

PART ONE

Unit 1

Medicine and Healthcare: key concepts and topics

1. Defining medicine

Today, there is no widely accepted notion of **medicine**. Definitions abound in medical dictionaries, journals, textbooks, and other sources, and include anything related to **healing, disease, treatment, health, epistemology, knowledge, skills, ethics, and communication**. The *Merriam-Webster Dictionary* defines medicine as:

The word **medicine** (UK /'med.i.sən/ /'med.sən/ US /'med.i.sən) originates from Latin *medicus* **physician**, and from *mederi* **to heal or cure**.

- a substance or preparation used in treating disease,
- the science and art dealing with the maintenance of health and the prevention, alleviation, or cure of disease,
- the branch of medicine concerned with the nonsurgical treatment of disease,
- a substance (such as a drug or potion) used to treat something other than disease,
- an object, power, or ceremony held to give control over natural or magical forces.

Under this definition, medicine covers not only **medical care systems** and **practices** that are not to be counted as medicine proper, specifically **magical healing** practices, but also includes basic **goals**, that is, the **maintenance of health** and **treatment or cure of disease**, as described by the notion of medicine as a **science** and an **art**. After all, medicine exists because humans become ill, and balancing the **actions** and **goals** of medicine with the goals of **medical care** is of paramount importance to **patients, families, and clinicians**.

1.1 Defining medicine by other goal-oriented practices

However, the goals of medicine are not as unique as they are, and they frequently change. Today, the field of medicine includes other **actions** and **goals** that aim to improve and strengthen the **health of individuals** or **communities** and serve the bigger and more sustainable picture of medical practice (Last 2007). They are:

- **health protection** - actions taken to eliminate possible risks to health,
- **disease prevention** - policies and actions to eliminate a disease or minimize its effects, and
- **health promotion** – policies and processes that enable people to improve their health.

To achieve these goals, the practice of medicine can either focus on disease diagnosis, treatment, and care of **individual patients**, or focus on disease prevention and health promotion of **entire populations**. In the same way, these goal-oriented practices depend on **cultural, political, and economic** pressures under which medicine functions.

1.2 Medicine, health & wellbeing

The **healthy state** which medicine aims to maintain or improve is also functional to the concept of **health**. The *World Health Organisation* defines health “as a state of complete physical, mental and social well-being” equated with the absence of disease. This means that, any traditional health care system, with its focus on diagnosing and treating illness, injury, and disease primarily in **hospitals** and **clinics**, is

enough to return a patient to a higher health status - **restoring health** – or help patients maintain good health - **maintaining health**. Moreover, the *Institute of Medicine* has introduced the term **community wellbeing** to assess the conditions in which people can be healthy and includes elements such as education, and employment beyond the **clinical care delivery system**.

1.3 Medical professionalism

Protecting and promoting the health of individuals and the community is also a matter of the best medical practices that define **medical professionalism**. Identifying what professionalism means is not an easy task because it is an evolving concept across the health and social care professions.

The *Royal College of Physicians* (2005) defines **medical professionalism** as:

- a set of values, behaviours, and relationships that underpins the trust the public has in doctors.

For others (Rosen/Dewar 2004), **medical professionalism** has four basic principles that define the **profession**. They are:

1. a calling or vocation linked to public service and altruistic behaviour,
2. the observance of explicit standards and ethical codes,
3. the ability to apply a body of specialist knowledge and skills, and
4. a high degree of self-regulation over professional membership, the content and organisation of work.

These principles form the basis of a **social contract**, or a **covenant of trust** between **patients** and **society** (Cruess/Cruess 2004, 2008, 2009) because they demand placing the interests of patients above those of the physician, setting and maintaining standards of **competence** and **integrity**, and providing **expert advice** to society on matters of health. In the same way, these principles define the **actions** and **goals of medicine** as a **social institution** that aims to prevent, diagnose, and treat illness and to promote health and wellbeing.

2. Medical care systems and practices

2.1 Folk medicine

Ever since the beginning of recorded history, human societies have had several different systems of **healing** practices developed within **folk medicine** or **indigenous medicine** before the era of **modern medicine** (Bynum 2008).

Modern medicine is the mainstream **scientific tradition** which developed in the **Western world** since the early **Renaissance**.

✓ **healing** (*noun*): the process of making or becoming sound or healthy again – (*adjective*): tending to heal; therapeutic.

Magical or **spiritual healing** practices and **herbal remedies** are the oldest traditional systems of folk medicine generally transmitted **orally** as **informal knowledge** and practiced by **lay people**. The dictionary reference to ‘an object, power, or ceremony held to give control over natural or magical forces’ (*Merriam-Webster Dictionary*), explains the utility of **magical** or **spiritual healing** practices and their **goals** of aiming at health within the **folk beliefs** of **indigenous cultures** around the world.

2.2 Alternative medicine

Today, folk medicine traditions comprise various forms of **herbal medicines**, or other components, and include **Chinese medicine**, **Arabic indigenous medicine**, or other non-mainstream traditions of health care (Ernst 2001). These systems are used to refer to any health intervention that aims to achieve the **healing** effects of medicine, but lies outside of mainstream, **science-based**, or **institutionalised** systems of medical practice represented by **conventional medicine** or **biomedicine** of the Western world. The terms **alternative medicine**, **holistic medicine**, **complementary medicine**, or other labels are used interchangeably to describe almost the same phenomenon. In countries,



such as Canada, Australia, the US, and the UK, these alternative systems are still currently used by the large population and are combined with conventional medicine.

Alternative practices of health care are sometimes viewed as companions to **Hippocratic medicine**, and sometimes rejected by the mainstream **scientific** tradition of medicine because they are believed to provide no proper **evidence** for their effective principles of treatment (Angell/Kassirer 1998). Despite being a source of dissatisfaction, they have become increasingly popular among people from many different backgrounds, where they are used for their role in preventing and treating specific diseases and preserving health and well-being (Abd El-Mawla et al. 2013) and are dependent on the **social** and **cultural context** of healing.

2.3 Mainstream scientific medicine



Since the advent of **modern science**, the conventional practice of medicine has claimed legitimacy **to heal the sick** through its **scientific** approach to **medical care** (Starr 1982). In this approach, the physician is primarily a **medical scientist** who can make an accurate **diagnosis** and **prognosis** of **diseases** by using the content of **medical knowledge**, the tools of **medical investigation**, and the details of **medical treatments**, as in the **scientific, biomedical** approach to clinical practice. Because of this, the **curative** model of medical care, or **cure-oriented medicine**, plays an important role in the contemporary practice of medicine. This model considers **effective cure** of disease to be scientifically valued if diagnosis and treatment have been rigorously demonstrated by the **medical science**, and so becomes the primary **goal** of medicine to **cure the sick** (Ludmerer 1985; Pellegrino/Thomasma 1997). In addition to this cure-oriented goal, other important **goals** of medicine are equally important, such as maintaining and promoting **individual** and **public health**, promoting **social welfare**, or relieving **pain** and **suffering** for **patients** through **palliative care** - patient derives from the Latin *patior*, meaning 'suffer'.

The scientific foundations of medicine are not new: **Hippocratic medicine** already developed an approach to disease and its treatment based on **systematic observation** and **cumulative experience**.

► Intrinsic goals of medicine:

- To heal the sick patient: aiming to cure / restoring to health.
- To maintain and promote health and wellbeing for individuals and communities; to prevent illness/disease.
- To relieve patient's pain and suffering – when health cannot be restored – aiming to comfort, to offer palliative care.

3. Understanding the science and art of medicine

The **curative model** of medical care can also be understood by reference to the notions of **medicine as science** and **medicine as art**. These notions are included in the definition of **medicine** as a “profession which incorporates science and the scientific method with the art of being a physician” (Goldman/Schafer 2015: 2).

The *American Medical Association* aims “to promote the art and science of medicine and the betterment of public health”.

3.1 Medicine as science

The **science** of medicine has mostly to do with gaining **scientific knowledge** about the body systems, their diseases and treatment and has its natural place in the **research establishment**, where **medical scientists** create **medical knowledge** using the **scientific method**. This method is based on **empirical** or **measurable evidence**, subject to specific principles of **critical thinking** and **reasoning**. **Experiments** are an important tool of **scientific method** needed to **test hypotheses**.

Science is either **pure** or **applied**: it seeks **knowledge** either for the sake of knowledge itself or for its application to practical purposes.

All these elements of the science-based practice of medicine tell us that physicians cannot **cure** the patient unless their **knowledge** about medical diagnosis and treatment is well-grounded in **research** and

scientific evidence. We see the importance of this through the **scientific method** employed to **test** plausible therapies through **clinical trials**, or through **personalised medicine**, which uses scientific insights into the genetic and molecular basis of health and disease to guide decisions about the prediction, prevention, diagnosis, and treatment of illnesses.

3.2 Medicine as art

At the same time as being a **science**, medicine is also an **art**. The art of medicine requires the ability of a clinician to establish a **good relationship** with the patient based on several **skills** and **values**, such as **caring** for patients, or showing **compassion** and **sensitivity** towards patients. Today, these values follow the principles of **humanism** in medicine because they call for putting the **patients** and their **interests** at the centre of focus, or understanding that **compassion**, **duty**, **honesty**, and **respect** can be effective sources of **healing** when describing how physicians should interact with patients and their families (Malterud 2001; Miles 2002).

Humanistic medicine has always existed since the **ethical principles** of the **Hippocratic Oath**.

Making the art of medicine the model for humanism today also means following the principles of **biomedical ethics** that sees medicine as an **ethical, moral activity**. This idea of **medical ethics** has to do with moral principles governing the activity of a ‘good doctor’, who is there to serve the **autonomy** of the patient – what he or she wants.

3.3 Science and art of medicine go hand in hand

In this way, we see that the **science** and **art** of medicine are complementary to each other. They form a picture of a **physician** as a **scientist** who is equipped with a large body of **scientific knowledge** to understand the **curative** patterns of disease, diagnosis, and treatment of the patient, and has **ethical bedside** manners and **values** that are humane, compassionate, and empathetic to do what is best for the patient’s interest. In the same way, the **science-and-art** shared meaning of medicine sets a wider context for the **doctor-patient relationship** and **health care**.

3.4 Evidence-based medicine and other approaches

Today, the effects of science on the art of healthcare are reinforced by the advantages of **evidence-based medicine (EBM)** as an important component of a **medical education curriculum** and **medical profession**. Evidence-based medicine involves providing consistent care for patients using the best **evidence** derived from the latest **scientific information** and making decisions about individual patients (Sackett et al. 1996). A common approach to evidence-based medicine involves:

- **Defining** a clinically relevant question
- **Searching** for the best evidence.
- **Assessing** the quality of the evidence.
- **Acting** on the evidence to make a clinical decision.
- **Evaluating** the process.



Besides evidence-based medicine, other approaches to medicine have evolved, including **patient-centred medicine**, **patient-centred care**, **personalized medicine**, and **person-centred health policy**, among others.

4. Medical science and art: a comprehensive view

If we draw together the issues of medical science and art, we understand that medicine is not just about a range of **specializations** organised by an **organ system**, such as **cardiology**, or by a system for **certifying specialists**, it is also about the broad fields of **clinical medicine** and **medical research** as important

sources of **knowledge** about the identification of **real causes** and a search for the **best treatment** of **disease** using the **scientific method**.

In these fields, contemporary medicine applies **biomedical sciences** (involving portions of natural science or formal science), **biomedical research** (extending from basic research to clinical research), **genetics**, and **medical technology** to diagnose and treat disease using **conventional evidence-based practices**, such as **medications/drugs**, **surgery**, or other **treatment protocols**.

When it comes to the clinical side of medicine based on direct examination of patients, known as **clinical medicine**, physicians and other health professionals use **medications** in the **medical diagnosis**, **treatment**, **prevention**, and **cure** of a patient's **disease**, and rely on knowledge learned from **laboratory research** and **clinical judgment**. So, for example, if a patient has the flu, the doctor will personally assess their signs and symptoms, make a diagnosis, and prescribe medications to help them feel better.

Central to **clinical medicine** are the activities of two interacting parties that characterise the bilateral and dynamic quality of the **doctor-patient relationship**. The **therapeutic function** of this relationship allows diagnosis to be the traditional basis for **decision-making** in clinical practice and plays an important role in the **quality of medical care**, **medical ethics**, and **doctor-patient communication**.

Emotional intimacies are also naturally involved in a **doctor-patient therapeutic relationship**, meaning that patients often entrust their bodies and sometimes their lives to doctors, so that **trust** plays an important role.

5. History of medicine

The **history of medicine** is important because it shows how **societies** have changed in their approach to the **prevention** and **treatment** of **disease** from ancient times to the present. It is also important for the evolution of **medical English lexicon**, that is mostly derived from **Greek** and **Latin**. These were the dominant **scientific languages** of **medical writing**, which began more than 2,000 years ago.

Greek and Latin roots		
English Form	Meaning	Example
angi(o)-	vessel	angiogram
card(i)-	heart	cardiovascular
hist(o)-	webbing (tissue)	histology
thorac-	chest	thoracic

5.1 The early days of medicine

In prehistoric times, physical manifestations of illness were usually explained in spiritual terms through the religious and philosophical beliefs of local culture and discovered from several ancient forms, such as early **Egyptian** medicine, **Babylonian** medicine, **Chinese** medicine, ancient **Greek** medicine, and **Roman** medicine (Bynum 2008). For example, herbs and other materials of **folk medicine** were used ritually as **magical** substances for healing by spiritual leaders such as **shamans** and **priests**, who displayed supernatural knowledge of human illness and performed the role of **medicine men/women** or **healers** for their local communities (Grayson 1997).



5.2 Greek and Roman medicine

It was not until 400 BC that the Greek physician **Hippocrates** introduced a new theory, known as the **humoral theory**, or **humorism**. In this theory, Hippocrates rejected the views of his time that considered illness to be caused by superstitions and based his medical practice on the observation of clinical signs and rational conclusions (Bynum 2008). The idea behind his theory was the belief that physical and mental illnesses resulted from imbalances among the chemical systems regulating human behaviour, known as the **four humours: blood, black bile, yellow bile, and phlegm**. The qualities of the humours described by Hippocrates and then developed further by Galen gave importance to the physician's role in



diagnosing the natural causes of disease and telling patients how to restore their humoral balance, and so heal themselves.

Besides the humoral theory, Hippocrates was the first to describe many diseases as **acute**, **chronic**, **endemic**, and **epidemic** and was notable for the most widely known of Greek medical texts: the **Hippocratic Oath**. This document is an oath of ethics historically taken by doctors when doing their work, and establishes several principles of **medical ethics** which are still relevant today. For these reasons, Hippocrates is commonly portrayed as the Father of Western medicine and also credited with laying the foundation for a systematic approach to **clinical medicine**.

Ancient Roman medicine was highly influenced by Hippocratic medicine but made its original contribution with the use of **surgical instruments**, herbal and other medicines for **dietary treatments**, along with the establishment of **hospitals**.

5.3 Early modern era of medicine: 16th-18th centuries Renaissance

During the early Renaissance (16th century), many physicians took a renewed interest in the ancient writings of **Greek, Roman and Islamic scientists** and took advantage of the **printing press** to spread new medical ideas. At the same time, an increase in **experimental investigation** made it possible to advance the scientific knowledge of medical sciences, including **human anatomy, physiology, surgery, dentistry, and microbiology** (Siraisi 2012).

During the Renaissance, **Latin** was the sole **lingua franca** of the scientific world and *De Medicina* was one of the first books published using the **printing press**. While the most basic medical terms over this period were **Greek** in origin, new medical terms for discoveries and specialised anatomy were added from **Latin**.

With medical advances in human anatomy through hands-on dissection and body examination, early modern physicians across Europe began to view human **physiology** as an interdependent system of organ groupings. For example, Flemish surgeon-anatomist Vesalius described in detail the anatomy of the brain and other organs of the body, and English physician Harvey explained the structure of the heart and blood circulation. By the late 18th century, the growth in medical technology fostered advances in the **clinicopathological method**, or **morbid anatomy**, so observations were made by English scientist Robert Hook in the field of **biology** to view **cells** under a microscope (Siraisi 2012).

But progress made in human anatomy and pathophysiology did not come out of the blue because medicine was influenced by the **Enlightenment** idea of **empiricism** in Europe during the 17th and 18th centuries. This is to say that physicians at this time saw empiricism as part of their medical practice and relied on the **observation** and **experimentation** of physical phenomena to understand more clearly how the human body reacted under different circumstances and apply that **empirical knowledge** to the treatment of patients.

Put simply, **empiricism** emphasises the role of empirical knowledge or opinion grounded in experience. This experience might include **scientific experiments** or first-hand observation of the natural world and must be **verifiable**, capable of practical demonstration - **empirical evidence**.

The effect of this was that the Hippocratic-Galenic understanding of anatomy based on the theory of **humorism** was rapidly abandoned, and physicians could take a more active role in treating disease. In other words, physicians were now in command of new scientific and empirical concepts for the production of medical knowledge. This formed a rational scientific basis for every branch of **clinical medicine** in Europe and overseas.

5.4 Advances in modern medicine: 19th century

In the 19th century, scientific and technological developments multiplied. Developments in experimental research resulted in new knowledge in the areas of **histology, pathology, and microbiology**, and involved new methods of **microscopy** that revealed micro-organisms (Guenter 1999). Because **hospital medicine** and **laboratory medicine** were now seen in terms of historical continuities, physicians in Paris, Dublin

and the United States began a much more systematic analysis of patients' symptoms in diagnosis. So, new techniques were developed for **antisepsis** and **anaesthesia** in clinical medicine, and new cures developed for **infectious diseases** by advances in **bacteriology** and **virology** (Madigan 2006). In particular, the scientific **germ theory** maintained that certain infectious diseases were caused by **pathogens** or **germs**.

In addition to the scientific field of **psychiatry** introduced by Austrian neurologist Freud, other developments in **preventive medicine** followed in the 19th century because the maintenance of **health** was now becoming as important a concern as the treatment of disease. The importance of keeping the quality of **national health services** in a number of countries involved developing the standards for **medical training** and **practice** by many public and professional bodies. This reflected the rise in **hospital-based practice** across Europe and the professionalization of **nursing** roles and training for women (Bynum 2008).

5.5 Medicine of the 20th century and beyond

The 20th century produced an abundance of discoveries and advances in medicine than ever before reinforced by increased specialisation between **medical scientists** throughout the world. For example, Scottish bacteriologist Fleming discovered the antibiotic **penicillin** for the treatment of various infectious diseases, and physicians were able to increase many patients' chances of survival after injury or illness. Notable progress was made in areas as diverse as **endocrinology**, **chemotherapy**, **biochemistry**, **physiology**, **immunology**, **genetics**, and **nutrition**, with **cardiovascular surgery** being introduced for the first time since the early 1900s (Cooter/Pickstone 2003; Bynum 2008).

As quickly as a variety of **medicines** progressed in the 20th century, **biomedical technology** advanced ever faster around the world with the invention of non-invasive imaging techniques, such as **X-ray**, **computerized axial tomography (CAT)**, and **nuclear magnetic resonance (NMR)**. As medicine and technology became more specialized industries, the aim of **evidence-based medicine (EBM)** combined the experience of the clinician and the values of the patient with the best available scientific information to guide decision-making about **clinical management** (Cooter/Pickstone 2003; Bynum 2008).

6. Healthcare delivery systems and interprofessional care teams



When we think about the healthcare industry, we mean a variety of **healthcare systems** that deliver **health care services** to meet health needs of people around the world. The various **individuals**, **institutions** and **organisations** are generally referred to collectively as the **health care delivery system**, although they are also known to include **public**, **private** and **informal sectors** (White et al. 2013). Around the world, **professionals** as **individuals** may be **physicians**, **surgeons**, **nurses**, **therapists**, **pharmacists**, or others.

Doctors or **physicians**, **nurses**, **psychotherapists**, and other professionals are also known as **clinicians** who work directly with patients in a **hospital** or other **healthcare settings**. The **doctor/physician** is a licensed healthcare professional while the **nurse** is a licensed healthcare professional who practices independently, or is supervised by a physician, surgeon, or others. The **medical** or **clinical scribe** is a paraprofessional who specializes in charting **doctor-patient encounters**, such as during **medical examinations**. A **scribe** documents patient information in the patient's **Electronic Medical Record (EMR)**.

In a *medical* context, the term **doctor** or **physician** refers to any professional who practises in a medical area, such as a **dentist**. In a *nonmedical* context, a professor of history or a person awarded an honorary doctorate by a university might be called a **doctor**. In the United Kingdom, **doctors** are also known as **medical practitioners**. UK doctors who provide primary care for patients are known as **general practitioners (GPs)**, and sometimes as **family doctors** who work in **practices**. UK practices are based in a **surgery**, which may be:

- ✓ the office where GPs work > *Dr Smith has moved his practice to a new surgery in London,*
- ✓ the work done by a doctor, dentist, or surgeon > *The patient needs heart surgery, or*
- ✓ a time when GPs see patients for examination > *Afternoon surgery is from 14.00 to 16.00.*

More broadly, a US doctor is named as **physician** who may be an **internist** or **hospitalist** – a physician who works largely or exclusively in hospitals and specialises in treating **hospitalised patients**. (*Dictionary sources*)

6.1 Interprofessional collaboration

Around the world, these professionals are also identified for their role in co-delivering patient care and communication through **collaborative practice** (Meads et al. 2005). According to the World Health

Organisation, **collaborative practice** occurs when “multiple health workers from different professional backgrounds provide comprehensive services by working with patients, their families, carers and communities to deliver the highest quality of care across settings’ (WHO, *Framework for Action*, 2010: 13). In line with this, the World Health Organization recognizes **interprofessional collaboration in education and practice** as an innovative strategy that plays an important role in strengthening health systems and responds to local health needs around the world (WHO, *Framework for Action on Interprofessional Education and Collaborative Practice*).

6.2 Interprofessional care teams: the UK healthcare system

Healthcare services in the United Kingdom are increasingly configured as **teamwork activities** rather than **individual activities**, and physicians, nurses, pharmacists, therapists, and other health practitioners often come together as **interprofessional health and social care teams**. Teams of different professionals are not only concerned with the highest quality of care and improvement of patient/client outcomes (West et al. 2001), but also focus on **shared values** (Baldwin 2007) that are important for **interprofessional or interdisciplinary practice** of healthcare delivery.

The importance of team working in health care is emphasised in numerous reports of the **National Health Service (NHS)**. The NHS is a comprehensive term for the publicly funded healthcare systems of the United Kingdom and provides primary healthcare for everyone. This is to say that health care in the United Kingdom is devolved to the separate systems of England, Wales, Northern Ireland, and Scotland, with each country having different **policies** and **priorities**. Each system uses **general practitioners (GPs)** to provide **primary healthcare** and to make **referrals** to additional services as necessary. **Hospitals** provide more specialist services as well as direct access to **Accident and Emergency (A&E)** departments, also known as **emergency departments** or **casualty**. These deal with life-threatening emergencies, such as chest pain, breathing difficulties, stroke, and trauma caused by road traffic accidents.

6.3 Types of healthcare services

Healthcare delivery around the world generally comprises three types of healthcare services: **primary healthcare**, **secondary healthcare**, and **tertiary healthcare** (Haggerty et al. 2007; Thomas-MacLean et al. 2008; White 2015). In **Western, English-speaking countries**, such as Britain, United States and Canada, each type of service is related to the complexity of the medical cases being treated as well as the skills and specialties of the providers, and is determined by specified variables such as finance, regulation, and service provision (Freeman 2000; Tuohy 2003).

Medical care services in these countries are generally delivered in two main ways: **ambulatory care**, or **outpatient care**, and **inpatient care**. These care services include **general medical practice** or **doctor’s surgeries** in the British health system and **doctor’s offices** in the American system, alongside **clinics**, including **urgent care centres**; and **hospitals**, including **emergency departments**.

Outpatient vs. Inpatient Care

Outpatients are the people who go to **hospital** to attend a **specialist clinic** or have **medical tests** or **treatment** at the time of their **appointment** and then return home on the same day after they receive care at the hospital. In the UK, outpatients are usually **referred to** the hospital by their **general practitioner**, who writes a **referral letter** to the receiving clinician at the hospital or clinic.

This type of care contrasts with **inpatients**, who must be **admitted** to the hospital before they occupy a **bed on a ward**, known as **inpatient admission**. So, being an **inpatient** means that a person must stay in the hospital for at least one night and the rooms where they stay are called **wards**. During this time, they remain under the supervision of a nurse or doctor.

6.4 Primary healthcare

As the name suggests, **primary healthcare** provides people with their initial care or **first-contact care** within the health care system, ranging from promotion and prevention to treatment, rehabilitation and palliative care delivered *outside* a **hospital**.



In the UK, for example, primary care is mainly delivered by a **doctor**, who provides comprehensive medical care in **general practice (GP)**, also known as **family practice** or **family medicine**. **General practitioners** may diagnose and treat illnesses based on the **presenting symptoms**, or encourage patients to take preventive measures for their health, such as eating a healthy diet. However, primary care can also include other professionals in medicine, such as **dentists** and **physiotherapists**, and extends to those in the **allied health fields**, such as **midwifery**, and **nursing**. This type of care often involves GPs receiving and treating patients on a **walk-in** basis.

6.5 Secondary healthcare

Secondary healthcare, also called **referral services**, is provided to patients by specialists and healthcare professionals to whom patients are often referred by a GP. This kind of service is delivered *in hospitals*, which primarily exist to provide **outpatient** or **inpatient care**. In the UK, this includes both emergency and non-emergency hospital contacts such as **A&E**, and **outpatient clinics**, where **cardiologists**, **dermatologists**, **psychiatrists** and others are involved.

Referral is when a GP arranges for another practitioner to provide a service that falls outside his or her professional competence – hence he or she refers the patient to another healthcare professional. A **referral letter** is the means of communication between **primary** and **secondary care**. This letter gives the receiving clinician at the hospital/clinic a detailed summary of the patient's presenting complaint, medical history, and other information to ensure a smooth transition of care.

6.6 Tertiary healthcare

Tertiary healthcare is a higher level of specialty care offered to patients referred from health professionals working in primary care and secondary care. This care is offered in specialised hospitals. Advanced levels of diagnosis and treatment are sometimes labelled as **quaternary care** services, and are used as an extension of tertiary care.

6.7 Digitalisation of healthcare services: telemedicine

The context of a change induced by **digitalisation** is important for healthcare delivery services. **Telemedicine** offers additional treatment options alongside existing, non-digital ones and provides medical care remotely, usually through **video conferencing**, and sometimes via **email** or **phone messaging**. It offers a range of benefits for patients and healthcare providers. By way of examples, telemedicine can be used to offer a wide range of care options, such as providing primary care consultations, and writing or renewing prescriptions. Telemedicine is a convenient option for patients who cannot attend a healthcare facility in person, or have to practice physical distancing.

7. Medical education

The medical profession is made up of a group of individuals who are formally trained to apply specialised knowledge at the service of the people they work for. To achieve mastery of a complex body of knowledge, **medical education** equips medical students with the skills necessary to become fully qualified practitioners,

Studying medicine involves an expectation to work harder than most other students and **medical degrees** are lengthy and demanding competitive paths to embark upon. Such degrees are based around preparing students to understand and use the principles of **clinical medicine** alongside the **scientific basis** of medicine. **Medical specialties**, including **anatomy**, **physiology**, **biochemistry** and **pathology**, are all applicable in diagnosing, understanding and treating a disease. These add to **surgical specialties** focusing on technical skills that are necessary to perform **operations**. Educational programmes and teaching methodologies vary considerably around the world because of the international landscape of healthcare work. However, it is often the case that medical degrees are awarded to medical students after the completion of their **degree programme**, which spans a good number of years, and after a period of **supervised practice**, **internship**, or **residency**.

7.1 Medical education in the UK

In the United Kingdom, the most common path to becoming a doctor is to take an **undergraduate-level** course in medicine at **medical school**. Some British medical schools also require candidates to take the **UK Clinical Aptitude Test**, which assesses mental abilities and aptitudes rather than scientific knowledge. Medical schools and universities in the UK are also committed to teaching **interpersonal** and **communication skills** alongside **medical ethics** and **professionalism**. **Good communication skills** are essential to becoming a good doctor and working effectively and accurately with clinical teams. **Medical ethics** training gives students the ability to recognise and reason about **moral** and **legal issues** when making **clinical decisions**, and to assess **professional responsibilities** and **values** regarding patients, families, colleagues, and society.

After **graduation**, a two-year **Foundation Programme** follows, which provides training for new doctors in different **specialties**. This Programme forms the bridge between university-level study at medical school and specialist or general practice training. In addition, **postgraduate training** allows doctors to become **GPs** or **consultants** as senior specialists in a medical area and is delivered through **colleges**, such as the **Royal College of Physicians**. However, medical science is continuously evolving, so **continuing professional education** in the form of **conferences**, **seminars**, and **online programmes** enable doctors to advance their knowledge and skills.

Medical degree **titles** also vary in different countries. In English-speaking countries, these titles include the **Doctor of Medicine** or **Bachelor of Medicine and Surgery** awarded by **medical schools**, which are often part of **universities**. A **Bachelor of Medical Sciences** is a UK degree title for those who wish to follow a career in medical research.

7.2 Medical regulatory bodies

Prior to being called a physician, a medical school graduate must receive permission to practice medicine within a certain country. This permission is known either as **registration** as in the United Kingdom, or as **licensure** in the United States, and may require the applicant to **pass exams** with a medical board. For this reason, **medical regulatory bodies** are responsible for the **registration/licensure** of physicians and the standards of practice of registered/licensed physicians within a particular country – they are established in most countries to protect the public by ensuring that physicians are **competent** and **fit to practice**. These bodies are also responsible for managing **complaints** in cases of **medical malpractice**, or managing **poor performance** of physicians.

The **General Medical Council** is the independent regulatory body for **doctor's registration** in the United Kingdom. It promotes and maintains the health and safety of the public by making sure that doctors meet the standards for professional and ethical conduct. In order to practise in the **National Health Service (NHS)**, all doctors must be **registered** – they must be included in the General Medical Council's list, or **medical register**. If doctors fail to meet their professional standards, they are said to be **struck off** – suspended or removed from the UK register.

8. Branches of medicine

Medicine as a career is a broad field. It involves a variety of **branches** that refer to names of different studies and training under **medical science**. These branches can be classified as:

- **basic sciences**, which provide the building blocks of most medical curricula and clinical practice;

Communication skills

In the UK, the importance of good communication skills is recognised by the **General Medical Council (GMC)**, the **British Medical Association (BMA)** and the **Royal Colleges of General Practitioners (RCGP)**, **Physicians (RCP)** and **Surgeons (RCS)**. Today, all the Royal Colleges assess communication skills within their membership examinations, and candidates with inadequate skills cannot progress in their medical practice.



- **clinical diagnostic sciences**, which apply laboratory techniques to diagnosis and management of patients; and
- **internal medicine**, concerned with the prevention, diagnosis, and treatment of internal diseases, as opposed to **surgical medicine**, dealing with operative medicine to treat disease.

Different **specialties** and **sub-specialties** exist for the fields of medical practice where **body systems** are studied. Some of these specialties are:

Names of **medical specialties** usually end in **-ology** while names of **specialists** usually end in **-ologist**. If the name of a **specialty** ends in **-ics**, the name of the **specialist** ends in **-ician**. There are some exceptions, such as **anaesthetics** and **anaesthetist**.

- **Anatomy**. This is a basic branch of medicine which deals with the form and structure of the body. **Anatomists** are also involved in **clinical anatomy**, concerned with the practical application of anatomical knowledge to diagnosis and treatment, and **radiologic anatomy** or **x-ray anatomy**, concerned with study of organs and tissues based on their visualization by x-rays.

Human body

The **human body** can be divided into several main structures: the **brain**, which controls the body, the **neck** and **trunk**, which keep the body alive, and the **limbs** (arms and legs), which help the body to move about. The human body has five main **senses**, including **sight** (eyes), **hearing** (ears), **smell** (nose), **taste** (tongue), and **touch** (skin). The human body consists of several **organ systems** that work together to perform a specific function. They are:

Skeletal System – this is made up of bones, ligaments, and tendons which support the overall structure of the body and protect the organs.

Muscular System – this works closely with the skeletal system.

Cardiovascular/Circulatory System – this helps deliver nutrients throughout the body. It consists of the heart, blood, and blood vessels.

Digestive System – this helps to convert food into nutrients and energy for the body. Some of the organs included in the digestive system are the stomach, small intestine, large intestine, liver, and pancreas.

Nervous System – this allows the brain to control various functions of the body. It includes the brain, spinal cord, and a large network of nerves.

Respiratory System – this brings oxygen into the body through the lungs and windpipe.

Endocrine System – this produces hormones that help regulate the other systems in the body.

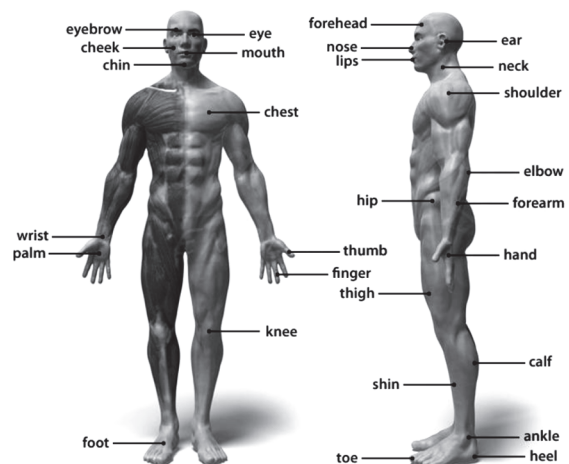
Urinary System – this uses the kidneys to filter the blood and eliminate waste.

Immune/Lymphatic System – this protects the body from diseases.

Reproductive System – this includes the sex organs that enable women to have babies.

Integumentary System – this helps protect the body from the outside world. It includes the skin, hair, and nails.

Anatomy terms	
Term	Body part in lay language
abdominal	abdomen
buccal	cheek
cranial	skull
gluteal	buttock
nasal	nose
pectoral	chest
sternal	breastbone
ventral	belly



● **Anesthesiology** (US) or **anaesthesia** (UK). This is concerned with pain relief for patients before, during, and after surgery, through substances (**anaesthetics**) that produce anaesthesia. **Anaesthesiologists** specialize in this kind of perioperative care, developing aesthetic plans and administering anaesthetics. Some of the subspecialties included in this field are **pain medicine** and **sleep medicine**.

Biomedical research is the area of science concerned with the prevention and treatment of disease or disfunction alongside the genetic and environmental factors that lead to illness and health. **Biomedical researchers**, such as **chemists**, **biologists**, or **pharmacologists**, use the knowledge gained in **basic** and **applied research** to solve a particular **biomedical problem** through **experiment**.

● **Biochemistry**. This is concerned with the structures and functions of biological components, such as proteins and lipids, and the way they interact with the body. While there is a lot of cross-over with **biomedical research**, **biochemists** often combine ideas developed in the fields of **genetics**, **molecular biology**, and **biophysics**.

● **Cardiology**. This is concerned with the diagnosis and treatment of heart disorders alongside the diseases of the cardiovascular system. **Cardiologists** perform basic studies of heart function and perform some procedures, such as **angioplasty**, or inserting a **pacemaker**. By contrast, **cardiac surgeons** perform heart surgery. Heart diseases that the target cardiologist can help with include **atrial fibrillation**, and **coronary heart disease**.

● **Dermatology**. This is a clinical specialty concerned with the diagnosis and treatment of skin disorders. **Dermatologists** are competent at the medical and surgical aspects of the field because they can diagnose any kind of disease related to skin and perform skin biopsies or dermatological surgical procedures.

● **Endocrinology**. This branch deals with the study of hormones, the endocrine system, and their role in the physiology of the body. It is a subspecialty of **internal medicine** dedicated to the diagnosis and treatment of disorders of the endocrine system. **Endocrinologists** treating hormone diseases find the way hormones are essential for our every-day survival and control our sleep, mood, stress, and more.

● **Epidemiology**. This deals with the causes, distribution, and control of epidemic diseases and other health-related conditions in populations. Epidemiology is **data-driven**, so **epidemiologists** help with the study design, collection, and statistical analysis and interpretation of data used in **clinical research** and **evidence-based medicine**.

Epidemiological practice is a keystone of **public health studies** and shapes **policy decisions** that are consistent with the **health management** of **target population**.

● **Internal medicine**. This is concerned with the diagnosis, treatment, and prevention of internal diseases. **Internists**, also referred to as **general internists** or **doctors of internal medicine**, are general medical physicians who treat particularly complex or multisystem medical conditions affecting the heart, blood, kidneys, joints, etc. Sub-disciplines of internal medicine include **cardiology**, **endocrinology**, **geriatrics**, **haematology**, and **rheumatology**.

● **Nutrition**. This is the study of how food and drink affect the human body with regard to the essential **nutrients** necessary to support human health. **Nutritionists** help treat, cure, and prevent diseases and conditions by advising people on what to eat and how to modify their **diet**.

● **Obstetrics** and **gynaecology** (UK), or **obstetrics** and **gynecology** (US). This is the combined field of **obstetrics** – dealing with the care of women during pregnancy, childbirth, and the recuperative period following delivery, and **gynaecology** – dealing with the diagnosis and treatment of disorders affecting the female reproductive system.

OB is short for **obstetrics** or for an **obstetrician**, a physician who delivers babies, and **GYN** is short for **gynecology** or for a **gynecologist**, a physician who specializes in treating diseases of the female reproductive organs.

● **Pathology.** This is concerned with the essential nature of diseases and their structural and functional changes. **Pathologists** study the causes and effects of disease and contribute to diagnosis, prognosis, and treatment through knowledge gained by the laboratory application of the **bioscience research** fields. Pathology covers several subspecialties, including **clinical pathology**, **haematology**, and **molecular pathology**.

● **Paediatrics.** This is the field of medicine concerned with the development, care, and diseases of infants, children, and adolescents. **Paediatricians** often work in the **neonatology** subspecialty.

● **Pharmacology.** This is the study of **drugs**, or **medicines/medications**, their sources, their nature, and their properties with relation to their therapeutic value. Unlike **pharmacists**, who prepare, dispense and advise on medicinal drugs, **pharmacologists** are scientists who research new drugs – they are responsible for advancing **pharmacotherapy** in **clinical research**. The corresponding scientific discipline, called **clinical pharmacology**, plays a crucial role in promoting the **quality**, **safety** and **efficacy** of medicines in individual patients and patient populations through **clinical drug trials**.

Medicines come from a variety of sources. Some can be bought over the counter at pharmacies, or other stores, and are known as **over-the-counter (OTC) drugs**. Other drugs require a doctor's prescription, and are known as **prescription drugs**. Medicines can be delivered in many ways, such as **pills**, **liquids**, **drops**, **injections**, and **inhalers**.

● **Radiology.** This medical branch makes use of imaging technology to diagnose and treat disease. Radiology may be divided into **diagnostic radiology** and **interventional radiology**. **Diagnostic radiology** helps doctors, called **diagnostic radiologists**, see structures inside the body and use a variety of radiant procedures for the diagnosis and treatment of disease, such as **computed tomography (CT)** and **magnetic resonance angiography (MRA)**. **Interventional radiology** helps doctors, called **interventional radiologists**, use a variety of percutaneous procedures to treat conditions in almost any part of the body instead of looking inside of the body through a camera.

Clinical trials: making a new drug

A **clinical trial** involves the testing of a new medicine (or other therapy) to evaluate whether it is **effective** and **safe** before it can be sold.

The first step in making a new drug is **research** - scientists study what causes a disease or a symptom and run experiments in the **lab** to see what chemicals may work. The next phase is **testing on animals**. Once scientists have had success in testing on animals, they will apply to the **national regulatory authority** for approval to begin **testing on humans**. Testing on humans takes place in three separate phases - **Phase I**, **Phase II** and **Phase III trials**, where the drug is tested for effectiveness and safety on a different group of people. If the drug passes through the various phases, it will be approved by the **national regulatory authority**.

In the United States, approval of clinical trials on a drug is the responsibility of the **Food and Drug Administration (FDA)**, while the agency that watches over drugs in the European Union is the **European Medicines Agency (EMA)**. If these authorities approve, then the drug can be sold.

- **Surgery.** This employs operative manual techniques on a person for the diagnostic or therapeutic treatment of conditions or disease. A training **surgeon** can study surgical techniques in a particular speciality, such as **cardiac surgery, general surgery, plastic surgery, hand surgery,** and more. Surgery can involve **excising** (cutting out or removing part of an organ/tissue/etc. from the person), **suturing** (closing a wound with stitches), **abrading** (wearing away by mechanical action), or physically changing body tissues and organs. At a hospital, surgery is often performed in an **operating theatre,** also called **operating room** or **operating suite.**

Surgical procedures can be classified:

- by **urgency**, as in **elective surgery** (to remedy a non-life-threatening condition),
 - by **purpose**, as in exploratory surgery (to facilitate a diagnosis),
 - by the **body part** involved in which case they take different terminology.
- ✓ Procedures involving excision or removal of an organ end in **-ectomy**, those involving cutting into an organ/tissue end in **-otomy**, and those involving reconstruction of an injured or deformed part of the body through plastic or cosmetic surgery end in **-oplasty.**

Surgical procedures

suffix	meaning	example
-ectomy	surgical removal/excision	hysterectomy
-otomy	cutting into	gastrotomy
-opexy	surgical fixation	nephropexy
-oplasty	surgical repair	rhinoplasty

Interdisciplinary fields

Some interdisciplinary sub-specialties of medicine include:

- **Forensic medicine** or **forensic pathology.** This is concerned with the application of medical knowledge to facts in civil or criminal legal cases – for example, investigating the cause and time of a suspicious death.

- **Gender medicine.** This is a field that focuses on the biological differences between the male and female sexes and their effects on disease.

- **Medical ethics.** This field deals with ethical and moral principles that apply values and judgments to the practice of medicine, usually a **clinical case.** Medical ethics encompasses **autonomy, beneficence, non-maleficence,** and **justice** as key values for deciding conflicts such as **euthanasia, patient confidentiality, informed consent,** and more.

Because different cultures understand ethical values differently, **medical ethics** and **culture** are often intertwined in healthcare settings and involve scholarly work in such fields as **history, sociology,** and **linguistics.**

9. Medical conditions

The idea that people seek treatment from medical professionals when they are feeling unwell, and these professionals treat patients to restore their health bring up different aspects related to **medical conditions.** Exploring these distinctions remains theoretically and philosophically important in medicine because they deal with the complex interaction between **patients’ views** and the **medico-professional view of disease.**



9.1 Medical conditions: distinctions

Nosology classifies different kinds of **medical conditions** defined by the processes that initiate (**aetiology**) or maintain (**pathogenesis**) a certain **disease** or **disorder**, by a collection of medical **signs** and **symptoms**, or by the **organ system** (World Health Organisation). Often these conditions concern **inpatient** or **outpatient healthcare** and involve descriptive concepts used in scientific disciplines, such as medical sociology or philosophy of medicine. They are:

• **Disease / illness / sickness.** The term **disease** refers to a “physiological malfunction that results in a phenomenon [...] independent of subjective experience and social conventions” (Twaddle 1968: 3; Hofmann 2002/2016; Juengst 2004). This reference describes the **biomedical** model of understanding, diagnosing, and treating the physical and biological aspects of disease that impairs the normal functioning of an area of the body. So, the term covers a **medico-professional perspective**, that is, how healthcare professionals **objectively** identify and handle different kinds of disease.

By contrast, **illness** refers to a “subjectively interpreted undesirable state of health” (Twaddle 1994: 10; Hofmann 2002/2016) and covers a **personal perspective**, that is, how it feels to be ill. Sometimes, however, illness exists where no disease can be found scientifically – **illness without disease**. This is, for example, when patients are feeling *pain* or *fatigue* that is generally perceived as a symptom, even though there is no medically diagnosed disease, or scientifically definable symptom. Or, vice versa, it may be that asymptomatic patients have been medically diagnosed with a certain disease but are not feeling ill or experiencing a loss of their health – **disease without illness**.

Sickness refers to socially and culturally held conceptions of ill health, such as the stigma of mental illness, which in turn influence how a person reacts in a particular society. Being sick also highlights how a person’s **social role** and **identity** are defined or changed by social norms, institutions, and policies, including laws (Twaddle 1994; Hoffmann 2002/2016). In family contexts, for example, the sick role of a person determines whether he or she may benefit from medical treatment and health insurance because of a social status ascribed to the disease or ill condition. In the same way, disability resulting from an impairment may limit a person in performing his or her normal social role.

Despite these differential uses of the concepts, the terms disease and illness are often used interchangeably by the general public as well as by medical professionals as are **injury**, **malady**, **morbidity**, **disability**, **disorder** and others in everyday language (Sadegh-Zadeh 2000).

• **Syndrome / sign / symptom / diagnosis.** These terms represent the complexities of medical knowledge. A **syndrome** is a combination of **medical signs** and **symptoms** which together represent the clinical picture of a **disease**, or other medical **condition** considered abnormal (Calvo et al. 2003; Eriksen/Risør 2014). So, a **medical diagnosis** (shortened as **DX** or **Ds**) refers to the process of determining which disease or condition explains a person’s signs and symptoms. When diagnosing a disease condition, doctors tend to look for a group of symptoms occurring together and narrow down what may be wrong by using a range of devices such as **stethoscope** or **X-ray imaging** to identify and analyse signs.

Quite often, people use symptom and sign interchangeably, but there is a difference between the two words in a medical sense.

• **Symptom vs. sign.** A **symptom**, also called **complaint** or **presentation**, is any **subjective** evidence of a disease such as *anxiety*, *low back pain*, *nausea*, and *paraesthesia* that can only be recognised by the patient experiencing them (Calvo et al. 2003; Eriksen/Risør 2014). Because symptoms represent the complaints of the patient, they drive him or her to visit the doctor, and diagnosis becomes a major component of the procedure of a **doctor’s visit**.

By contrast, a **sign** is any **objective** evidence of a disease that can be observable by the patient, doctor, and others, such as *skin rash*, *cough*, or *blood coming of a nostril*. A sign is also what the doctor finds on examining the patient, such as *high blood pressure*, and is known as **finding**.

• **Varieties of medical symptom and sign. Presentations** of medical symptoms can be of three types (Calvo et al. 2003; Eriksen/Risør 2014):

- **chronic symptoms** – these are long-lasting symptoms that cause pain to persist for a long time, such as *diabetes*, and are often used in contrast to the word ‘acute’, which refers to a disease or condition that comes on rapidly;
- **relapsing symptoms** – these are the symptoms which reoccur after disappearing in the past, such as *depression*; and

- ▶ **remitting symptoms** – these are the symptoms which become less severe for a time without absolutely ceasing, such as *cold*.

Still, many types of infection do not show symptoms and are known as **subclinical infections** or **asymptomatic conditions**, such as *syphilis* and *hepatitis*. These can be contagious despite not causing noticeable symptoms in the patient carrying the infection.

There are three types of **medical signs** (Calvo et al. 2003):

- ▶ **anamnestic signs** refer to the past existence of a disease or condition – for example, *skin scars*, which are evidence of *severe acne* in the past;
- ▶ **diagnostic signs** help the identification of a current disease from which the patient is suffering – for example, high levels of *prostate-specific antigen* in the blood of a male are a sign of *prostate cancer*;
- ▶ **prognostic signs** predict the future chances of occurrence of disease and how severe the disease will probably be.

Diagnosis for medical signs along with the presentations of symptoms can only succeed if healthcare professionals have knowledge of the principles of **medical semiology/semiotics** – the science of sign interpretation in medicine (Eriksen/Risør 2014). Because of its role in the interpretation of signs along the entire clinical process, medical semiotics provides clinicians and other healthcare professionals with a more complete scenario to analyse their patients' health.

➤ **Lay terms for medical conditions** – In addition to **anatomical terms**, **medical conditions** may affect regions of the **body** and end in different **prefixes**. **Lay terms** for such conditions are useful for patients to understand, avoiding **medical jargon**.

Prefix	Lay term	Medical condition
-algia	pain	myalgia
-emia	blood	hypoglycemia
-itis	inflammation	bronchitis
-opathy	disease of	neuropathy
-pnea	breathing	sleep apnea

Other lay terms for medical conditions:

Medical condition	Lay term
acquired deafness	loss of hearing
dextrocardia	anatomic reversal
hepatitis	inflammation of the liver
myopia	nearsightedness
nephrosis	any of various forms of kidney disease
paroxysm	a sudden attack or re-emergence of symptoms
tachycardia	fast heart rate

Talking about symptoms: Patient to Doctor

I feel light-headed (sensation of dizziness)

I feel tired all the time / I feel completely worn out / exhausted (tiredness, fatigue > loss of energy)

I feel unwell / I've been feeling off-colour for three days / I've been out of sorts all day (malaise > general feeling of being unwell)

Doctor Reporting Patient's Symptoms/Complaints [following the chief complaint in *medical history taking* ⇨ termed *history of presenting complaint* (HPC) in the UK]

Mr Smith was admitted complaining of low back pain / His presenting symptom/complaint was low back pain / He presented to his GP with low back pain

► In case notes, ‘complaining of’ is shortened as ‘c/o’ [low back pain]

Symptoms and Pain	
Asking about symptoms using the SOCRATES acronym for any type of pain history and assessment	
Site – Onset – Character – Radiation – Associations – Time course - Exacerbating/relieving factors – Severity	
Feature	Typical question
Site	Where does it hurt? Where exactly is the pain? Show me where it hurts
Onset	When did the pain start? When did it stop? Was it constant, gradual, sudden?
Character	What is the pain like? Can you describe the pain to me? Is it sharp/tight/crushing/etc.?
Radiation	Does your pain move anywhere?
Associations	Is there anything else associated with the pain, for example vomiting? Do you feel anything else is wrong?
Time course	Does your pain follow any time pattern? How long does it last?
Exacerbating/relieving factors	Does anything make it better or worse?
Severity	On a scale of 0-10, how bad is the pain?
Description of pain	
Patient describing pain	Meaning
aching / an ache	a dull persistent (usually moderately intense) pain
crampy / cramp	affected with or causing cramp typically caused by fatigue/strain
dull	lacking in intensity or sharpness
gripping	a sudden, sharp pain
stabbing	a sharp pain that occurs suddenly and intensely – it may fade and reoccur many times
stinging	a sharp, smarting pain as that of certain insects
throbbing	beating with a strong, regular rhythm, pulsating, as found in dental caries, headache, and localized inflammation

10. Doctor-patient relationship

The **doctor-patient relationship** is a foundation of medical practice and improved health care. However, it is a complex topic that means different things to different people and several concepts of doctor-patient relationship are now in current usage particularly in English-speaking countries, such as **biomedical**, **biopsychological**, **negotiator**, and **patient-centred** (Goold/Likpin 1999; Mead/Bower 2000; Kaba/Sooriakumaran 2007; Turabian 2017).



Even though this relationship is influenced by different factors such as **gender**, **socio-economic status**, and **ethnicity** (Forshaw 2002; Turabian 2019), it cannot be seen outside the context in which the **clinical interview** / **clinical consultation** takes place. The clinical interview is a dynamic site where medical care in the doctor-patient relationship can be expressed in several ways, including **instrumental** help and **affective** help (Bensing 1991).

10.1 Instrumental and affective components in doctor-patient relationship

The doctor-patient relationship can be understood as a specialised form of **therapeutic** and **human relationship** where the **knowledge and technical skills** of one person and the **medical needs** of another come together in a mutual relationship. This kind of relationship combines two important components or behaviours: **instrumental** and **affective** (Bensing 1991: 10).

The **instrumental** component focuses on the **biological**, or **scientific** side of medicine and involves the **competence** of the doctor in performing the technical aspects of care, such as performing **diagnostic tests** and **prescribing treatments** as necessary to solve the patient's health problem. The **affective** component focuses on the **interpersonal** nature of the relationship and includes the **bedside manner** of the doctor, such as empathy, compassion, and honesty, and any other elements of affective behaviour. Together these affective elements set the stage for a successful or unsuccessful **social interaction** between patients and doctors and reflect the **art of medicine** on the practical side of patient care. With a **good bedside manner**, for example, doctors can reassure and comfort patients while remaining honest about a diagnosis. With a **poor bedside manner**, on the other hand, doctors leave patients feeling unsatisfied, or alone. In other words, bedside manner can make or break a **patient interaction**, either encouraging an honest discussion about disease or putting off the patient in the entire process of doctor-patient communication.

Through instrumental and affective behaviours, patients bring medical problems to the attention of their physicians, share their illness with doctors and expect for their care by competent doctors to be of greatest benefits to them. In this way, a **therapeutic** and **human relationship** is formed between patients and doctors, providing the basis of successful **clinical medicine** where the doctor's job is to **cure** disease.

10.2 Doctor-patient relationship and medical ethics

To monitor medical care in this kind of relationship, we should briefly consider the principles of **medical ethics**, that are applicable to all physicians (Babu 2015).

The **Hippocratic Oath** was the initial expression of such principles that have historically been taken by doctors when doing their work. Hippocratic doctors believed that it was an **ethical duty** 'to do what is good for the individual patient', known as the principle of **beneficence**, and 'to do no harm to patients', known as the principle of **nonmaleficence** (Andersson et al. 2010; Beauchamp/Childress 2013). Hippocratic doctors also defined the components of the **art of medicine** regarding the requirements of **medical relationships** and the influence of the physician's character on **healing**. More precisely, they recognized that the ethics of caregiving required attention to **technical** and **interpersonal actions** at the **bedside**. These aspects tell us two main things. Firstly, the early concept of **bedside medicine**, as used by Hippocratic doctors to handle their patients within a clinical setting, has its modern counterpart in **primary care**. Secondly, **ethical duties** have become fundamental principles of **medical ethics** within the **doctor-patient relationship**. Today, the scope of **medical ethics** is wide and inclusive of developing **codes** and **guidelines** and preventing **ethical breaches**. It also includes the physicians' relationship with patients, families, colleagues, and members of society.

10.3 Types of doctor-patient relationship

There are different types of doctor-patient relationship where a **differential power** and **control** may be exercised by doctors and patients in the course of **medical decision making**. Traditionally, this asymmetrical nature of the interaction recognises three basic models of the doctor-patient relationship (Szasz/Hollender 1956). They are:

- **Activity-Passivity.** In this model, the doctor actively treats the patient, and the patient is passive and has no control. This model is entirely **paternalistic** or **doctor-centred** because the doctor has expert power and influence based on his or her recognised knowledge, experience and expertise - the idea that the 'doctor knows best' (Gallagher 1998). Because of this expert power and influence, doctors decide what is best for their patients and utilize their scientific (biomedical and clinical) knowledge and skills to choose the necessary interventions and treatments most likely to restore the patient's health. This model works well in medical emergencies when the patient may be unconscious, when treatment delays would seriously harm the patient, or when informed consent is not taken by the patient.
- **Guidance-Co-operation.** In this model, the doctor decides what is best for the patient and makes recommendations accordingly. This is to say that the patient still has less power and is

expected to follow these recommendations and obey without question. While still **paternalistic**, this model is appropriate in situations which are less severe.

- **Mutual Participation.** In this model, the doctor and patient share power and responsibility for making decisions about the course of treatment. This is to say that the doctor brings his or her medical knowledge to the consultation in terms of diagnosis and treatment, and patients bring their own expertise in terms of their experiences and explanations of their illness, values and preferences. So, mutual participation in this kind of relationship resides in **equal power** and **equal satisfaction**.

Although **paternalism (active-passive and guidance-co-operation)** may be appropriate in certain medical conditions, it has lost popularity over the last few decades, particularly in English-speaking healthcare settings (Parsons 1951; Alam 2007). This is because the nature of interaction between patient and doctor has been regarded as being too scientific and detached from the patient's own preferences; in other words, justifying a dominant approach to this kind of relationship. The result of this is that there has been support for the **mutual participation** model whenever it is medically practicable (Kaba/Sooriakumaran 2007). Working in partnership with patients under mutual participation not only means that the patient is able to participate in the decision-making process of care, it also means that there is a new managerial way of considering the patient as a **client** in health care management across the world (Bercovitz et al. 2019).

Mutual participation can also be seen through the lens of **patient-centred care** (Mead/Bower 2000), or **patient-centred medicine** (Stewart et al. 2003). These models of care are similar in purpose and are recognised as a core value in family medicine across several countries, including the UK, USA, and Australia (Scholl et al. 2014). In **patient-centred care/medicine**, doctors become involved in a wide range of difficulties that patients and their families bring to them in medical consultations, including their biomedical problems, sharing power and responsibility for acceptable medical options, forming a therapeutic alliance and respecting their cultural values and autonomy. To do this, doctors need to get to know the patient as a 'person' and actively involve him or her in making decisions about their care.

Patient-centred care may also enhance **patient empowerment**. There are many definitions for the concept of patient empowerment, with most focusing on patients as self-determining agents who have control over decisions and actions affecting their health (Aujoulat et al. 2007). In British and American societies, empowering patients to manage their health and wellbeing as effectively as possible is an integral part of **self-care** or **self-management** activities. In **self-care** activities, for example, patient empowerment begins with an individual taking responsibility for making daily choices about their lifestyle, such as eating healthily, or taking an active part in managing long-term conditions, but responsibility for care during and after appointment is entirely in the hands of the healthcare professionals. These days, **patient empowerment** strategies are to be found in a myriad of health-related websites and other sources of medical information, such as **self-care** websites (Tessuto 2015b).

10.4 Main requirements for a good doctor-patient relationship

A good doctor-patient relationship is built on several different requirements that are important to ensure a common understanding of both the doctor and patients' sides – **mutual participation** model. Some of these elements are **communication, compassion, empathy, respect, confidentiality, honesty, and trust**.

Effective **communication** (Farin 2010) incorporates both **verbal** and **nonverbal interaction** (Lee et al. 2002).

Communication skills such as establishing eye contact, listening without interruption, or collecting the patient's history satisfactorily, improve **patient compliance** with medical treatment and avoid decreasing patient satisfaction.



**Doctor communicating
empathic concern to
Patient**

*I can see this is upsetting to
you.*

The qualities of **compassion** and **empathy** involve sensitivity to the symptomatic experiences and needs of individual patients as well as kindness and humaneness in medical care (Haslam 2007). The opposite side of this includes rudeness and insensitivity, which have their negative impact on the therapeutic effect of the patient in this kind of relationship.

There must be **respect** for the patient's personal preferences, lifestyle and care choices (Jenkins et al. 2001). This is to say that the physician must not comment on the patient's culture, beliefs, race, gender, or social status – the physician has to walk in the patient's shoes. It is true that the ethical principle of 'respect' can be used quite broadly in ordinary language; however, 'respect' for patients in this special kind of relationship is often treated as requiring **respect for autonomy** (Beauchamp/Childress 2013).

When physicians treat patients as individuals and respect their dignity in a spirit of partnership, then respect for the patient's right to **confidentiality** and **privacy** is of the utmost importance (McCarthy 2008). Medical **confidentiality** means that doctors have a duty to refrain from revealing confidential information discussed with patients. So, anything doctors discuss with their patients must, by law, be kept **private** between the two sides. This duty is based on accepted **codes of professional ethics** which recognize the special nature of this medical relationship.

Allied with this moral duty is professional **honesty** (Beauchamp/Childress 2013). Physicians are expected to always tell the **truth** to their patients simply because patients who are well informed tend to collaborate with physicians and seek to be treated.

Trust is a fundamental characteristic of the doctor-patient relationship (Pellegrino/Thomasma 1993; Stewart 1995; Lee et al. 2002). Patients must have confidence that their doctors will work in their own interest to achieve optimal health outcomes.

Patient's trust in their physicians improves cooperation and contributes to the physician's sense of professional satisfaction. This way then, the doctor-patient relationship can be seen as a **fiduciary relationship**, or a **bond of trust**, as

Most **fiduciary**, or **trust relationships** across the professions, such as between a lawyer and a client, exist for the mutual benefit of all parties.

derived from the Latin *fides* meaning 'confidence', 'reliance', or 'faith'. The fiduciary relationship is explicitly established for the benefit of an ill or injured patient who is inherently vulnerable, so that the fiduciary role of a doctor is vital to the diagnostic and therapeutic process for providing optimal treatment recommendations. So, when a doctor enters into this relationship, he or she agrees to respect the **patient's autonomy**, maintain **confidentiality** and **privacy**, and provide the **highest standard of care**. When doctors fail in these responsibilities, they risk eroding that trust.

Communicating with peers and patients:

Tools of scientific method, argumentation & clinical reasoning

➤ Scientific method-based research in medical communication

In addition to **laboratory medicine**, where physicians obtain **results by experiment**, the **scientific method** is a natural place in **academic medical research** published in **medical research articles**, **medical case reports**, or other types of written medical communication.

A medical research article, sometimes called an **original article**, presents an objective view of a health problem, which is studied and solved by an **inquiry** based on the **scientific method**. These articles report either **findings of quantitative research**, **qualitative research**, or a **mixed method research**, and are the primary communication tools for advancing **knowledge** in the medical sciences.