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Biomedicine

Key issues

- The way we think about health and illness today reflects a way of thinking that dates back to the nineteenth century; it is known as the **biomedical model**
- The biomedical approach to health and illness has strengths but also weaknesses; it over-simplifies health problems in particular ways
- Health care practice today reflects the influence of the social and **biopsychosocial** models of health, which emphasize psychological and **social factors** influencing health and illness

Introduction

When you think about health care, what images come to mind? You may picture uniforms and sterile floors, white coats, plastic gloves and patients lined up in bed. It seems like ‘common sense’ to think about health in this way. However, this way of thinking about health is fairly recent. Our twenty-first century ideas about health can be traced back to the nineteenth century and the rise of an approach to human health that we now call ‘**biomedicine**’. Looking at the early history of biomedicine can help us to stand

back from our own experience of health and health care and think about what health means from a wider perspective.

Biomedicine, biomedical model: an approach to health and illness which defines illness as the absence of disease, portraying the human organism as either functioning 'normally' or else dysfunctional and therefore diseased.

A Short History of Medicine

Our society still places great value on science and a scientific approach to problems, seen as rational, objective and unbiased. But for most of human history people did not aspire to being 'scientific'. In medieval Europe, life revolved around the church, and society was dominated by religious ideas. People believed that the source of knowledge was God. Knowledge should only be acquired through God's agents on earth, priests, who were morally equipped to interpret the word of God as expressed in the Bible. To tamper with nature was seen as immoral, because nature existed as it did because it was 'God's will'. Ideas about human health were situated within this framework. For example, people who had visual and auditory hallucinations and would today be diagnosed as suffering from schizophrenia were considered to be possessed by demons. Health care, for those who could afford it, was carried out by a variety of healers who might have quite different ideas about how to effect a cure (Elmer, 2004).

By the sixteenth and seventeenth centuries, European society was changing in a way that would affect the rest of the world. One person who was important in the development of new ideas was René Descartes (1596–1650), often referred to as the founder of modern philosophy. Descartes is significant in relation to health because he was the most important thinker to articulate clearly a view which suggested that the mind and the body are two separate spheres. He argued that the body could be seen as part of the physical world and the mind as part of the spiritual world (see Figure 1.1). The mind and body are connected, but separate. This idea was an important

milestone on the road towards the development of modern medical ideas, or 'biomedicine'. The body was identified as the location for illness and part of the physical world. This was one step towards using scientific methods to try to understand how the body works and towards ending the former reluctance to interfere with the 'course of nature' (Seymour, 1998; Engel, 1977).

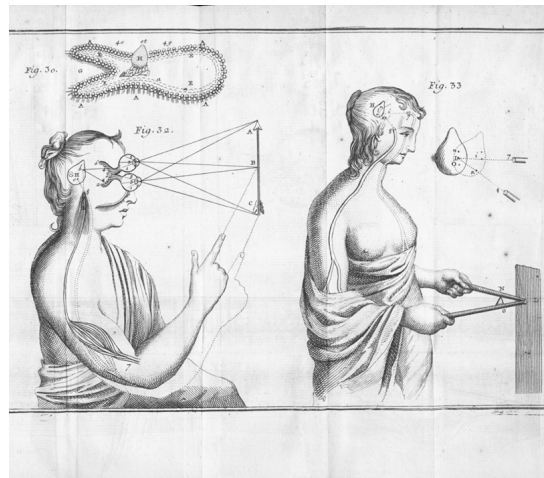


Figure 1.1 Note in Descartes' *Essai sur l'homme* the location of the soul, a teardrop shape inside the brain, seen as the controller of the body

Courtesy of Historical Collections & Services, Claude Moore Health Sciences Library, University of Virginia.

Descartes' ideas fitted with a new understanding of the world that would allow thinkers to engage in scientific experimentation without being labelled dangerous enemies of God. New social forces were emerging in society. These included manufacturers, small scale at first, who were increasingly motivated to develop new, faster and cheaper ways to produce things that would make them a profit in the marketplace. Over the course of several centuries, these new social forces became associated with enthusiasm for science and an intellectual movement now known as **the Enlightenment**. It is usually dated as starting in the late part of the seventeenth century and ending in 1800 at the beginning of the nineteenth century (you will read more about this in Chapters 2 and 3). Enlightenment thinkers celebrated 'reason' and rationality over superstition. They valued scientific methods of

investigation – observation and experimentation – rather than religious authority. The following seventeenth-century text shows the influence of machine imagery in the views of early anatomists as they peered over corpses, trying to understand the workings of the human body:

Whoever examines the bodily organism with attention will certainly not fail to discern pincers in the jaws and teeth: a container in the stomach: water-mains in the veins, the arteries and other ducts; a piston in the heart; sieves or filters in the bowels; in the lungs, bellows; in the muscles, the force of the lever; in the corner of the eye, a pulley, and so on. (Synnott, 1993: 23)

The Nineteenth-century Rise of Biomedicine

Biomedicine rapidly came to dominate approaches to health care over the course of the nineteenth century. This new scientific approach to health was associated with the rise of university medical training to ensure practitioners were experts in the science of medicine. Increasingly, the laboratory became the appropriate venue for medical research. The status of doctors and medical professionals increased as they formed their own organizations to set standards about who should and should not be allowed to practice health care (more about this in Chapter 10). As the medical establishment consolidated its influence in society, a variety of healers on the margins including herbalists and midwives were pushed aside (Lawrence, 1994; Brunton, 2004).

With the rise of biomedicine, patients' experience of medical care changed fundamentally. Where health care had been mainly carried out by traditional local healers at home, hospitals, places set aside especially for the treatment of the sick, now became the important site for health care (Jewson, 1976). In a society ever more focused on the idea of people as individuals, health care came to be about a relationship between two individuals: the medical expert, responsible for their individual conduct according to the standards of their profession, and the patient, responsible for monitoring their own health, reporting any problems and complying with the expert advice provided by the doctor (Gabe et al., 2004: 125).

Characteristics of Biomedicine

Biomedicine, the new scientific approach to medicine, was based on an underlying set of ideas about health that has been called 'the biomedical

model'. That model rests on some key assumptions about the human body, health and illness. Four are discussed here.

The Body as a Machine

The simplest feature of the biomedical model is that it describes the body as if it were a machine. Anatomy was a particular interest in the nineteenth century, and there was great competition to obtain human bodies to dissect and study. The early doctors were enthusiastic to discover the mechanical way that the parts of the body work together. Consequently, an important characteristic of the biomedical model is to treat the body as a machine. Sarah Nettleton labelled this feature the '**mechanical metaphor**' (2006). The body is imagined in biomedicine as if it were a machine.

Mechanical metaphor: a feature of the biomedical model of illness that portrays the human body as functioning essentially like a machine.

Mind-body Dualism

The biomedical model reflects the influence of the philosopher Descartes, mentioned earlier. Descartes was interested to understand the nature of human beings and consciousness and the relationship between the mind and the body. He suggested that we could distinguish between a person's brain and their mind, which are related, but not the same. Our ideas, beliefs and values cannot be reduced to biology, but belong to another realm. The body is governed by physical laws, but is also controlled by the mind (see Figure 1.1). This idea was essential for biomedicine to develop. However, it can also be associated with a view that emotions and beliefs – matters of the mind – were of secondary importance when it came to fixing body-machines (Seymour, 1998).

Discounting Emotion

The new scientific approach to health valued an objective, distanced approach to knowledge, against earlier approaches to knowledge, which were inconsistent, with individuals allowing their personal positions to influence how they

understood the world. Against this, biomedicine was concerned to observe and survey the object of study in a disinterested way. From the perspective of the new medical experts, the opinion of the patient was just one of many factors which had to be disregarded when making a diagnosis. From a scientific point of view, the patient's opinion was of no value at all as the patient was likely to be biased about their own health. The focus was on understanding the workings of the body, governed by natural laws that do not differ across individuals. What this meant is that biomedicine tended to discount the ideas and opinions of the patient (Atkinson, 1988).

One Single Cause

Over the course of the nineteenth century medical experts became convinced that illness was something that started with a problem in a specific organ of the body. Then, their focus shifted to specific tissues. By the 1880s, attention had turned to organisms too small for the eye to see but capable of causing symptoms throughout the body, in particular, germs (Najman, 1980). The arrival of '**germ theory**', the idea that particular diseases could be explained by particular germs, marked the beginning of high-profile quests to identify crucial germs behind major diseases. It was hoped this would be the first step to finding a way to drive these germs from the body, using antitoxins or inoculation. The discovery of germs was credited with saving thousands of lives of people suffering from major killers of the time, diseases like smallpox, cholera, diphtheria and typhoid. It is not surprising, then, that the idea that all illness could ultimately be explained by a single cause became a key assumption of the biomedical model (Davis and George, 1993; Hart, 1985).

Germ theory: an explanation which identified micro-organisms as the essential agent for particular infectious diseases.

The Context for Challenges to the Biomedical Model

Through the course of the nineteenth century and into the twentieth, the influence and prestige of medicine as a science advanced steadily, as did

science in general. New inventions and discoveries seemed to promise that science could solve many of humanity's problems. The Second World War, however, marked a point at which faith in science faltered. In particular, the 1945 bombing of Hiroshima, an act made possible by recent scientific advance, demonstrated that scientific progress could result in catastrophic destruction and loss of life.

Medical science also, despite its many achievements, began to deliver disappointments in the post-war years. Perhaps symbolic of this were the 12,000 babies born in the 1960s with shorter or missing limbs before the withdrawal of the morning sickness drug Thalidomide (Sargent, 2005: 240). The question of whether there would be a price to be paid for every cure found began to be asked. The 1960s also marked a time where people in countries across the world mobilized in a variety of social movements to confront governments whose authority had been called into question. One outcome of those movements was a cultural shift which saw populations become more politically aware and unwilling to accept the claims of elites claiming to act in their best interests.

In addition, the nature of illness changed. In the nineteenth century, germs were a major factor in morbidity and mortality. In that context a focus on finding the 'single cause' behind every illness made sense. However, from the mid-twentieth century, infectious disease became less important and the major causes of death were cancer and cardiovascular disease. Lifestyle and stress are now the most important threats to good health. Though childhood and infectious diseases remain major killers in the **majority world**, in the wealthiest countries today the major medical problems are chronic illnesses, conditions which have multiple causes (McKeown, 1979). As a consequence of all these social changes, after peaking in the 1950s the biomedical model began to be the target of increasing criticism. In recent decades biomedicine has been challenged from many quarters, including by a variety of health care professionals. As a result, conceptions of health and illness and health care practice have had to change (Wade and Halligan, 2004).

Majority world: a term used in preference to 'developing' or 'third world' countries, which attempts to avoid describing those countries in terms of how they appear from the viewpoint of those in the wealthiest countries.

Sociological Criticisms of Biomedicine

Sociologists in particular have been very critical of biomedicine. A sociologist is a social scientist who uses systematic methods to understand how the lives of individual people fit in with 'big picture' patterns in society – patterns of inequality, for example (more about that in Chapter 3). In recent decades, sociologists and some health professionals have argued forcefully that the biomedical model has some fundamental weaknesses. Any model is an oversimplification of reality we use to help us think about something complex. The danger is that by reducing complex processes to simple ones a model may *mis*-represent reality.

The metaphor of the body as a machine, for example, though very useful, oversimplifies reality. If the body is treated as a machine the focus is on physical symptoms that can be observed. Symptoms are seen as the signal that a breakdown has occurred in the body machine. The implication is that to treat illness it is necessary to examine the machine with the aim of removing the symptom. However, one problem with this approach is that removing the symptom may not solve the problem; an underlying illness might still be present. Another problem is that when trying to fix the problem, the biomedical approach focuses on the body itself. The idea that the breakdown may have to do with something outside the person does not fit with this model. As will be argued throughout this book, external factors outside the human body such as pollution, bad housing, dangerous neighbourhoods, domestic abuse and inadequate food and water supplies can all have a major impact on a person's health, but the 'body as machine' approach does not consider such factors (Nettleton, 2006).

As suggested above, the biomedical model can be criticized for arguing that all illness can be explained in relation to a single cause. Modern illnesses associated with stress and lifestyle factors do not have a single cause. Even diseases that are caused by germs need particular conditions in which to thrive. It is also the case that some health conditions do not necessarily cause any symptoms. People who have the Human Immunodeficiency Virus (HIV) or high blood pressure may not be ill. The opposite is also true – it is possible to have symptoms without having a recognizable health condition. People who suffer from conditions like Chronic Fatigue Syndrome (CFS) or Myoencephalitis (ME), for example, have struggled to have these syndromes accepted as diseases. In each of these examples, the idea that any illness must have symptoms stemming from a single cause is an obstacle to maximizing human health (Nettleton, 2006).

We also now know that the race to discover relevant germs and highly publicized ‘medical breakthroughs’ in the nineteenth century were not the most important factors in the success of the battle against tuberculosis and other diseases. Indeed, most of the drugs developed in this period would by today’s standards be considered ineffective (Fitzpatrick, 2008: 9). The more important but less glamorous achievement of biomedical research at that time was to highlight the potential for germs to be spread through unclean water. This recognition led to the provision of cleaner water supplies, resulting in dramatic increases in life expectancy (McKeown, 1979; Szreter, 1988).

This is a lesson about biomedicine that is still relevant today. Worldwide, simple poverty continues to be the most important health hazard. Measles and tuberculosis are still major killers in the majority world and fatality rates are high amongst the very young because malnutrition has weakened their ability to fight the disease. Chapter 3 will present evidence that shows that in developed countries a person’s degree of wealth or poverty also has a significant impact on their health. Too often, biomedical problems have been assumed to have biomedical causes and solutions, when the answers lie beyond the scope of individual practitioners.

Sociologists argue that all illness is socially constructed. How we understand our health or illness is a product of the society we live in. This does not mean that illness is not real, but that we can never understand bodily experiences such as illness except through the medium of our culture. Biomedical experts, however, have tended not to see it that way. The suggestion that biomedicine might reflect a historically situated approach to understanding health and illness rather than a purely objective standpoint is challenging for some scientists. One consequence of denying the social construction of illness is that medical professionals may fail to recognize ways in which their ideas about health and illness reflect social values (Lupton, 2012).

For example, in the nineteenth century doctors played an important role in ensuring that women were prevented from entering higher education. They argued that women’s biological inferiority meant that women should confine themselves to the domestic sphere. Entering higher education was simply physiologically dangerous for women and could only lead to physical or mental breakdown (Talairach-Vielmas, 2007) (you can read more about biomedicine and women’s health in Chapter 6). Today it seems obvious that these doctors (all men) were wrong. Their socially inherited views about the appropriate place for women in society influenced the way they interpreted the physiological evidence. Moreover, the history of social values influencing medical ideas about normality and abnormality is a history that is still continuing. As values change, future criticism of current ways of thinking about what is ‘normal’ and ‘abnormal’ is inevitable.

The Social and Biopsychosocial Models of Health

In response to the various limitations of biomedicine already discussed, attempts have been made to devise a new model for health and illness, one that retains what is most useful in biomedicine but addresses some of its weaknesses. Today we can talk about the social model (Morgan et al., 1985), or the biopsychosocial model, a model conceptualized by the psychiatrist George Engel. Working every day with people struggling with psychiatric problems, the psychiatrist George Engel was particularly aware that there was a problem with the idea that the mind and the body should be considered separately. Engel argued that the boundaries between health and illness are not clear because both ideas are influenced by cultural, social and psychological considerations. The job of the psychiatrist, Engel argued, should be to weigh up what balance of social, psychological and biological factors have led to the person feeling unwell or having a problem functioning as they think they should. A biopsychosocial model, he argued, would recognize that it is the physician's role to accept responsibility to evaluate whatever problem the patient presents and recommend a course of action. The focus of this biopsychosocial practice would be not just a body in need of repair but a thinking, feeling, social being, that is, a being with a biological, a psychological and a social self (Engel, 1977).

Biopsychosocial model: an approach to health and illness which sees illness as reflecting psychological and social as well as biological factors.

In what ways is the self social? The social model of health emphasizes in particular the role of wider society in how we experience and understand health issues. The social model of health emphasizes the multiple roots of health issues and the diverse possibilities for achieving health outcomes. For example, we think about the impact on a person's health of their class, their gender, their age, ethnicity, any disabilities they have and their sexuality. Social factors include issues such as poverty and housing which form an essential part of the wider context in which biological processes take place. In addition, social factors refer not only to our interactions with people close to us (our 'social life', as it is informally known) but to our indirect engagement with **norms** and values

shared by people we have not met and groups which we may only vaguely be aware of being part of. These norms and values make up the culture of our society. Our ideas about what is and what isn't a medical problem are ideas we learn in the context of our society and those ideas have implications for health care.

Social factors: factors which affect an individual and involve other people, including the many people to whose lives we are indirectly connected even though we may never have met them (for example, wider social groups to which we are connected such as our class, gender, ethnic group, sexuality and nation).

Norms: informal understandings amongst groups of people about the right way to behave.

It is also useful to think of some health issues as psychosocial. There are particular events and experiences in our society which put stress on human beings and our ability to cope. Sociological studies have explored, for example, adverse affects on health produced by socio-cultural instability, rapid social change, being isolated or struggling to make ends meet (Marmot and Wilkinson, 2009). This concept will be explored again in Chapter 3 and in other chapters of this book. It is easy to see what can happen if medical experts do not have an awareness of these kinds of factors. Imagine, for example, a person who has unexplained physical symptoms which are associated with ongoing abuse or alcoholism. If these factors are not recognized, a traditional biomedical response might be to prescribe the patient pain killers or some other kind of medication, a strategy which may only lead to new problems and does not go to the main cause of the problem anyway (see Case Study: Women's Chronic Pelvic Pain).

Psychosocial factors: social experiences and environments which cause stress for individuals, making them more vulnerable to illness.

Women's Chronic Pelvic Pain: Not Just a Bodily Problem

Chronic pelvic pain (CPP) affects about 4% of women in developed countries, making it quite a common illness, but one which is not easily addressed. Researchers in Brazil suggest that an important part of the problem is a biomedical focus on the part of most health professionals. CPP is not just a physiological problem. It also impairs a woman's social, professional, marital and maternal life. It may lead to job loss, divorce, limited social contact and reduced physical activity. A woman's ability to cope depends on meanings, beliefs and values, not only on her physical state. Women with CPP say that they struggle to plan their daily lives because of the constant threat of pain. Yet they are also overwhelmingly concerned with finding out the main 'cause' of their pain, partly because they wish to establish the legitimacy of their symptoms and avoid being labelled as 'crazy' or 'neurotic'. Evidence suggests CPP is complex and has many causes, but health care professionals may also be overly focused on finding a single 'cause' for the illness. They may even add to the distress of women with CPP by becoming preoccupied with distinguishing between 'real' and 'psychological' pain, despite evidence that any line between the two is hazy. Emphasis on hormones, menstruation or menopause may also be associated with suggestions that pain is a normal part of being female, implying CPP pain is unavoidable and must simply be endured. By focusing on the biomedical aspects of this problem, professionals neglect the social context, ideas and feelings of sufferers, adding to their feelings of impotence and frustration.

Source: Souza, P.P., Romão, A.S., Rosa-e-Silva, J.C., Reis, F.C., Nogueira, A.A. and Polinetto, O.B. (2011) 'Qualitative research as the basis for a biopsychosocial approach to women with chronic pelvic pain', *Journal of Psychosomatic Obstetrics and Gynecology*, 32(4): 165–72.

The social model of health focuses on prevention, not only cure. It stresses the ability of the individual or **lay person** to make healthy choices and find healthy spaces in which to live. This approach has been described as salutogenic, as distinct from the biomedical approach which is pathogenic, focused on the discovery of the relevant pathogen. According to this model, health care is not only about curing people but about supporting them to maintain their health or achieve rehabilitation. If we focus on lifestyle and stress as causes of ill health, rather than solely on germs, health care becomes about being supported to manage our wider environment, the place where we live, and our social relationships (Becker et al., 2010).

Lay person: a person who is not an expert in a particular area.

Salutogenesis: an approach to health and illness which focuses on factors that support human health rather than those which foster disease.

The Rise of Lay Involvement in Health Care

The move towards a social model of health care is also associated with the rise of lay involvement in health care. Today in the field of health it is recognized that the boundary between the experts and the non-experts is not the high wall it once was. Many lay people today have acquired at school or through the media or their own investigations some of the biomedical knowledge that medical professionals encounter at university. Many people with long-term health conditions, in particular, have become highly educated and perhaps also politically active about their condition (see Figure 1.2). Lay people have also become consumers of health who can and do 'shop around'. If they are not happy with what is available they may seek alternatives, and these alternatives may be in fields which have traditionally been



Figure 1.2 Supporters at the launch of the McCollum Report by the All Party Group on Muscular Dystrophy (Northern Ireland, 2012)

Photograph courtesy Muscular Dystrophy Campaign

on the margins of acceptability from the point of view of medical professionals. Some of these alternatives are even beginning to be institutionalized such as osteopathy, acupuncture and homeopathy (Saks, 2006).

New Approaches to Health

New approaches to health have arisen which reflect lay involvement in health care and recognition of the importance of social factors. Government health policy today recognizes the need to address health inequalities by redressing poverty and targeting cultural and lifestyle issues with health implications, for example unhealthy habits such as smoking and poor diets. Central to these approaches is the empowerment of lay people. Because lay people are more knowledgeable, medicine is becoming less mysterious and inaccessible. This has implications for health care practice. Different people have different ideas about what good health means, so a health professional needs to be able to communicate with a client about their own understanding of their health so they can work with them and perhaps negotiate with them if they are resistant to professional advice. Taking account of how people feel and how they understand their own health situation has increasingly become part of mainstream medicine (White, 2005).

Health is no longer about 'doctor knows best' but is implicated in the judgements that people make, with the help of experts, about lifestyle and risk. So 'therapy', once something done by a medical expert to a patient, becomes something which is implicated in the everyday lives of non-experts. There is a strong implication in this of our health becoming our responsibility. It can be argued that approaches to health care are now becoming more pluralistic, with some resemblance to the situation that existed in the eighteenth century prior to the rise of biomedicine. A variety of different and competing medical practices based on different health beliefs now co-exist.

The proliferation of alternative healing systems and different ideas about what is therapeutic has meant that those working from a purely biomedical model have had to rework that model to some extent to accommodate the variety of healing systems, beliefs and knowledge that are now widely available in the therapeutic marketplace (see Case Study: Attitudes to Complementary and Alternative Medicine (CAM)). Biomedicine has had to change and to shift its model of health, health care and illness to survive and continue to prosper in a world that has become more sceptical about its value and worth (White, 2005). Discussion about the extent to which biomedical ways of thinking still dominate the practice of medicine today is ongoing.

Although biomedicine is still the model that dominates medical theory and practice, it has lost ground to a more holistic approach (Smith et al., 2013). Figure 1.3 shows some of the key dates in these developments over time.

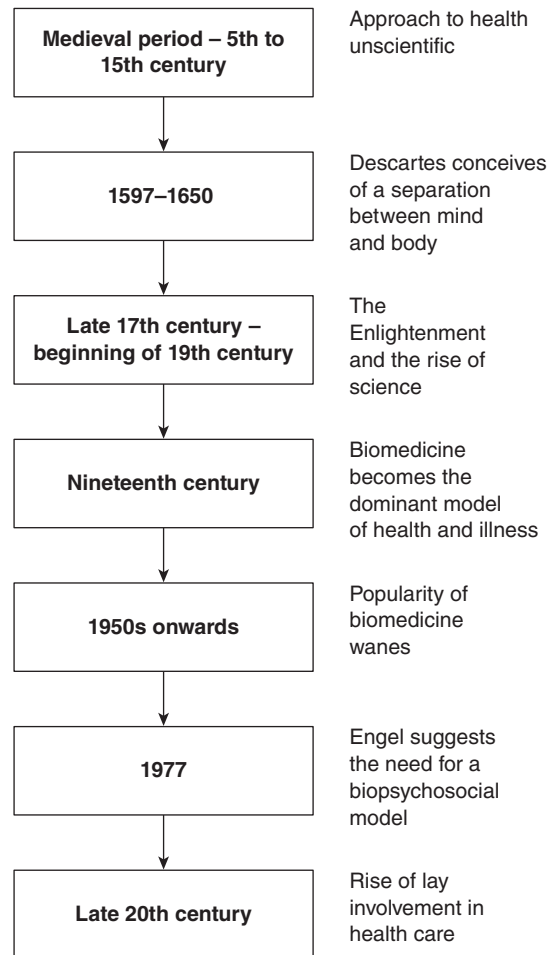


Figure 1.3 Biomedicine in Europe – key dates

CASE STUDY

Attitudes to Complementary and Alternative Medicine (CAM)

Researchers in Galway, Ireland were interested to know more about CAM use, given its growing popularity. They surveyed 219 cancer patients, 301 non-cancer hospital volunteers and 156 health care professionals, including doctors, nurses,

physiotherapists, pharmacists, speech and language, and occupational therapists, all involved in the care of cancer patients. The survey found that one in three had used CAM, mostly natural supplements like probiotics or fish oil, vitamins, green tea and herbal or folk remedies. Massage therapy, acupuncture, yoga and chiropractic therapy were also popular. However, only one in three users voluntarily reported CAM use to their doctors. Most of those who did not mention CAM use said it was because the doctor never asked (34.6%) or because they thought that the doctor would not understand or would disapprove (9.6%).

Interestingly, the survey found health care professionals were more likely to use CAM than others surveyed, including 80% of pharmacists, 49.2% of nurses and 37% of physiotherapists, but only 28.8% of doctors. Eighty per cent of professionals felt they were not up to date with the best evidence on CAM use. This is important because, despite the benefits of many CAMs, some CAM ingredients can have negative effects for cancer sufferers. Shark cartilage, for example, has been shown to have no effect on tumour growth but causes severe gastrointestinal toxicity and the herb St John's Wort reduces the effectiveness of chemotherapy. The researchers concluded by recommending provision of CAM training for health care professionals at university, now introduced in several countries.

Source: Chang, K.H., Brodie, R., Choong, M.A., Sweeney, K.J. and Kerin, M.J. (2011) 'Complementary and alternative medicine use in oncology: a questionnaire survey of patients and health care professionals', *BMC Cancer*, 11(196).

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Implications for Practice

A biopsychosocial approach has been promoted particularly in recent years in relation to chronic conditions such as musculoskeletal conditions, rheumatoid arthritis and chronic pain, where the importance of work patterns as well as physiological and psychological factors is well supported. The biopsychosocial model has been embraced by particular professions such as nursing and, more recently, occupational therapy and physiotherapy (Sanders et al., 2013; Ryan and Carr, 2010). In other professions which may involve brief and limited contact with service users, focus on physiological problems may mean that psychological and social factors seem of lesser importance. However, it is important to recognize that all service users work to improve their health in the context of the particular circumstances of their own life and within a society that offers particular ways of thinking about health. As the following chapters will explore further, these social factors have crucial implications for health, making a biopsychosocial approach essential.

Summary

- The traditional biomedical model started from an understanding of the body as a machine; issues to do with the mind were secondary
- A sociological approach to health and illness recognizes that a person's health must be understood in the context of their wider social environment
- Health care practice today involves considering not only the biological aspects of a person's wellbeing but social and psychosocial factors as well

Exercise

Think of the profession you are training for now. For a moment, think of the body as a machine, and yourself as the mechanic. List some of the 'repairs' your service users might need. Now, remind yourself of some of the social and psychosocial factors mentioned in this chapter. How would taking these kinds of factors into account change the way you approach the job of helping people who need 'repairs'?

Further Reading

- Lupton, D. (2012) *Medicine as Culture: Illness, Disease and the Body in Western Societies*. Third edition. London: Sage.
- Porter, R. (2004) *Blood and Guts. A Short History of Medicine*. London: Penguin.



Online readings

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- Adams, J., Braun, V. and McCreanor, T. (2012) 'Gay men talking about health: are sexuality and health interlinked?', *American Journal of Men's Health* 6(3): 182–93.