival; at higher levels, human needs include social affiliation, self-esteem, and self-fulfillment. Others in the hierarchy include socialization and self-realization; later revisions include cognitive needs.

The survival needs of an employee include a base salary and benefits, including health insurance and pension; the safety and security needs include protection from injury, toxic exposure or excess stress; social needs at work include an identity, pride, friendships, union solidarity, company social activities and benefits; esteem and recognition include job titles, awards, and financial rewards for achievement by individuals, groups, or all employees; and self-actualization includes promotion to more challenging jobs with benefits, both financial and in terms of recognition.

This concept is important in terms of management because it identifies human needs beyond those of physical and economic well-being. It relates them to the social context of the work environment with needs of recognition, satisfaction, self-esteem, and self-fulfillment. Maslow's conclusions opened many positive areas of management research, not only in the motivation of workers in production and service industries, but also in the motivation of consumers.

Maslow's hierarchy of human needs contributed to the idea that workers' sense of well-being is important to management. His theories played an important role in application of sociological theory to client behavior, just as the topic of personal lifestyle in health became a central part of public health and clinical management of many conditions, such as in risk factor reduction for cardiovascular diseases. This concept fits well with the epidemiological studies referred to in the Introduction, such as those showing strong relationships with sociopolitical factors as well as socioeconomic conditions.

## Theory X–Theory Y

Theory X–Theory Y (Table 12.1), developed by clinical psychologist and professor of management Douglas McGregor

in the 1960s, examined two extremes in management assumptions about human nature that ultimately affect the operations of organizations. Organizations with centralized decision-making, a hierarchical pyramid, and external control are based on certain concepts of human nature and motivation. McGregor's theory, drawing on Maslow's hierarchy of needs, describes an alternative set of assumptions that credit most people with the capacity for self-direction.

Traditional approaches to organization and management stress direction and external control. Theory X assumes that workers are lazy, unambitious, uncreative, and motivated only by basic physiological needs or fear. Theory Y places stress on integration and self-control. This model provides a more optimistic leadership model, emphasizing management development programs and promoting human potential, assuming that, if properly motivated, people can be self-directed and creative at work, and that the role of management is to unleash this potential in workers with performance appraisal. Many other theories of motivation and management have been developed to explain human behavior and how to utilize inherent skills to produce a more creative work environment, reduce resistance to change, reduce unnecessary disputes, and ultimately create a more effective organization.

Variants of the human motivation approach in management carried the concept further by examining industrial organization to determine the effects of management practices on individual behavior and personal growth within the work environment. They describe two contrasting models of workforce motivation. Theory X assumes that management produces immature responses on the part of the worker: passivity, dependence, erratically shallow interests, short-term perspective, subordination, and lack of self-awareness. In contrast, at the other end of the immaturity–maturity spectrum was the mature worker, with an active approach, an independent mind capable of a broad range of responses, deeper and stronger interests, a long-term perspective, and a high level of awareness and self-control. This model has been tested in a variety of industrial settings, showing that giving workers the opportunity to grow and mature on the job helps them to satisfy more than basic survival needs and allows them to use more of their potential in accomplishing organizational goals. This model became widely influential in human resource management theory of organizational behavior, organizational communication, and organizational development, and in the practical management of business and service enterprises.

In *The Motivation to Work* (1959), US clinical psychologist Frederick Herzberg wrote of his motivation–hygiene theory. He developed this theory after extensive studies of engineers and accountants, examining what he called *hygiene factors* (i.e., administrative, supervisory, monetary, security, and status issues in work settings). His motivating factors included achievement, recognition of

**TABLE 12.1** Theory X–Theory Y

Theory X	Theory Y
Work is inherently distasteful to people	Work is as natural as play in favorable conditions
Most people are not ambitious, have little desire for responsibility, and prefer to be directed	Self-control is indispensable in achieving goals
Most people have little capacity for creatively solving organizational problems	The capacity for creativity in solving organizational problems is widely distributed in the population
Motivation occurs only at physiological and safety levels	Motivation exists at the social, esteem, and self-actualization levels, as well as the physiological and security levels
Most people must be closely controlled and often coerced to achieve organizational objectives	People can be self-directed and creative at work if properly encouraged

Source: Adapted from McGregor D. *The human side of enterprise*. New York: McGraw-Hill; 1960.

accomplishment, challenging work, and increased responsibility with personal and collective growth and development. He proved that the motivating factors had a substantial positive effect on job satisfaction.

These human resource theories of management helped to change industrial approaches to motivation from “job enrichment” to a more fundamental and deliberate upgrading of responsibility, scope, and challenge of work, by letting workers develop their own ways of achieving objectives. Even when the theories were applied to apparently unskilled workers, such as plant janitors, the workers changed from an apathetic, poorly performing group into a cohesive, productive team, taking pride in their work and appearance. This approach gave members of the team the opportunity to meet their human self-actualization needs by taking greater responsibility for problem solving, and it resulted in less absenteeism, higher morale, and greater productivity with improved quality.

Rensis Likert, with McDougal and Herzberg, helped to pioneer the “Human Relations School” in the 1960s, applying human resource theory to management systems and styles. Likert classified his theory into four different systems, as follows.

- *System 1* – Management has no confidence or trust in subordinates, and avoids involving them in decisions and goal setting, which are made from the top down. Management is task oriented, highly structured, and authoritarian. Fear, punishment, threats, and occasional rewards are the principal methods of motivation. Worker–management interaction is based on fear and mistrust. Informal organizations within the system often develop that lead to passive resistance of management and are destructive to the goals of the formal organization.
- *System 2* – Management has a condescending relationship with subordinates, with some degree of trust and confidence. Most decisions are centralized, but some decentralization is permitted. Rewards and punishments

are used for motivation. Informal organizations become more important in the overall structure.

- *System 3* – Management places a greater degree of trust and confidence in subordinates, who are given a greater degree of decision-making powers. Broad policy remains a centralized function.
- *System 4* – Management is seen as having complete confidence in subordinates. Decision-making is dispersed, and communication flows upward, downward, and laterally. Economic rewards are associated with achieving goals and improving methods. Relationships between management and subordinates are frequent and friendly, with a sense of teamwork and a high degree of mutual respect.

Case studies showed that a shift in management from Likert system 1 towards system 4 radically changed the performance of production, cut manufacturing costs, reduced staff turnover, and increased staff morale. Furthermore, workers and managers both shared a concern for the quality of the product or service and the competitiveness and success of their business. The health industry includes highly trained professionals and paraprofessional workers who function as a team with a high degree of cohesion, mutual dependence, and autonomy, such as a surgical or an emergency department team.

## NETWORK ORGANIZATION

The network, or task-oriented working group, is basically a more democratic and participatory form of organization meant to elicit free interchange of concerns and ideas. This is a more organic form of organization, best suited to be effective for adaptation when the environment is complex and dynamic, when the workforce is largely professional, and when the technology and system functions change rapidly. Complexities and technological change require information, expertise, flexibility, and innovation, strengths best promoted in free exchange of ideas in a mutually stimulating environment.

In a network organization, leadership may be formal or informal, assigned to a particular function, which may be temporary, medium term, or permanent, to achieve a single defined task or develop an intersectoral program. The task force is usually for a short-term specific assignment; a working group, often for a medium-term project, such as integrating services of a region; and a committee for permanent tasks such as monitoring an immunization program.

Significant advantages of this form of organization are the challenge and the sharing of information and responsibility, which give professionals responsibility and job satisfaction by providing the opportunity to demonstrate their creativity. Members of the task force may each report within their own pyramidal structure, but as a group they work to achieve the assigned objective. They may also be interdisciplinary or interagency working groups to review the state of the art in this particular issue as documented in reports and professional literature, and to coordinate activities, review previous work, or plan common future activities.

An ongoing network organization may be a government cabinet committee to coordinate government policy and the work of various government departments, or a joint chiefs of staff to coordinate the various armed services. This approach is commonly used for task groups wherein interdisciplinary teams of professionals meet to coordinate functions of a department in a hospital, or where a multidisciplinary group of experts is established with the specified task of a technical nature.

Network organizational activity is part of the regular functions of a health professional. Informal networking is a day-to-day activity of a physician in consultations with colleagues and also a part of more formalized network groups. The hospital department must, to a large extent, function as a network organization with different professionals working as a team more effectively than would be possible in a strictly authoritarian pyramidal model. A ministry of health may need to develop a joint working group with the ministry of transport, the police, and those responsible for standards of motor vehicles to seek ways to reduce road accident deaths and injuries. If a measles eradication project is envisioned, a multidisciplinary and multiorganizational team, or a network, should be established to plan and carry out the complex of tasks needed to achieve the target (Figure 12.6).

In a public health context, a task group to determine how to reduce obesity rates in school-aged children, or to eradicate measles locally, might be chaired by the deputy chief medical officer or senior health promotion person; if the project is reduction of obesity among school children, the lead agency may be the department of education, perhaps jointly with the local department of health; if reduction in road traffic deaths is the topic, the lead may be the police department with participation of emergency transportation and hospital emergency room lead personnel. Members

Chairperson/Facilitator/Coordinator

A	B	C	D
E	F	G	H
I	J	K	L

**FIGURE 12.6 Network organization structure.** Note: The letters represent the participation by individuals or organizations as a task group to achieve a defined goal, as set out in terms of reference and a time-frame.

may include the chief district nurse, an administrative and budget officer, a pharmacist, the chief of the pediatric department of the district hospital, a primary school administrator, a health educator, a medical association representative, the director of laboratories, the director of the supply department, a representative of the department of education, representatives of voluntary organizations interested in the topic, and others as appropriate.

Most organizational structures are mixed, combining elements of both the formal pyramidal and the less structured network structure with a task-oriented mandate. It is often difficult for a rigid pyramidal structure to deal with parallel bodies in a structured way, so the network approach is necessary to establish working relations with outside bodies to achieve common goals. A network is a democratic functional grouping of those professionals and organizations needed to achieve a defined target, sometimes involving people from many different organizations. The terms of reference of the working group are crucial to its function as well as its composition, time-frame, and access to relevant information. The application of this concept is increasingly central in health care organization as multilevel health systems evolve in the form of managed care or district health systems. These are vertically integrated management systems involving highly professional teams and units whose interdependence for patient care and financial responsibility are central elements of the New Public Health.

## TOTAL QUALITY MANAGEMENT

In the USA during World War II, W. Edwards Deming, a physicist and statistician, developed a system of economic and statistical methods of quality control in production industries. Following the war, Deming was invited to teach in Japan and moved from the university to the level of industrial management. Japanese industrialists adopted his principles of management and introduced quality management into all industries, with astonishingly successful results within a decade. The concept, later called total quality management (TQM), has since been adopted widely in production and service industries.

**BOX 12.1 Traditional Management Theory**

- Quality is expensive.
- Inspection is the key to quality, and control experts and inspectors can assure this.
- Systems are designed by outside experts – no input is needed from workers.
- Work standards, quotas, and targets can help productivity.
- People may be hired when needed and laid off when not needed.
- Rewards and punishments will lead to greater productivity and creativity.
- Buy at the lowest cost.
- Change suppliers frequently, based on price alone.
- Profits are based on keeping costs down and revenue high.
- Profit is the most important indicator of a company.

In the Deming approach to company management, quality is the top priority and is the key responsibility of management, not of the workers. If management sets the tone and involves the workers, quality goes up, costs come down, and both customer satisfaction and loyalty increase. Having their ideas listened to, and avoiding a punitive inspection approach, enhances the pride of the workers. It is the responsibility of leadership to remove fear and build mutual participation and common interest. Training is one of the most important investments of the organization. The differences between traditional management and the TQM approach are shown in [Boxes 12.1 and 12.2](#). In societies with growing economies, the role of an educated workforce becomes greater as information technology and services, such as health, become larger parts of the economy and require professionalism and self-motivating workers.

The TQM approach integrates the scientific management and human relations approaches by giving workers credit for intellectual capacity and expects them to use it to analyze and improve the tasks they perform. Even more, this approach expects workers at all levels to contribute to better quality in the process of design, manufacture, and even marketing of the product or the service.

The TQM ideas were revolutionary and successful when applied in business management in production industries. The TQM concept is much in discussion in the service industries. The WHO has adapted TQM to a model called continuous quality improvement (CQI), with the stress on mutual responsibilities throughout a health system for quality of care. The application of TQM and CQI approaches is discussed in Chapter 15, including the external regulatory and self-development TQM approaches.

In the health sector, issues such as prevention of health facility-acquired infections require staff dedicated to promoting a culture of cleaning, frequent and thorough hand

**BOX 12.2 Total Quality Management**

- Quality leads to lower costs and less waste.
- Inspection is after the damage is done; worker involvement in quality services eliminates defects.
- Quality is determined by management.
- Most defects are caused by the system, not the worker.
- Eliminate work standards and quotas in industry as sole criteria of performance.
- Fear leads to disaster.
- Make workers feel secure in their jobs.
- Judgment, punishment, and reward for above- or below-average performance destroy teamwork essential for quality production.
- Work with suppliers to improve quality and costs.
- Profits are generated by loyal customers – running a company for profit alone is like driving a car by looking in the rearview mirror.

washing, sterilization, isolation techniques, intravenous and intratracheal catheter and tube care technique, and immunization of hospital personnel. These and many other cross-disciplinary measures promote patient safety and prevent the costly and frequently deadly effects of serious respiratory or urinary tract infection acquired in hospitals or other health care facilities.

**CHANGING HUMAN BEHAVIOR**

Human behavior is individual but takes place in a social context. Changes to individual behavior are needed to reduce risk factors for many diseases. Change can be threatening; it requires alteration, substitution, transformation, or modification of purposes, procedures, methods, or style. The implementation of plans usually requires some change, which often meets resistance. The resistance to change may be professional, technical, psychological, political, emotional, or a mix of all of these. The manager of a health facility or service has to cope with change and gather the support of those involved to participate in creating or implementing the change effectively.

The behavior of the worker in a production or service industry is vital to the success of the organization. Equally important is the behavior of the purchaser or consumer of the product or service. Diagnosing organizational problems is an important skill to bring to leadership in health systems. Even more important is the ability to identify and alter the variables that require change and adaptation to improve the performance of the organization. High expectations are essential to produce high performance and improved standards of service or productivity. Conversely, low expectations not only lead to low performance, but produce a downward spiraling effect. This applies not only within the organization, but to the individuals and community served,

whether in terms of purchase of goods produced or in terms of health-related behavior.

People often resist change because of fear of the unknown. Participation in the process of defining problems, formulating objectives, and identifying alternatives is needed to bring about changes. Change in organizational performance is complex, and this is the test of leadership. Similarly, change at the individual level is essential to achieve the goals of the group, whether this is in terms of the functioning of a health care service unit, such as a hospital, or whether it is an individual's decision to change from smoking to non-smoking status. The health of both an individual and a population depends on the individual health team member's motivation and experience.

The behavior of the individual is important to his or her personal and community health. Even small steps in the direction of a desirable change in behavior should be rewarded as soon as possible (i.e., reinforcing positive performance in increments). Behavior modification is based on the concept that change of behavior starts with the feelings and attitudes within the individual, but can be influenced by knowledge, peer pressure, media coverage, and legislative standards. Change involves a number of elements to define a current or previous starting point:

- *Knowledge* – What is the level of adequate health information?
- *Attitudes* – What is the person's perception of that information?
- *Behavior of the individual* – What does the individual actually do?
- *Behavior of the group* – What are the social norms and acts?
- *Behavior of the organization* – What does the health system do to change these factors?
- *Behavior of society* – What do legislation, regulations, and enforcement say about harmful acts endangering individuals and the public?
- *Preparation for emergencies* – What organizations are in place and organized to meet local or national emergencies, and how are public perception and participation affected by messages from authorities, such as in evacuation of hurricane or tsunami danger zones?
- *Behavior of the media* – How do the media convey public health messages and warnings, and how does this affect behavior or responses?

Change in behavior is vital in the health field: in the organization, in the community, in individual behavior, and in societal regulation and norms. The health belief model (Chapter 2) is widely influential in psychology and health promotion. The belief intervention approach involves programs meant to reduce risk factors for a public health problem. It may require change in the law and in organizational behavior, with involvement and feedback to the people who

determine policy, those who manage services, and the community being served.

Obesity in school-aged children is being fought by many measures including healthier menus and banning the sale of high sugar drinks on school property. High cholesterol is being fought on many fronts including dietary change and banning the use of trans fats in food processing. Deaths from bulimia are not uncommon and may stem from teenage identification of beauty with ultrathin body image. Banning television and modeling agencies from using models with a very low body mass index is an intervention in advertising which encourages harmful practices that are a danger to health and life. Banning cigarette advertising and smoking in public places promotes behavioral change, as does raising the taxes on cigarettes. Gun control laws are meant to prevent disturbed individuals or political fanatics having easy access to firearms to commit mass murder. Strict enforcement of drinking and driving laws can prevent drunk driving and reduce road traffic deaths (see Chapter 15).

## EMPOWERMENT

In the 1980s, major industries in the USA were unable to compete successfully with the Japanese in the consumer electronics and automobile industries. Management theory began to place greater emphasis on empowerment as a management tool. The TQM approach stresses teamwork and involvement of the worker in order to achieve better quality of production. Comparatively, empowerment went further to involve the worker in operation, quality assessment, and even planning of the design and production process. Results in production industries were remarkable, with increased efficiency, less absenteeism, and greater searching for ideas to improve quality and quantity of production, with the worker as a participant in the management and production process.

The concept of empowerment entered the service industries with the same rationale. The rationale is that improvements in quality and effectiveness of service require the active physical and emotional participation of the worker. Participation in decision-making is the key to empowerment. This requires management to adopt new methods that allow the worker, whether professional or manual, to be an active participant. Successful application of the empowerment principles in health care extends to the patient, the family, and the community, emphasizing patients' rights to informed participation in decisions affecting their medical care, and the protection of privacy and dignity.

Diffusion of powers occurs when management of services is decentralized. Delegation of powers to professional groups, non-governmental organizations (NGOs), and advocacy organizations is part of empowerment in health care organizations. Governmental powers to govern or promote areas such as licensure, accreditation, training, research,

and service can be devolved to local authorities or NGOs by delegation of authority or transfer of funds. Organizational change may involve decentralization. Institutional changes such as amalgamation of hospitals, long-term care facilities, home care programs, day surgery, ambulatory care, and public health services are needed to produce a more effective use of resources. Integration of services under community leadership and management should encourage transfer of funds within a district health network from institutional care to community-based care. Such changes are a test of leadership skills to achieve cultural change within an organization, which requires behavioral change and involvement of health workers in policy and management of the change process.

## STRATEGIC MANAGEMENT OF HEALTH SYSTEMS

Strategic management emphasizes the importance of positioning the organization in its environment in relation to its mission, resources, consumers, and competitors. It requires development of a plan of action or implementation of a strategy to achieve the mission or goal of the organization within acceptable ethical and legal guidelines. Articulation of these is a key role of the management level of an organization. Defining the mission and goals of the organization must take into account the external and internal environment, resources, and operational needs to implement and evaluate the adequacy of the outcomes. The strategy of the organization matches its internal approach with external factors, such as consumer attitudes and competing organizations. Strategy is a set of methods and skills of the health care manager to attain the objectives of a health organization, including:

- providing high-quality care at current professional standards
- innovating to avoid obsolescence
- developing good internal and external professional relationships
- utilizing human resources effectively
- ensuring accountability and accreditation within the local and national environment
- promoting the service to improve market share
- managing financial, human, and other resources efficiently
- promoting the public and professional reputation of the institution.

*Policy* is the formulation of objectives and priorities. *Strategy* refers to long-range plans to achieve stated objectives, indicating the problems to be expected and how to deal with them. Strategy does not identify all actions to be taken, but it includes evaluation of progress made towards a stated goal. While the term has traditionally been used

### BOX 12.3 The Strategic Management Process

1. Policy and planning:
  - (a) Define mission, goals, and objectives.
  - (b) Undertake surveillance.
  - (c) Analyze external environment.
  - (d) Analyze internal environment.
  - (e) Assess capabilities.
  - (f) Evaluate strategic choices, short-range.
  - (g) Develop strategic planning, long-range.
  - (h) Guide the implementation process.
  - (i) Communicate policy direction.
2. Implementation:
  - (a) Motivate: clearly communicate the goals and plans of the organization.
  - (b) Differentiate between short- and long-term goals.
  - (c) Ensure that staff understand their responsibilities.
  - (d) Ensure provision of adequate resources.
  - (e) Promote sense of staff involvement.
  - (f) Modify structure to meet needs.
  - (g) Delegate authority, assign responsibility.
  - (h) Promote interdepartmental coordination and interpersonal relations.
  - (i) Promote capacity to deal with change.
  - (j) Review policies in keeping with progress towards goals.
  - (k) Promote understanding of change and resistance to change.
3. Monitoring
  - (a) Evaluate effectiveness.
  - (b) Evaluate outcome, lessons learned.
  - (c) Revise strategic plan.
  - (d) Redeploy resources in keeping with lessons learned.

in a military context, it has become an essential concept in management, whether of industry, business, or health care. Tactics are the methods used to fulfill the strategy. Thus, strategic MBO is applicable to the health system, incorporating definitions of goals and targets, and the methods to achieve them (Box 12.3).

Change in health organizations may involve a substantial alteration in the size or relationships between existing, well-established facilities and programs (Table 12.2). A strategic plan for health reform in response to the need for cost containment, redefined health targets, or dissatisfaction with the status quo requires a model or a vision for the future and a well-managed program. Opposition to change may occur for psychological, social, and economic reasons, or because of fear of loss of jobs or changes in assignments, salary, authority, benefits, or status. Downsizing in the hospital sector, with buildup of community health services, is one of the major issues in health reforms in many countries. It can be accomplished over time by naturally occurring vacancies or attrition due to retirement, or by retraining and reassignment, all of which require skilled leadership.



**TABLE 12.2** Transformation of Health Care Paradigms

Old Paradigm	New Paradigm
Emphasis on inpatient care	Emphasis on continuum of care
Emphasis on treating illness	Emphasis on maintaining and promoting wellness
Responsibility for the individual patient	Accountable for defined population
Specialists rewarded more than generalists	Greater economic parity between providers
Surgery rewarded more than medical services	Prevention rewarded versus surgery
Goal to fill beds	Provision of care at appropriate level of care
Separate organization, funding of hospital and other services	Integrate health delivery system
Managers run an organization or a department	Managers promote market share
Managers coordinate services	Managers promote intersectoral cooperation

Source: Adapted from Shortell SM, Kaluzny AD. Health care management, organization, design and behavior. 5th ed. Albany, NY: Delmar; 2005.

The introduction of new categories of health workers in hospitals such as phlebotomists, hospitalist doctors, and technicians of all kinds has improved hospital efficiency and safety. Community health has benefited from home care and in many situations community health workers to assist and supervise patient care in remote rural villages and in urban centers, even in high-income countries, with health guides trained to help people to function with chronic illnesses and dementias (see Chapter 14).

## HEALTH SYSTEM ORGANIZATION MODELS

The New Public Health is an integration or coordination of many participating health care facilities and health-promoting programs. It is evolving in various forms in different places as networks with administrative and financial interaction between participating elements. Each organization provides its own specific services or groups of services. How they function internally and how they interact functionally and financially are important aspects of the management and outcomes of health systems. The health system functions as a network with formal and informal relationships; it may be very broad and loosely connected as in a highly decentralized system, with many lines of communication, payment, regulation, standards setting, and levels of authority.

The relationship and interchange between different health care providers have functional and economic elements. As an example, an educated adult woman is more likely than an uneducated woman to prepare herself for the requirements of pregnancy by smoking and alcohol or drug cessation, folic acid intake, healthful diet, and attending professional antenatal care. A pregnant woman who is healthy and prepared for pregnancy physically and emotionally, and who receives comprehensive prenatal care, is less likely than a woman whose health is neglected to develop complications and require prolonged hospital care

as a result of childbirth. The cost of good prenatal care is a fraction of the economic cost of treating the potential complications and damage to her health or that of the newborn. A health system is responsible for ensuring that a woman of reproductive age takes folic acid tablets orally before becoming pregnant, has had access to family planning services so that the pregnancy is a desired one, ensures that the space between pregnancies is adequate for her health and that of her baby, and receives adequate prenatal care. An obstetrics department should be involved in assuring or providing the prenatal care, especially for high-risk cases, and delivery should be in hygienic and professionally supervised settings.

Similarly, for children and elderly people, there is a wide range of public health and personal care services that make up an adequate and cost-effective set of services and programs. The economic burden of caring for the sick child falls on the hospital. When there is a per capita grant to a district, the hospital and the primary care service have a mutual interest in reducing morbidity and hence mortality. This is the principle of the HMOs and district health systems discussed elsewhere. It is also a fundamental principle of the New Public Health.

Health care organizations differ according to size, complexity, ownership, affiliations, types of services, and location. Traditionally, a health care organization provides a single type of service, such as an acute care hospital providing episodic inpatient care, or a home health care agency. In present-day health reforms, health care organizations, such as an HMO or a district health system, provide a population-based, comprehensive service program. Each organization must have or develop a structure suited to meet its goals, in both the internal and external environments. The common elements that each organization must deal with include governance of policy, production or service, maintenance, financing, relating to the external environment, and adapting to changing conditions.

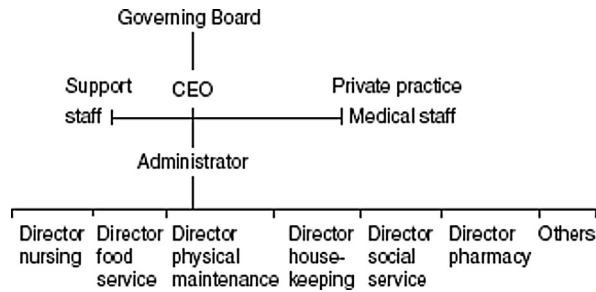


FIGURE 12.7 Functional model of organization.

## Functional Model

A functional model of an organization perhaps best suited to the smaller hospital is the division of labor into specific functional departments; for example, medical, nursing, administration, pharmacy, maintenance, and dietary, each reporting through a single chain of command to the chief executive officer (CEO) (Figure 12.7). The governing agency, which may be a local non-profit board or a national health system, has overall legal responsibility for the operation and financial status of the hospital, as well as raising capital for improvements.

The medical staff may be in private practice and work in the hospital with their own patients by application for this right as “attending physician”, according to their professional qualifications, or the medical staff may be employed by the hospital in a similar way to the rest of the staff. Salaried medical staff may include physicians in administration, pathology, anesthesia, and radiology, so that even in a private practice market system many medical staff members are hospital employees. Increasingly, hospitals are employing “hospitalists”, who are full- or part-time physicians whose work is in the health facility, to provide continuity of inpatient and emergency department services, augmenting the services of senior or attending staff or private practice physicians. This shift is in part related to the increasing numbers of female physicians who run their homes and families as well as practice medicine and who find this mode of work more attractive than full-time private practice.

This model is the common arrangement in North American hospitals. The governing board of a “voluntary”, non-governmental, not-for-profit organization with municipal and community representatives may be appointed by a sponsoring religious, municipal, or fraternal organization.

## Corporate Model

The corporate model in health care organization (Figure 12.8) is often used in larger hospitals or where mergers with other hospitals or health facilities are taking place. The CEO delegates responsibility to other members of the senior management team who have operational responsibility for major sectors of the hospital’s functioning.

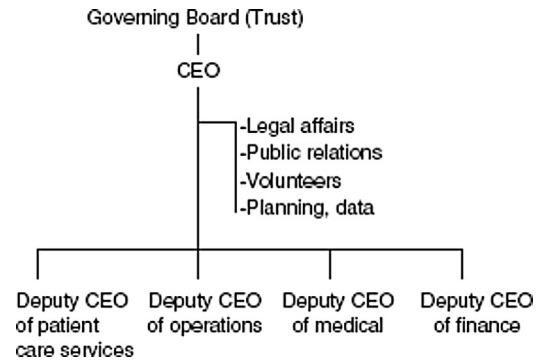


FIGURE 12.8 Corporate model of health care organization.

A variation of the corporate model is the divisional model of a health care organization based on the individual service divisions allowing middle management a high degree of autonomy (Figure 12.9). There is often departmental budgeting for each service, which operates as an economic unit; that is, balancing income and expenditures. Each division is responsible for its own performance, with powers of strategic and operational decision-making authority. This model is used widely in private corporations, and in many hospitals in the USA. With increasing complexity of services, it is also employed in corporate health systems in the USA, with regional divisions.

## Matrix Model

The matrix model of a health care organization is based on a combination of pyramidal and network organization. This model is suited to a public health department in a state, county, or city. Individual staff people report in the pyramidal chain of command, but also function in multidisciplinary teams to work on specific programs or projects. A nutritionist in the geriatric department is responsible to the chief of nutrition services but is functionally a member of the team on the geriatric unit. In a laterally integrated health maintenance organization or district health system, specialized staff may serve in both institutional (i.e., hospital) and community health roles (Figure 12.10).

The organizational structure appropriate to one set of circumstances may not be suitable for all. Whether the payment system is by norm (i.e., by predetermined numbers of staff, their salaries, and fixed costs for all services), per diem (i.e., payment of a daily rate times the number of days of stay), historical budget, or per capita in a regional or district health system structure (see Chapters 10 and 11), the internal operation of a hospital will require a model of organization appropriate to it. Hospitals need to modify their organizational structure as they evolve, and as the economics of health care change.

## SKILLS FOR MANAGEMENT

Leadership in an organization requires the ability to define the goals or mission of the organization and to develop a

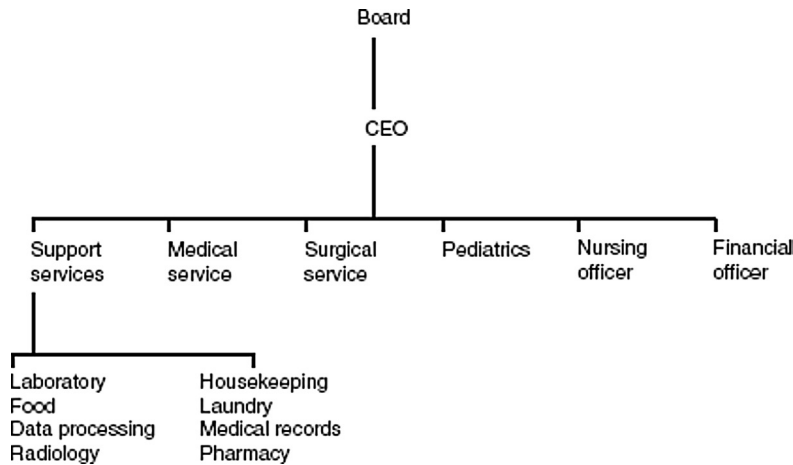


FIGURE 12.9 Divisional model of health care organization.

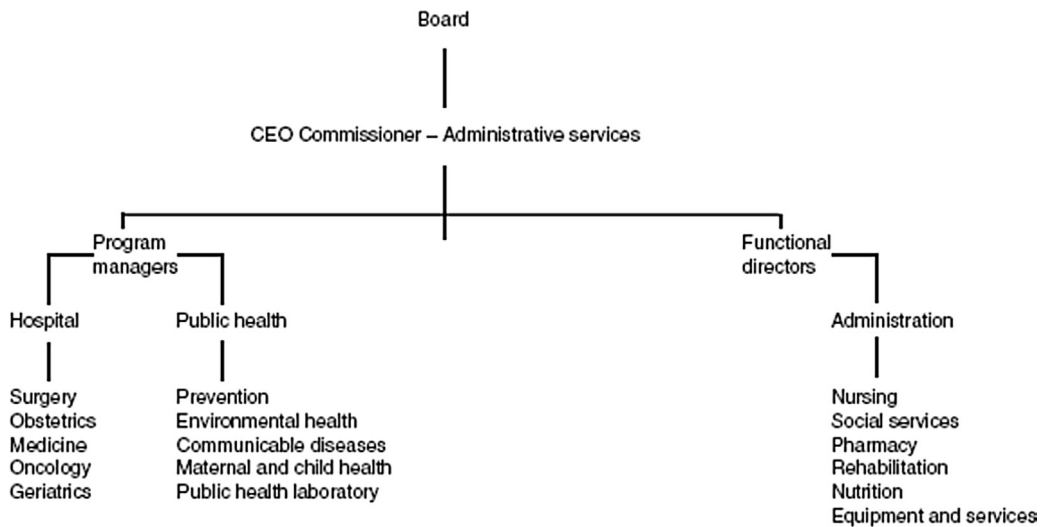


FIGURE 12.10 Matrix model of health care organization.

strategy and define steps needed to achieve these goals. It requires an ability to motivate and engender enthusiasm for this vision by working with others to gain their ideas, their support, and their participation in the effort. In health care as in other organizations, it is easier to formulate plans than to implement them. Change requires the ability not only to formulate the concept of change, but also to modify the organizational structure, the budgeted resources, the operational policies and, perhaps most importantly, the corporate culture of the organization.

Management involves skills that are not automatically part of a health professional's training. Skilled clinicians often move into positions requiring management skills in order to build and develop the health care infrastructure. In some countries, hospital managers must be physicians, often senior surgeons. Clinical capability does not transfer automatically into management skills to deal with personnel, budgets, and resources. Therefore, training in management is vital for the health professional.

The manager needs training for investigations and fact-finding as well as the ability to evaluate personnel, programs, and issues, and set priorities for dealing with the short- and long-term issues. Negotiating with staff and outside agencies is a constant activity of the manager, ranging from the trivial to major decisions with wide implications. Perhaps the most crucial skill of the manager is communication: the ability to convey verbal, written, or unwritten messages that are received and understood and to assess the responses as an equal part of the exchange.

Interpersonal skills are a part of management practice. The capable manager can relate to personnel at all levels in an open and equal manner. This skill is essential to help foster a sense of pride and involvement of all personnel in working towards the same goals and objectives, and to show that each member of the team is important to meeting the objectives of the organization. At the same time, the manager needs to communicate information, especially as to how the organization is doing in achieving its objectives.

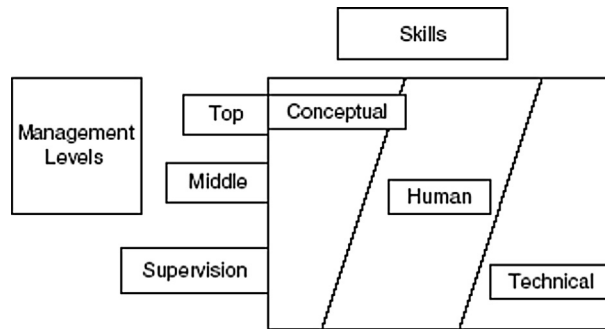


FIGURE 12.11 Distribution of skills within an organization.

The manager is responsible for organizing, planning, controlling, directing, and motivating. Managers assume multiple roles. A role is an organized set of behaviors. Henry Mintzberg described the roles needed by all managers: informational, interpersonal, and decisional roles. Robert Katz (1974) identified three managerial skills that are essential to successful management: technical, human, and conceptual: “Technical skill involves process or technique knowledge and proficiency. Managers use the processes, techniques and tools of a specific area. Human skill involves the ability to interact effectively with people. Managers interact and cooperate with employees. Conceptual skill involves the formulation of ideas. Managers understand abstract relationships, develop ideas, and solve problems creatively”. Technical skill deals with things, human skill concerns people, and conceptual skill has to do with ideas. The distribution of these skills between the levels of management is shown in Figure 12.11.

## THE CHIEF EXECUTIVE OFFICER OF HEALTH ORGANIZATIONS

Hospital directors in the past were often senior physicians, often called *superintendents*, without training in health management. The business manager CEO has become common in hospital management in the USA. During the 1950s, the CEO was called an *administrator*, and worked under the direction of a board of trustees who raised funds, set policies, and were often involved in internal administration.

Where the CEO was a non-physician, the usual case in North American hospitals, a conflict often existed with the clinical staff of the hospital. In some settings, this led to appointment of a parallel structure with a full-time chief of medical staff with a focus on clinical and qualitative matters. In European hospitals, the CEO is usually a physician, often by law, and the integration of the management function with the role of clinical chief is the prevalent model.

Over time, as the cost and complexity of the health system have increased, the CEO role has changed to one of a “coordinator”. The CEO is now more involved in external

relations and less in the day-to-day operation of the facility. The CEO is a leader/partner but *primus inter pares*, or first among equals, in a management team that shares information and works to define objectives and solve problems. This de-emphasizes the authoritarian role and stresses the integrative function.

The CEO is responsible for the financial management of operational and capital budgets of the facility, which is integral to the planning and future development of the facility. Budgets include four main factors: income, fixed or regular overhead, variable or unpredictable overhead, and capital or development costs, all essential to the survival and development of the organization.

The key role of top management is to develop a vision, goals, and targets for the institution, to maintain an atmosphere and systems to promote the quality of care, financial solidity, and to represent the institution to the public. The overall responsibility for the function and well-being of the program is with the CEO and the governing board of directors.

## COMMUNITY PARTICIPATION

Community participation in management of health facilities has a long-standing and constructive tradition. The traditional hospital board has served as a mechanism for community participation and leadership in promoting health facility development and management at the community level. The role of hospital boards evolved from primarily a philanthropic and fund-raising one to a greater overall responsibility for policy and planning function working closely with management and senior professional staff. This change occurred as operational costs increased rapidly, as government insurance schemes were implemented, and as court decisions defined the liability of hospitals and reinforced the broadened role of governing boards in malpractice cases and quality assurance. Centrally developed health systems such as the UK’s NHS have promoted district and county health systems with high degrees of community participation and management, both at the district level and for services or facilities.

The role of local authorities, as well as state and national governments, is crucial to the functioning of public health in its traditional issues such as safe water supply, sanitation, business licensing, social welfare, and many others, as discussed in Chapter 10. These functions have not diminished with the greater roles of state and federal or national governments in health. In healthful living environments the local authority functions are of continuing and indeed expanding importance, as in urban planning and transportation, promoting easy access to commercial facilities for shopping and healthy food sources for poorer sections as well as those available to prosperous members of the community.

### BOX 12.4 Changing the Law Banning Birth Control in Massachusetts: The Role of Advocacy

In 1942 and 1948, referenda were held on a Massachusetts law which banned dissemination of birth control devices and information; both were defeated. Massachusetts and Connecticut alone of all the states continued to ban birth control. But with the advent of the birth control pill in the 1960s, the issue was reopened. Richard Cardinal Cushing, head of the Archdiocese of Boston, no longer opposed a change in the state law, although still opposed the practice of birth control.

Some Catholic doctors, including Dr John Rock, the gynecologist who conducted the key clinical studies of the birth control pill, favored a change in the law. An article published by a young Catholic doctor, later specializing in public health, in the prestigious *New England Journal of Medicine* in 1964, called for changing the Massachusetts birth control law. This drew the ire of some of the hierarchy of the Church.

However, the article served to stimulate the Legislature to revisit the law, leading to its repeal in 1966, thus allowing use of all methods of birth control. The controversy subsided and women were free to control their own fertility as a result of this advocacy.

**Sources:** Dorsey JL, Emeritus Clinical Professor of Medicine, Harvard Medical School, Boston, Massachusetts. Personal communication; December 2012.

Dorsey JL. Changing attitudes toward the Massachusetts birth control law. *N Engl J Med* 1964;271:823–7.

Meehan S. From patriotism to pluralism: how Catholics initiated the repeal of birth control restrictions in Massachusetts. *Catholic University of America Press. Catholic Hist Rev* 2010;96(3):470–98. <http://dx.doi.org/10.1353/cat.0.0864>.

Advocacy has always been an important part of public health. An illustration of this is seen in [Box 12.4](#) in changing the law banning birth control in Massachusetts in the 1960s. The issue of birth control still casts a heavy burden on women globally owing to religious objections, so this example from the 1960s is still relevant as a political issue both in the USA and in many other countries.

Community participation can be crucial to the success of an intervention to promote community health. Sensitivity to local, religious, or ethnic concerns is part of planning any study or intervention in public health. This does not mean that the national, state, and local health authorities must continuously canvass public opinion, but there is advantage in holding referenda on some issues compared to governmental fiat. The USA has higher rates of fluoridation than most countries, and this is implemented after referenda in each municipality (see Chapter 7). In Portland, Oregon, the City Council profluoridation vote in 2012 (*New York Times*, 12 September 2012) was later rejected in the public referendum. Portland is the only major American city without fluoridation (*Portland Tribune*, 21 May 2013).

## INTEGRATION: LATERAL AND VERTICAL

Rationalization of health facilities increasingly means organizational linkages between previously independent facilities. Mergers of health facilities are common events in many health systems. In the USA, there are frequent mergers between hospitals, or between facilities linked to HMOs or managed care systems. Health reform in many countries is based on similar linkages. Governmental approval and alteration to financing systems are needed to promote linkages between services to achieve greater efficiency and improve patient care (see Chapters 10 and 11).

*Lateral integration* is the term used for amalgamation among similar facilities. Like a chain of hotels, in health care this involves two or more hospitals, usually meant to achieve cost savings, improve financing and efficiency, and reduce duplication of services. Urban hospitals, both not-for-profit as well as for-profit, often respond to competition by purchasing or amalgamating with other hospitals to increase market share in competitive environments. This is often easier for hospital-oriented CEOs and staff to comprehend and manage, but it avoids the issues of downsizing and integration with community-based services.

*Vertical integration* describes organizational linkages between different kinds of health care facilities to form integrated, comprehensive health service networks. This permits a shift of emphasis and resources from inpatient care to long-term, home, and ambulatory care, and is known as the managed care or district health system model. Community interest is a factor in promoting change to integrate services, which can be a major change for the management culture, especially of the hospital.

The survival of a health care facility may depend on integration with appropriate changes in concepts of management. In the 1990s, a large majority of California residents moved to managed care programs because of the high cost of fee-for-service indemnity health insurance and because of federal waivers to promote managed care for Medicare and Medicaid beneficiaries. Independent community hospitals without a strong connection to managed care organizations (MCOs) were in danger of losing their financial base.

Hospital bed supplies were reduced in the USA from 4.5 beds per 1000 population in 1980 to 2.9 in 2000 and 2.6 in 2009. Occupancy rates also fell, from 75 percent in 1980 to 64 percent in 2000 and rose slightly to 66 percent in 2009. Hospital discharges also fell during these years, from 173 per 1000 population in 1980 to 113 in 2005 and 112 in 2007, while days of care fell from 1297 to 558 and 540, respectively (Health United States, 2011). These data are monitored by the National Hospital Discharge Survey and the Centers for Disease Control and Prevention's (CDC's) National Center for Health Statistics. The lower hospital bed supply and utilization since the 1980s and 1990s reflect the adoption of insurance system payments

by diagnosis-related group (DRG), rather than on a per diem basis. Similar trends are seen in European countries, although in the Commonwealth of Independent States the number of hospital beds declined between 1990 and 2005-2011 but stabilized at high and inefficient levels (8 beds per 1000 population) compared to the number in Western Europe, which fell from 5 beds per 1000 in 1990 to 3.4 in 2011, and in some countries to 2 per 1000 population despite increased longevity and aging of the population.

There was a shift to stronger ambulatory care, as occurred throughout the industrialized countries despite an aging of the population. These trends were largely due to greater emphasis on ambulatory surgery and other care, and major medical centers responded with strategic plans to purchase community hospitals and develop affiliated medical groups and contract relationships with managed care organizations to strengthen their “market share” service population base for the future. The new payment environment and managed care also promoted hospital mergers (lateral integration) and linkages between different levels of service, such as teaching hospitals with community hospitals and primary community care services (vertical integration).

Vertical integration not only is important in urban areas, but can serve as a basis for developing rural health care in both developed and developing countries. The district hospital and primary care center operating as an integrated program can provide a high-quality program. Hospital-centered health care, common in industrialized countries, has traditionally channeled a high percentage of total health expenditures into hospital services. Over recent years, there has been a reduction in hospital bed supply in most industrialized countries, with shorter length of stay, more emphasis on ambulatory care, improved diagnostic facilities, and improved outcomes of care (see Chapter 3).

Expenditures on the hospital component of care have come down to between 40 and 45 percent of total health expenditures in many countries, with a growing proportion going to ambulatory and primary care, and increased percentages to public health. This shift in priorities has been an evolutionary process that will continue, but requires skilled management leadership, grounded in health systems management training and epidemiological knowledge, and skilled negotiating skills to foster primary care and health promotion approaches both within the organization and in relation to outside services, especially preventive services. This shift in policy direction will be fostered in implementation of the PPACA (Obamacare), discussed in Chapters 10 and 13. Managed care systems or accountable care organizations (ACOs) will integrate hospital and community care and try to limit hospital care by strengthening ambulatory and primary care, and especially preventive care. This will have both economic and epidemiological benefits, but will depend on skilled management to understand and lead in their implementation.

Much of the rationale for these changes is discussed in the literature and summarized in a 2012 report from the US Institute of Medicine, entitled “Best care at lower cost”. This report calls for overhauling the health system in a continuous evolution based on evidence and lessons learned from decades of innovative care systems and research into their workings. The health system needs to relate to other community services with a shared population orientation (Institute of Medicine, 2012).

## NORMS AND PERFORMANCE INDICATORS

Norms are useful to promote efficient use of resources and promote high standards of care, if based on empirical standards proved by experience, trial and error, and scientific observation. Norms may be needed even without adequate evidence, but should be tested in the reality of observation, experience, and experiment. This process requires data for selected health indicators and trained observers free to examine, report, and publish their findings for open discussion among colleagues and peers in proceedings open to the media and the general public.

Normative standards of planning are the determination of a number per unit of population that is deemed to be suitable for population needs; for example, the number of beds or doctors per 1000 population or length of stay in hospital. Many organizations based on the bureaucratic model used norms as the basis for planning and allocation of resources including funding (see Chapter 11). This led to payment systems which encouraged greater use of that resource. If a factory is paid by the number of workers and not the number and quality of the cars produced, then management will have no incentive to introduce efficiency or quality improvement measures. If a district or a hospital is paid by the number of beds, or by days of care in the hospital, there is no incentive to introduce alternative services such as same-day or outpatient surgery and home care.

Performance indicators are measures of completion of specific functions of preventive care such as immunization, mammography, Pap smears, and diabetes and hypertension screening. They are indirect measures of economy, efficiency, and effectiveness of a service and are being adopted as better methods of monitoring and paying for a service, such as by paying a premium. General practitioners in the UK receive additional payments for full immunization coverage of the children registered in their practices. A block grant or per capita sum may be tied to indicators that reflect good standards of care or prevention, such as low infant, child, and maternal mortality. Incentive payments to hospitals can promote ambulatory services as alternatives to admissions and reduce lengths of stay. Limitations of financial resources in the industrialized countries and even more so in the developing countries make the use of appropriate

performance indicators of great importance in the management of resources.

Pay-for-performance is a system of paying for health services developed in the UK for paying general practitioners, with apparently satisfactory results. It is now widely used in the USA. It is defined as “a strategy to improve health care delivery that relies on the use of market or purchaser power. Agency for Healthcare Research and Quality (AHRQ) Resources on Pay for Performance (P4P), depending on the context, refers to financial incentives that reward providers for the achievement of a range of payer objectives, including delivery efficiencies, submission of data and measures to payer, and improved quality and patient safety” (Agency for Healthcare Research and Quality, 2012). More than half of commercial HMOs are using pay-for-performance. Recent legislation requires the Medicare and Medicaid programs to adopt this approach for beneficiaries and providers. As commercial programs have evolved during the past 5 years, the categories of providers (clinicians, hospitals, and other health care facilities), number of measures, and dollar amounts at risk have increased. This method of payment is likely to be promoted in the Affordable Care Act implementation to improve quality and control cost increases in US health care (see Chapters 10, 11, and 13). Pay-for-performance has also been adopted in other countries trying to improve quality of care, such as Macedonia (Lazarovik and Kasapinov, 2012).

## HEALTH PROMOTION AND ADVOCACY

Social marketing is the systematic application of marketing alongside other concepts and techniques to achieve specific behavioral goals for a social good. Initially focused on commercial goals in the 1970s, the concept became part of health promotion activities to address health issues where there was no current biomedical approach, such as in smoking reduction and in safe sex practices to prevent the spread of HIV.

Social marketing was based initially on commercial marketing techniques but now integrates a full range of social sciences and social policy approaches using the strong customer understanding and insight approach to inform and guide effective policy and strategy development. It has become part of public health practice and policy setting to achieve both strategic and operational targets. A classic example of the success is seen with tobacco reduction strategies in many countries using education, taxation, and legislative restrictions. Other challenges in this field include risk behavior such as alcohol abuse through binge drinking, unsafe sex practices, and dietary practices harmful to health.

## PHILANTHROPY AND VOLUNTEERISM

Philanthropy and volunteerism have long been important elements of health systems through building hospitals,

mission houses, and food provision, and other prototype initiatives on a demonstration basis. This approach has been instrumental in such areas as improved care and prevention of HIV, immunization in underdeveloped countries, global health strategies, and maternal and child health services.

During the late twentieth and early twenty-first centuries, a new “social entrepreneurship” was initiated and developed by prominent reform-minded former US President Bill Clinton, Microsoft’s Bill Gates, and the Open Society Institute of George Soros. The Rotary Club International has been a major factor in funding and promoting the global campaign to eradicate poliomyelitis. This has promoted integration and consortia for the promotion of acquired immunodeficiency syndrome (AIDS) prevention and malaria control in many developing countries. The Global Alliance for Vaccine and Immunization (GAVI) is a US-based organization which links international public and private organizations and resources to extend access to immunization globally. It includes the United Nations Children’s Fund (UNICEF), WHO, bilateral donor countries, the vaccine industry, the Gates Foundation, and other major donors. GAVI has made an important contribution to advancing vaccine coverage and adding important new vaccines in many developing countries and regions. These organizations focus funds and activities on promoting improved care and prevention of HIV, tuberculosis, and malaria, along with improved vaccination for children, reproductive health, global health strategies, technologies, and advocacy. These programs generate publicity and raise consciousness at political levels where resource allocations are made. A central feature of these programs is the promotion of “civil society” as active partners in a globalized world of free trade, democracy, and peace.

Specific initiatives included promoting improved large-scale marketing of antiretroviral drugs for the treatment of HIV infection, including price reduction so that developing countries can offer antiretroviral treatment, especially to reduce mother-to-infant transmission. Programs have branched out into the distribution of malaria-preventing bed nets, provision of low-cost pharmaceuticals, marketing drugs for the poor, desalination plants, solar roof units, low-cost small loans, and cell phones, mainly in Africa.

Another form of social entrepreneurship that has gained support in the private sector is proactiveness in environmental consciousness to address issues raised by the environmental movement, and public interest for environmental accountability. The automobile industry is facing both public concern and federal legal mandates for improved gas mileage as opposed to public demand for larger cars. Hybrid cars using less fuel have been successfully introduced into the market for low-emission, fuel-efficient cars, and electric cars are gradually entering the field. Public opinion is showing signs of moving towards promoting environmentally friendly design, marketing, and purchasing practices in energy consumption, conservation practices, and public



**FIGURE 12.12 Basic elements of an organizational system.** Source: Modified from Gibson JL, Ivancevich J, Donnelly JH, Konopaske R. *Organizations: behavior, structure, process*. New York: McGraw-Hill/Irwin; 2003.

policy. Public opinion and the price of fuel will play a major part in driving governments to legislate energy and conservation policies to address global warming and damage to the environment, with their many negative health consequences. However, such changes must work with public opinion because of the sensitivity of consumers to the price of fuel. In addition, when food crops, such as corn, are used to produce ethanol for energy to replace oil, then food prices rise and consumers suffer and respond vigorously.

Corporations adopt policies of environmental responsibility in part because of public relations and partly because of potential liability claims. Much of the planning and financial costs of offshore petroleum and gas drilling is spent on safety measures to protect the environment. The explosion in 2010 at a British Petroleum site in the Gulf of Mexico, off the coast of Texas and Louisiana, caused massive pollution and environmental damage, and resulted in the US government being awarded US\$4.5 billion against BP for cleanup and damages. The reputation of the corporation suffered and some executive officers lost their positions. Thus, corporate social responsibility can be seen as self-interest.

## NEW ORGANIZATIONAL MODELS

New models of health care organization are emerging and developing rapidly in many countries. This is partly a result of a search for more economical methods of delivering health care and partly the result of the target-oriented approach to health planning that seeks the best way to define and achieve health objectives. The developed countries seek ways to restrain cost increases, and the developing countries seek effective ways to quickly and inexpensively raise health standards for their populations. New organizational models that try to meet these objectives include district health systems, managed care organizations (MCOs) and accountable care organizations (ACOs), described in greater detail in Chapter 11. Critical and basic elements of a health system organization are shown in Figure 12.12.

## NEW PROJECTS AND THEIR EVALUATION

New initiatives are part of the growth and development of any organization or health service system, as needs,

technologies, resources, and public demand change. Identification of issues and decisions to launch new endeavors or projects to advance the state of the art, to address unmet needs, or to meet competition are part of organizational responsibility, in the public sector to meet needs, and in the private sector to remain competitive.

In developing and developed countries, many NGOs provide funding from abroad for essential services that a government may be unable to provide. Such projects focus on issues directed from the head offices in the USA or Europe of the funding source or management offices for specific vertical programs which are often not fully integrated with national priorities and programs. However, these need coordination and approval by the local national government agency responsible for that sector of public service. New projects run by NGOs may run in parallel to each other, or to state health services as uncoordinated activities. Governmental public health agencies have responsibility for oversight of health systems and can play a leadership and regulatory role in coordinating activities and directing new programs to areas of greatest national need.

The public health agency may also seek funding to launch new pilot or specific needs programs. The agency may introduce a new vaccine into a routine immunization program in phases, pending government approval and funding to incorporate it as a routine immunization program based on evaluation of the initial phase. An example is the introduction of *Haemophilus influenzae* type b vaccine in Albania in 2006, which was funded by GAVI for 5 years based on a study and proposal including a cost-effectiveness study (Bino S, Ginsberg G, personal communication, 2007).

Proposals for health projects by NGOs or private agencies need to be prepared in keeping with the vision, mission, and objectives of the responsible governmental agency, with ethics review and community participation. A project proposal should include why the project is important, its specific goals and objectives, available or new resources, and the time-frame required to achieve success (Box 12.5). It should describe the means proposed to accomplish the goals, and how the proposed program will impact the community, providing recommendations for follow-up and/or further action.

The introduction of the project proposal outlines the current state of the problem and the case for action. It should describe existing programs which address that issue, with proposed collaboration, and expansion or improvement of programs, but avoiding duplication of services. Background information needs to relate the project to the priorities of the prospective funding organization. The objectives should follow the acronym “SMART”: specific, measurable, achievable, relevant, and time-based. This term, originally used for computer disc self-management, has been adapted as a current form of MBO from the 1950s and 1960s.

The project objectives should be feasible and the expected results of the project should be based on the stated objectives.



### BOX 12.5 Program Evaluation Information Needs

The following utility standards ensure that an evaluation will serve the information needs of intended users:

- Identify and engage stakeholders, including relevant government agencies, people or communities involved in or affected by the evaluation, so that their needs and concerns can be addressed.
- Develop and describe the program.
- Focus the evaluation design with ethical standards and review requirements respected.
- Gather credible evidence – The people conducting the evaluation should be trustworthy and competent in performing the evaluation for findings to achieve maximum credibility and acceptance. Information collected should address pertinent questions regarding the program and be responsive to the needs and interests of clients and other specified stakeholders.
- Justify the conclusions – The perspectives, procedures, and rationale used to interpret the findings should be carefully described so that the bases for value judgments are clear.
- Ensure sharing and use of information and lessons learned – Evaluation reports should clearly describe the program being evaluated, including its context and the purposes, procedures, and findings of the evaluation so that essential information is provided and easily understood. Substantial interim findings and evaluation reports should be disseminated to intended users so that they can be used in a timely fashion to encourage follow-through by stakeholders, to increase the likelihood of the evaluation being used.
- Standards of a project should focus on scientific justification, utility, feasibility, propriety, and accuracy.
- A program in this context includes:
  - direct service interventions
  - community mobilization efforts
  - research initiatives
  - surveillance systems
  - policy development activities
  - outbreak investigations
  - laboratory diagnostics
  - communication campaigns
  - infrastructure building projects
  - training and education services
  - administrative systems and others.

**Sources:** Centers for Disease Control and Prevention. Framework for program evaluation in public health. *MMWR Morb Mortal Wkly Rep* 1999;48(RR-11):1–40.

Centers for Disease Control and Prevention. A framework for program evaluation. Office of the Associate Director for Program – Program Evaluation; 12 September 2012. Available at: <http://www.cdc.gov/eval/framework/index.htm> [Accessed 30 December 2012].

The funding organization will want to know what will be the expected product of the program in measurable process (e.g., immunization coverage) or outcome indicators (e.g., reduced child mortality). Projections will be based on the intended activities and known outcomes of other past programs with

### BOX 12.6 Project Proposal Summary

- *Title page* – Name of project; principal people and implementing organizations; contact person(s); time-frame; country (state, region); target group of project; estimated project cost; date of submission.
- *Introduction* – Provides project background including the health issue(s) to be addressed, a situational analysis of the health problem, the at-risk and target populations, and existing programs in the community; includes an international and national literature review of the topic with references.
- *Aim of the project* – Intended accomplishment of the project; what will be evaluated (i.e., what is “the program” and in what context does it exist?); what aspects of the program and evidence will be used to indicate how the program has performed?
- *Objectives* – Specific, measurable, achievable, relevant, and time-based (SMART).
- *Expected results* – Based on the objectives: what will be produced and delivered.
- *Activities* – Actions and time-frame in keeping with the objectives and expected results.
- *Work plan* – Timeline of all activities, including preparation, training, pilot, and implementation stages.
- *Budget* – Estimated cost of expenditures, including human resources, activities, running costs, and overheads for project and evaluation.
- *Monitoring and evaluation* – What evidence will be used to indicate how the program has performed? What plan is recommended for periodic follow-up of project activities (including timeline and measures) to implement lessons learned from positive or negative outcomes, and use of resources? How efficient and effective is the project?
- *Conclusions* – What conclusions regarding program performance may be drawn? What conclusions regarding program performance are justified by comparing the available evidence to the selected standards?
- *Reporting* – Report the project to the key stakeholders and public bodies; publication in peer-reviewed journal if possible.
- *Justification* – Why is this project important and timely, and how will implementation benefit health of the community?

**Sources:** Adapted from Centers for Disease Control and Prevention. Framework for program evaluation in public health. *MMWR Morb Mortal Wkly Rep* 1999;48(RR-11):1–40.

Centers for Disease Control and Prevention. A framework for program evaluation. Office of the Associate Director for Program – Program Evaluation; 12 September 2012. Available at: <http://www.cdc.gov/eval/framework/index.htm> [Accessed 30 December 2012].

similar goals in the same or other countries (environmental scan), and should be supported by a review of local and international literature on the topic. The activities section of a proposal should include a timeline of the intended actions and a description of activities based on best practices. The expected outcomes, monitoring and evaluation, and justification are all part of the presentation (Box 12.6).

The proposed funding agency expects convincing evidence of how this program will be effective, efficient, practical, and realistic. This information is presented in the activities section, which also needs to address the resources that will be needed to implement the program such as the budget for staff, supervision, training, management, materials (vaccines, syringes, equipment, ongoing supplies and others), transportation, and costs of premises. After completing the activities section, a realistic and achievable work plan and time-frame are required.

Well-planned projects have monitoring and evaluation criteria. Monitoring follows the performance of the program, documenting successes, failures, and lessons learned, as well as expenditures. Evaluation guidelines of the program define the methods used to assess the impact of the project and whether the project was carried out in an effective and efficient manner, and may be required periodically throughout the life of the project.

The most difficult issue is sustainability. A project funded by an NGO is usually time limited to 3–4 years and the survival of the program usually depends on its acceptability and the capacity of government to continue it. Thus, evaluation becomes even more crucial for the follow-up of even successful short-term projects. Harm reduction programs include tackling HIV in drug users, reducing maternal–child HIV transmission, tobacco control programs, and reducing levels of obesity in schoolchildren. Sustainability and diffusion of positive findings to wider application are important challenges, especially to global health. Even in high-income countries, diffusion of best practices is often slow and fraught with controversy and inertia. Examples of this slow or non-diffusion of evidence-based public health include the failure of most European countries to harmonize salt fortification with iodine or total indifference to flour fortification with folic acid to prevent neural tube defects (see Chapters 6 and 8).

Public health work within departments or ministries of health or local health authorities operates at a disadvantage in comparison with other health activities, especially hospitals, pharmaceuticals, diagnostics, and medical care. The competition for resources in a centrally funded system is intense, and the political and bureaucratic battles for funds may pit new immunization agents or health promotion programs against new cancer treatment drugs or scanners, and this is very often a difficult struggle. The presentation of program proposals for new public health interventions requires skill, professionalism, good timing, and the help of informed public and professional opinion. Allocation of resources is decided at the political level in a tax-based universal system, while even in a social security (Bismarckian) system where funding is through an employee–employer payroll deduction, additional funding from government is essential to keep up with the continuing flow of new modalities of treatment or prevention.

Public health is handicapped in portraying the costs and benefits of important interventions, leaving new programs with insufficient resources, including the staffing and administrative costs (e.g., office space, phone service, transportation costs), which are essential parts of any public health program. Portraying the cost of the new proposed program should be based on the total population served, not just the specific target population for a new program; that is, it should be represented as a per capita cost. Similarly, projected benefits should extrapolate the results from other areas, such as pandemic or avian flu or severe acute respiratory syndrome (SARS), and the likely impact on the target geographic area and its population.

## COMPETENCIES IN HEALTH POLICY AND MANAGEMENT

Public health has prime responsibility for monitoring the health status of the population as well as in preventing infectious and non-communicable diseases and injuries, preparing for disasters, and many other functions. This role requires an adequate multidisciplinary workforce with high levels of competencies. This topic is discussed extensively in Chapter 14.

Canada's experience with the SARS epidemic in 2003 led to a reappraisal of public health preparedness and standards. This, in turn, led to the establishment of the national Public Health Agency of Canada, which is mandated to develop standards and practices to raise the quality of public health in the country and especially to prepare for possible pandemics. The Agency issued standards of competency for public health personnel and fostered the development of regional laboratories, and schools of public health were developed across Canada. Core competencies for program planning implementation and evaluation are seen in [Box 12.7](#).

Health care systems throughout the world are being scrutinized because of their growing costs in relation to national wealth. At the same time, techniques for evaluating health care with respect to appropriateness, quality, and resource allocation are being developed. These techniques are multifactorial since they must relate to all aspects of health care, including the characteristics of the population being served; available health care resources; measures of the process and utilization of care; measures of health care outcomes; peer review, including quality assessment of health care providers; consumer attitudes, knowledge, and compliance; care provided for “tracer” or sample conditions; and economic cost–benefit studies.

Evaluation in health care assumes that a health care system and the providers of health care within that system are responsible and accountable for the health status of the population. It must, however, recognize that health services are not the sole determinants of health status; social, economic, and cultural factors also play key roles. A comprehensive approach to evaluation in health care

### BOX 12.7 Core Competencies for Program Planning, Implementation and Evaluation

Core competencies are essential knowledge, skills, and attitudes necessary for the practice of public health. They transcend the boundaries of specific disciplines and are independent of program and topic. They are the building blocks for effective public health practice, and the use of an overall public health approach.

Generic core competencies provide a baseline for what is required to fulfill public health system core functions. These include population health assessment, surveillance, disease and injury prevention, health promotion, and health protection.

The core competencies are needed to effectively choose options, and to plan, implement, and evaluate policies and/or programs in public health, including the management of incidents such as outbreaks and emergencies.

A public health practitioner is able to:

- describe selected policy and program options to address a specific public health issue
- describe the implications of each option, especially as they apply to the determinants of health and recommend or decide on a course of action
- develop a plan to implement a course of action taking into account relevant evidence, legislation, emergency planning procedures, regulations, and policies
- implement a policy or program and/or take appropriate action to address a specific public health issue
- demonstrate the ability to implement effective practice guidelines
- evaluate an action, a policy, or a program
- demonstrate an ability to set and follow priorities, to maximize outcomes based on available resources
- demonstrate the ability to fulfill functional roles in response to a public health emergency.

Source: Public Health Agency of Canada. Core competencies for public health in Canada. Available at: <http://www.phac-aspc.gc.ca/php-ppp/ccph-cesp/pdfs/cc-manual-eng090407.pdf> [Accessed 28 December 2012].

is described in Chapter 3. Many of the components that are available in health care systems exist, while others that remain to be developed are discussed. Evaluation is an integral part of a comprehensive health care system, in that the components of evaluation must be built into any national system. As long as rationality is expected of health care, evaluation is an essential element of the overall system (Tulchinsky, 1982) (see Chapter 3).

## SYSTEMS APPROACH AND NATIONAL PLANNING

The purpose of management in health is the improvement of health, and not merely the maintenance of an institution. Separate management of a variety of health facilities serving a community has derived from different historical development and funding systems. In competition for

public attention and political support, public health suffers in comparison to hospitals, new technology and drugs, and other competitors for limited resources. The experience of successes in reducing mortality from both non-infectious and infectious conditions comes largely from public health interventions. Medical care is also an essential part of public health, so that management and resource allocation within the total health sector are interactive and mutually dependent. The New Public Health looks at all services as part of a network of interdependent services, each contributing to health needs, whether in hospital care or in enforcing public health law regarding; for example, motor vehicle safety and smoking restriction in public places.

Separate management and budgeting of a complex of services results in disproportionate funds, staff, and attention being directed towards high-cost services such as hospitals, and fails to redirect resources to more cost-effective and patient-sensitive kinds of services, such as home and preventive care. However, reducing the supply of hospital beds and implementing payment systems with resources for early diagnosis and incentives for short stays have changed this situation quite dramatically in recent decades. The effects of incentives and disincentives built into funding systems are central issues in determining how management approaches problem solving and program planning, and are therefore important considerations in promoting health.

The management approach to resolving this dilemma is professional vision and leadership to promote the broader New Public Health. Thus, managers of hospitals and other health facilities need broad-based training in a New Public Health in order to understand the interrelationships of services, funding, and population health. Managers who continue to work with an obsolescent paradigm with the traditional emphasis, regardless of the larger picture, may find the hospital non-competitive in a new climate where economic incentives promote downsizing institutions and upgrading health promotion. Defensive, internalized management will become obsolete, while forward-looking management will be the pioneers of the New Public Health. This may be seen as a systems approach to improve population and individual health, based on strategic planning for immediate needs and adaptation of health systems in the longer term issues in health.

Examples of national planning that cut across health and social services include national insurance policies and the provision of new services to meet rising needs, as shown for Alzheimer's disease, in France since 2001 (Box 12.8) and in the USA since 2011 (Box 12.9).

## SUMMARY

Health care is one of the largest and most important industries in any country, consuming anywhere from 3 to nearly 18 percent of GNP, and still growing. It is a service, not a production industry, and is vital to the health and well-being

**BOX 12.8 France – National Dementia Plans 2001–2012****First National Dementia Plan 2001–2005**

An estimated 600,000 French people lived with dementia; half were diagnosed and one-third were receiving treatment; 75 percent of people with Alzheimer's disease were living at home; 50 percent of all nursing home residents lived with some form of dementia; a day's care cost €60 while full-time residency in a nursing home ranged between €3000 and €4600.

- Identify the early symptoms of dementia and refer people to specialists.
- Create a network of “memory centers” to enable earlier diagnosis.
- Produce ethical guidelines for families and care homes.
- Provide financial support for people with dementia.
- Establish day care centers and create local dementia information centers.
- Build new residential care homes and improve existing homes.
- Provide support for research and clinical studies.

**Second Alzheimer Plan 2005–2007**

By 2004 nearly 800,000 French people lived with dementia; a growing proportion of women and 18 percent of all people over 75; over 165,000 new cases of dementia diagnosed annually with an associated life expectancy of 8 years; Alzheimer's disease now recognized as a chronic disease by the French social security system, with the need for continuing support.

- Eligibility of dementia for 100 percent insurance coverage.
- Identify and support the needs of younger people with dementia.
- Provide training and support to professional and volunteer workers.
- Develop emergency housing resources.

**Third Alzheimer Plan 2008–2012**

- The growing need is clear.
- Improve diagnosis.
- Strengthen coordination between providers.
- Provide better treatment and support for caregivers.
- Provide supportive home help more effectively.
- Speed up research.
- Provide public information.

**Fourth Alzheimer Plan**

- Pan European.
- In preparation.

**Source:** Alzheimer Europe. France – national plans for Alzheimer and related diseases. Available at: <http://www.alzheimer-europe.org/Policy-in-Practice2/National-Dementia-Plans/France#fragment-1> [Accessed 24 December 2012].

of the individual, the population, and the economy. Because health care employs large numbers of skilled professionals and many unskilled people, it is often vital to the economic survival of small communities, as well as for a sense of community well-being.

**BOX 12.9 US National Alzheimer's Disease Project Act****Vision Statement**

*“For millions of Americans, the heartbreak of watching a loved one struggle with Alzheimer's disease is a pain they know all too well. Alzheimer's disease burdens an increasing number of our Nation's elders and their families, and it is essential that we confront the challenge it poses to our public health.”*

*US President Barack Obama*

**Action Plan**

On 4 January 2011, President Barack Obama signed into law the National Alzheimer's Project Act (NAPA), requiring the Secretary of the US Department of Health and Human Services (HHS) to establish the National Alzheimer's Project to:

- Create and maintain an integrated national plan to overcome Alzheimer's disease (AD).
- Coordinate Alzheimer's disease research and services across all federal agencies.
- Accelerate the development of treatments to prevent, halt, or reverse the course of AD.
- Improve early diagnosis and coordination of care and treatment of AD.
- Improve outcomes for ethnic and racial minority populations that are at higher risk for AD.
- Coordinate with international bodies to fight AD globally.

The law also establishes the Advisory Council on Alzheimer's Research, Care, and Services and requires the Secretary of HHS, in collaboration with the Advisory Council, to create and maintain a national plan to overcome AD.

**Goals and Strategies for 2025**

Research funds are being allocated towards that end. Education for health providers, strengthening of the workforce, for direct care and for public health guidelines for management of AD, education and support for caring families, addressing special housing needs for AD patients and many other initiatives are proposed in this comprehensive approach to a growing public health problem. Enhancing public awareness is crucial to achieve the goals set out in this plan.

**Source:** Department of Health and Human Services. National plan to address Alzheimer's disease. Available at: <http://aspe.hhs.gov/daltcp/napa/NatlPlan.pdf> [Accessed 29 December 2012].

Management includes planning, leading, controlling, organizing, motivating, and decision-making. It is the application of resources and personnel towards achieving targets. Therefore, it involves the study of the use of resources, and the motivation and function of the people involved, including the producer or provider of service, and the customer, client, or patient. This cannot take place in a vacuum, but is based on the continuous monitoring of information and its communication to all parties involved. These functions are applicable at all levels of

management, from policy to operational management of a production or a service system. Creative management of health systems is vital to the functioning of the system at the macrolevel, as well as in the individual department or service. This implies effective use of resources to achieve objectives, and community, provider, and consumer satisfaction. These are formidable challenges, not only when money is available in abundance, but even more so when resources are limited and difficult choices need to be made.

Modern management includes knowledge and skills in identifying and measuring community health needs and health risks. Critical needs are addressed in strategic planning with measurable impacts and targets. Public health managers should have skills gained in marketing, networking, data management, managing human resources and finance, engaging community partners, and communicating public health messages.

Many of the methods of management and organization theory developed as part of the business world have become part of public health. These include defining the mission, values and objectives of the organization, strategic planning and management, MBO, human resource management (recognizing individual and professional values), incentives–disincentives, regulation, education, and economic resources. The ultimate mission of public health is the saving of human life and improving its quality, and achieving this efficiently with high standards of professionalism and community involvement.

The scope of the New Public Health is broad. It includes the traditional public health programs, but equally must concern itself with managing and planning comprehensive service systems and measuring their function. The selection of targets and priorities is often determined by the feasible rather than the ideal. The health manager, either at the macrolevel of health or managing a local clinic, needs to be able to conceptualize the possibilities of improving the health of individuals and the population in his or her service responsibility with current and appropriate methods. Good management means designing objectives based on a balance between the feasible and the desirable. Public health has benefited greatly from its work with the social sciences and assistance from management and systems sciences to adapt and absorb the new challenges and technologies in applied public health. The New Public Health is not only a concept; it is a management approach to improve the health of individuals and the population.

## NOTE

For a complete bibliography and guidance for student reviews and expected competencies please see companion web site at <http://booksite.elsevier.com/9780124157668>

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