The psychological and social needs of patients

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Editorial board

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Introduction

The traditional model of healthcare is a medical model, focussing on the history of illness, investigation into the physiological basis of symptoms, and remedies to return those to normal, followed by measurement of outcomes. The broader wellbeing of the person experiencing illness, and being a patient often for the first time, can be lost within this model.

This overly mechanistic view has been recognised for decades as having defects. In general practice in particular Balint and others have described a different approach which considers the patient first as a person, within their family, community and workplace. Known often as a holistic approach this merges readily into modern views of patient-centred care, and of patients as partners in their care. Beyond all this is an additional element; people who become unwell have needs that are social and psychological. Meeting those needs will improve their health and aid recovery. There is a developing evidence base on the psychosocial, and physical costs of not meeting these needs, and on the positive effects of changing the way in which we care, and the environment in which we offer care.

This resource was developed following a debate at the BMA’s annual representative meeting (ARM) in 2009. A working group of the Board of Science developed a remit, emphasising that the needs were present, albeit in varying degrees, in all patients. This resource considers the evidence base to help doctors and health care managers consider these important areas when designing and delivering care.

What is health?

The World Health Organisation (WHO) defined health in 1948 as a “state of complete physical, mental and social wellbeing not merely the absence of disease or infirmity”. This coincides closely with the holistic view seeing the patient first as a person within their family, community and workplace, and recognising the positive and negative influences each can have on the person. Helping an ill person back to better health requires due account to be taken of factors other than their physiology and anatomy; meeting psychological, social, spiritual and environmental needs are important.

The evidence that environment and other factors affect health can be found below.
The social determinants of health

The social determinants of health are sometimes referred to as the causes of the causes. There are many examples of such determinants including tobacco. While smoking causes ill health and premature death the social determinants are those factors that persuade or encourage individuals to become smokers, and to persist in the smoking habit despite their knowledge of the harm it is doing. These factors are important health inequalities and as well as being causes of the causes of illness may also contribute significantly to poor responses to treatment. A model of the main determinants of health (see Box 1) highlights some of the key factors determining the health of populations. This model demonstrates that there are layers of influence on health that can be modified to improve health.1

The Marmot Review on health inequalities Fair Society, Healthy Lives (February 2010) details the need for social justice, material, psychosocial and political empowerment. Health inequalities are not inevitable and can be significantly reduced. They stem from avoidable inequalities in society: of income, education, employment and neighbourhood circumstances. Inequalities present before birth set the scene for poorer health and other outcomes accumulating throughout the life course. The central tenet of the Marmot Review is that avoidable health inequalities are unfair and putting them right is a matter of social justice.

Box 1: Factors determining the health of populations

What is “the patient experience”?  

**Patient-centred care**

Patient-centred care is a current descriptor given to the way in which care should be planned and delivered. This moves health care beyond repairing the abnormal physiology, biochemistry or anatomy and deals holistically with the whole patient. It recognises what the patient feels, how they engage and participate in decisions about their care and the values that underpin the management of the health care system.

The involvement of patients in healthcare is both a matter of government policy, and an important part of quality improvement. Involvement occurs at many levels – from citizens’ juries to patient participation groups. One important arena is the face-to-face consultation with a clinician. Health professionals are increasingly encouraged to involve patients in treatment decisions, recognising patients as experts with a unique knowledge of their own health and their preferences for treatments, health states, and outcomes.

The Institute of Medicine defines patient centred care as ‘providing care that is respectful of and responsive to individual patient preferences, needs, and values and ensuring that patient values guide all clinical decisions’. This definition lists six dimensions to patient-centred care:

- compassion, empathy and responsiveness to needs, values and expressed preferences
- coordination and integration
- information, communication and education
- physical comfort
- emotional support, relieving fear and anxiety
- involvement of family and friends.

The Planetree model of patient-centered care is widely replicated. While it initially focused on hospital-based care it also covers outpatient settings. It stipulates that health care environments should:

- welcome the patient’s family and friends
- value human beings over technology
- enable patients to fully participate as partners in their own care
- provide flexibility to personalise the care of each patient
- encourage caregivers to be responsive to patients
- foster a connection to nature and beauty.
Defining psychological and social needs

The WHO definition of health cited above indicates that it is not only the physical needs of ill patients that need to be addressed but also their psychological, social, spiritual, and environmental needs. The European Charter on Environment and Health declares that ‘good health and wellbeing require a clean and harmonious environment in which physical, psychological, social and aesthetic factors are all given their due importance’.7

No consensus exists about the meaning and concept of ‘need’ in health, sociology and political literature.6,8,10 The DH defines need as ‘the requirements of individuals to enable them to achieve, maintain or restore an acceptable level of social independence or quality of life, as defined by particular care agency or authority’. Regardless of the lack of an agreed definition, concepts of need are widely used to define means of treating patients as people, holistically. The environment we live in is fundamental to basic human needs as emphasised in Maslow’s hierarchy of needs. Needs-oriented theories emphasise the health professional’s role in helping the patient to meet his or her physiological and psychosocial needs.11 Traditionally health authorities and other health-related organisations at local, regional, and national level set out to provide appropriate services to meet population needs, seeking to achieve levels of health improvement, an acceptable level of social independence and improved quality of life.12

Hospitalisation presents specific stresses over and above those associated with illness. These range from environmental factors such as unfamiliar surroundings, to the lack of privacy and independence and uncertainty about ill-health outcomes. When a patient’s needs are not met it may affect their emotional state.13,14,15 Becoming physically ill is almost always a stressful experience. Most people adjust well to the confines imposed by their illness but a significant proportion find that their emotional and social coping mechanisms are challenged.16 Physical illness can have profound social and emotional consequences. People who suffer from physical illness often lose the ability to perform a range of activities which previously maintained their ‘sense of themselves’, whether as a parent, provider or worker. While saving lives and preventing physical deterioration of health are important. Psychological and social needs of patients also need to be considered and addressed as a part of holistic healthcare delivery.

There is no health without mental health.

(World Health Organisation, 2007)

The King’s Fund 2009 review Seeing the Person in the Patient examined the factors shaping patients’ experience in hospital and concluded that such experience is shaped, directly and indirectly, by organisational and human factors interacting in complex ways at four levels: the individual member of staff, the team and clinical micro-system, the institution and the wider health system (see Box 2). The King’s Fund paper looked at how a patient’s experience of being in hospital is influenced by the social processes that create the workings of the health system as a whole. The ambition to improve patients’
experience of care will be realised only with the willing cooperation and effort of all staff in direct contact with patients and if the wider organisation provides support and encouragement.

**Box 2: A framework for the analysis of the factors influencing patients’ experience**

![Diagram showing the layers of care from patient and family to wider health care system](image)

Source: The Point of Care, 2009

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**Medical education and training**

Addressing the psychological and social needs of patients should be a theme that runs through all undergraduate and postgraduate curricula. The General Medical Council (GMC) sets the knowledge, skills and behaviours that medical students should learn while at UK medical school. These requirements are set out in *Tomorrow’s Doctors.* Patient-centred care is a core part of the vision in this guidance and it places emphasis on the importance of understanding the needs of patients and the need for professionalism in all communication.

To achieve sustainable change towards patient-centred practice we need to go beyond the teaching of basic communication skills. Teaching ‘patient-centeredness’ is a part of both the undergraduate and postgraduate medical curriculum in the UK. Addressing the attitudes and barriers to learning such skills is key.
Example:

Problem Based Learning (PBL) medical curriculum – University of Liverpool.

In this course, the development of longitudinal themes has permitted the introduction of a component devoted to teaching ‘patient-centeredness’. Similar processes are used in other medical schools, reflecting the importance placed on these skills by the GMC.

In delivering patient-centred care, focusing in particular on delivering psychological and social needs of patients, the following frameworks are currently in place:

Tomorrow’s Doctors (2009) calls on doctors to apply psychological principles, method and knowledge to medical practice.

- Explain normal human behaviour at an individual level.
- Discuss psychological concepts of health, illness and disease.
- Apply theoretical frameworks of psychology to explain the varied responses of individuals, groups and societies to disease.
- Explain psychological factors that contribute to illness, the course of the disease and the success of treatment.
- Discuss psychological aspects of behavioural change and treatment compliance.
- Discuss adaptation to major life changes, such as bereavement and comparing and contrasting the abnormal adjustments that might occur in these situations.
- Identify appropriate strategies for managing patients with dependence issues and other demonstrations of self-harm.

Tomorrow’s Doctors (2009) calls on doctors to apply social science principles, method and knowledge to medical practice.

- Explain normal human behaviour at a societal level.
- Discuss sociological concepts of health, illness and disease.
- Apply theoretical frameworks of sociology to explain the varied responses of individuals, groups and societies to disease.
- Explain sociological factors that contribute to illness, the course of the disease and the success of treatment – including issues relating to health inequalities, the links between occupation and health and the effects of poverty and affluence.
- Discuss sociological aspects of behavioural change and treatment compliance.

Good Medical Practice published by the GMC in 2006 sets out the principles and values on which good practice is founded. While the guidance is for doctors, it is also an indicator to the public of what they can expect from doctors. Relationships based on openness, trust and good communication will enable a doctor to work in partnership with their patients, helping to address individual needs.
Good Medical Practice calls on the doctor to:

- be polite, considerate and honest,
- treat patients with dignity,
- treat each patient as an individual,
- respect patients’ privacy and right to confidentiality,
- support patients in caring for themselves to improve and maintain their health,
- encourage patients who have knowledge about their condition to use this when they are making decisions about their care,
- listen to patients, ask for and respect their views about their health, and respond to their concerns and preferences,
- share with patients, in a way they can understand, the information they want or need to know about their condition, its likely progression, and the treatment options available to them, including associated risks and uncertainties,
- respond to patients’ questions and keep them informed about the progress of their care,
- make sure that patients are informed about how information is shared within teams and among those who will be providing their care,
- make sure, wherever practical, that arrangements are made to meet patients’ language and communication needs.

Communication

Effective communication is essential to ensuring that patients’ concerns are understood by those providing care, and that relevant information, advice and treatment is understood, recalled and acted upon by patients. Good staff communication helps reduce patient and family anxiety, promotes better care at home post discharge, and can improve outcomes. Not only are communication skills fundamental to good clinical care but they also facilitate detection of psychological and social problems. These skills should be actively maintained throughout a professional career.

Good communication is central to overall satisfaction with care across different patient groups. Physicians’ communication skills are often the primary reason for patient complaints. Patients differ in the extent to which they wish to be involved in treatment decisions. The majority prefer a collaborative approach. Offering choice of treatment and agreeing to patient preference has been found to reduce anxiety and depression. Informed choice and consent are associated with good psychological outcomes, both emotional and behavioural.

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a The BMA has a long-standing interest in communication skills. In February 2010 the BMA produced a signposting resource Developing doctors’ non-clinical skills. In January 2003 the BMA’s Board of Medical Education released its publication Communication skills education for doctors: a discussion paper. This paper was updated in 2004. Both are available on the BMA website.
The benefits of effective communication include:

- improving the doctor-patient relationship. The doctor is better able to seek the relevant information and recognise the problems of the patient by way of interaction and attentive listening. As a result, the patient’s problems may be identified more accurately.\(^{26}\)
- helping the patient to recall information and comply with treatment instructions thereby improving patient satisfaction,\(^ {27,28}\)
- possibly improving patient health and outcomes. Better communication and dialogue by means of reiteration and repetition between doctor and patient has a beneficial effect in terms of promoting better emotional health, resolution of symptoms and pain control,\(^ {29}\)
- improving the overall quality of care by ensuring that patients’ views and wishes are taken into account in decision making,
- reducing the incidence of clinical error.\(^ {26}\)

Patient care depends on different communication pathways that include; doctor to patient, doctor to doctor and doctor to manager. Increasingly, medical treatment requires different physicians to contribute to the outcome. Poor communication between professional staff has been identified as an underlying factor for failed communication with patients.\(^ {30}\)

The GMC in a number of its guidance notes emphasises communication skills as essential for effective care and relationships of trust. The GMC encourages the acquisition of communication skills from the outset of medical training.

**Social and psychological needs – in practice**

Doctors are increasingly aware of the importance of developing good communication skills and of attending to their patients’ psychological and social needs as a part of holistic practice. Much of the evidence stems from mental health and paediatric care settings.

The 2006/07 National Audit of Violence report, funded by the Healthcare Commission and managed by the Royal College of Psychiatrists’ Centre for Quality Improvement, examined a total of 69 NHS Trusts and independent sector organisations in mental health services. The report identified ‘high levels of boredom’ as one of the six main factors contributing to unsafe wards. Patients complained about the lack of daily exercise and the general absence of things to do, particularly in the evenings and at weekends. The report called for wards to address this as a matter of priority; with measures to ensure that activities and therapies are reviewed regularly so that the provision is appropriate to the current patient and staff mix.\(^ {31}\)
Creating a therapeutic healthcare environment extends beyond the elimination of boredom. Arts and humanities programmes have been shown to have a positive effect on inpatients. The measured improvements include:
- inducing positive physiological and psychological changes in clinical outcomes
- reducing drug consumption
- shortening length of hospital stay
- promoting better doctor-patient relationships
- improving mental healthcare.

**Addressing the psychological and social needs of patients – activity examples**

**Recreational activities**
Recreational activities (including board games, cards, bingo) have benefits beyond simply counteracting boredom. Depression, anxiety and other disorders can leave individuals with social deficits. Therapeutic recreation can provide patients with an opportunity to improve quality of life through an increased sense of control, social interaction, social supports and the accomplishment of task orientated goals. It can also help vulnerable people develop or re-establish social skills in a controlled environment.

**Humor and health**
The notion that humor and laughter are good for health is not new. Calman in *A study of storytelling humour and learning in medicine* discussed how humor has value in improving wellbeing, physiological and psychological functioning, and even altering pain thresholds. Humor has the potential to relieve stress in patients and medical professionals. It can present the opportunity to forget anxiety and pain for a brief period. When doctors share humor with patients, they create lines of communication that put patients at ease and which may encourage them to discuss difficult issues. Humor can put both parties at ease in a way that more formal types of communication do not.

**Creative writing, storytelling and poetry reading**
The relationship between creative writing and mental wellbeing presents a promising modality for overall patient wellbeing. In mental health, the use of writing as a means of expressing feelings and thoughts can have therapeutic value. A study by Van Deurzen Smith in 1997 showed a significant reduction in levels of depression in those patients who were guided to read selected literature, fiction or poetry, compared to a control group. Through poetry, legends, folklore, myths, history, novels, or performance, stories are a vital component of all human experience. Calman described the use of stories as a means for physicians to establish trusting relationships with patients and to learn valuable lessons from each other. Specifically citing humor as an important aspect of storytelling, Calman asserts that stories assist in the development of emotional knowledge, especially in regard to sharing of experiences among doctors in training.
Music
There is extensive literature on the effects of music in different healthcare settings, both for inpatients and for those attending outpatient departments. The introduction of music to provide a quiet and restful environment has been found to result in significant reductions in heart rate, respiratory rate, and myocardial oxygen demand in patients recovering from acute myocardial infarction, compared to a control group treated without music. A study on premature infants exposed to music, specifically lullabies and classical music, reported a beneficial effect on weight gain and caloric intake and a significantly reduced length of hospital stay. Active programmes of listening to and performing music have been shown to help the management of patients with Parkinson’s disease. The use of music was found to stimulate emotional and motor responses, improving the quality of life of those patients.

Visual art
The visual arts have been shown to have a positive impact on patients who engage with them. Research at Chelsea and Westminster Hospital has shown that chemotherapy patients who were able to view rotating art exhibitions during recovery reported reduced rates of anxiety and depression. At Conquest Hospital in East Sussex weekly art sessions for stroke patients, focusing on handling materials and tools, using both hands, refining motor skills and practising good hand eye coordination, helped alleviate the mental and physical effects of stroke. Visual arts have also been shown to help patients manage pain. Perceptions of pain and stress decreased in subjects in an American study who had blood taken in a room with visual arts compared to those in a room with no visual arts.

Theatre and drama
Theatre and drama are the most integrative of all the arts: they include singing, dancing, painting, sculpture, storytelling, music, puppetry, poetry and the art of acting. An evaluation of the role of therapeutic theatre for people lacking in communication, cognition and social skills showed a positive effect in alleviating these disabilities. Drama therapy responds to the deep psychological need of people with dementia to express and understand their own world.

Dancing
Exercise alone improves physical ability and sleep. Physical exercise can have a number of health benefits for people with dementia, including reducing the number of falls, improving mental health and improving their mood and confidence. A small-scale controlled study found that daytime exercise helped to reduce daytime agitation and night-time restlessness. The introduction of social dancing gives patients another way of communicating, supports spontaneous activity and increases physical movement. An investigation of dancing on people with dementia showed that dance-related emotional and functional motor activities were largely preserved. The authors stated that this type of activity creates a supportive environment and helps the patient to achieve a state of independence.
Singing
A study by Clair et al found that singing can be an effective means of eliciting attentional responses in patients in the final stages of dementia, even in those unresponsive to other types of stimulation in their daily lives. The study emphasized the potential of singing to be used by all types of caregivers: ‘songs are successful facilitators of response even when sung without accompaniment, and are therefore accessible to all persons who wish to use them, regardless of musical background and training.’ Singing increases verbal communication, stimulates patients’ collaboration during routine tasks, improves their mood and reduces agitation.

The physical environment and patient wellbeing

Patients can spend many hours in bed or sitting, with little to do. The influence of the immediate environment on their sense of wellbeing and actual recovery was the subject of a 2003 report from NHS Estates. The study indicates that the architectural environment can contribute to the treatment of patients and significantly affect their health outcomes, concluding that:

- patients are sensitive and articulate about their architectural environment
- patients make better progress in purpose-designed modern buildings than in older ones
- better designed hospitals create an overall improved atmosphere, leading to patients with mental health problems being less confrontational and general patients requiring less analgesic medication.

Studies have shown that poor design works against the wellbeing of patients and in certain instances can have negative effects on physiological indicators of wellness. Research has linked poor design to anxiety, delirium, elevated blood pressure, and increased intake of analgesics. Healthcare building design should extend beyond functional efficiency, marketing and cost. It should promote wellness by creating physical surroundings that are psychologically supportive. It should ensure that patients are not overcrowded or over concentrated, provide a variety of spaces such as a big day room, a dining room that is well lit and ventilated and a spacious lobby and corridors and give sufficient attention to natural and artificial lighting.

This may not always be possible within existing building design, but it should be a consideration in all future builds and renovations. The effects of supportive design are complimentary to the healing effects of drug treatments and other medical technology, and can foster the process of recovery.
Examples of environmental hospital design that can be of benefit include:

Exposure to daylight
Research indicates that exposure to light – daylight or bright, full spectrum artificial light – is effective in reducing depression even for those hospitalised with severe depression. Medical studies have reported that hospitalised patients with depression may have more favourable outcomes, including shorter and less costly stays, if they are assigned to sunnier rooms rather than rooms that receive less daylight or are always in the shade. A 2001 study by Benedetti et al found that patients hospitalised for depression stayed an average of 3.7 fewer days if they were assigned east-facing rooms exposed to morning light, compared to patients in west-facing rooms with less sunlight. Depression is a serious problem not only for mental health patients, but also for patients with cardiovascular disease or cancer. A Canadian investigation of myocardial infarction patients in an intensive care unit suggested that female patients had shorter stays if their rooms were sited to provide higher daylight exposure. In the same study, mortality in both sexes was lower in sunnier rooms than in north-facing rooms.

Reduced noise
Studies have documented the negative effects of noise on patient outcomes. Several studies focusing on neonatal intensive care units, have found that higher noise levels decreased oxygen saturation increasing the need for oxygen support therapy, elevated blood pressure, increased heart and respiration rate, and worsened sleep. Studies have also shown that noise increases stress in adult patients and can heighten blood pressure and heart rate. When high performance ceiling tiles were installed in a coronary critical care unit (CCU) in a hospital in Sweden, noise levels declined and patients reported that they were significantly more satisfied with care quality compared to when low performance ceiling tiles were in place. Research on adults and children has shown that noise is a major cause of sleep deprivation. Lack of adequate sleep results in poor physical and mental function. Sleep is important for immune, endocrine and metabolic functions and insufficient or poorly timed sleep has a negative affect on health and wellbeing.

Ward layouts and way-finding
Ward layouts in older hospitals generally provide long corridors organised around a central nursing station, where medication and charts are located. Research has shown that nurses spend much of their time (more than 40 per cent in older UK NHS hospitals) walking up and down halls increasing fatigue and stress and sharply cutting the time available for observing patients and delivering direct care. Way-finding problems in hospitals are costly and stressful and affect patients who may be unfamiliar with the hospital and are stressed and disorientated. This is worsened as most hospitals have existing complex buildings upon which they impose a signage system. This strategy is usually ineffective. If people get lost, they may get stressed, which raises cortisol levels and lowers immune system functioning. Evidence based design (EBD) is an effective solution and involves designing better signage including optimal spacing and location of signage.
Single sex accommodation

The importance of single sex accommodation, toilet and washing facilities was a recurrent theme in the responses to the 2008 Royal College of Nursing dignity survey. Respondents viewed single sex provision as a significant contributing factor to providing dignified care. 78

Single sex accommodation can dramatically improve how patients feel about their care and help ensure that everyone is treated in privacy with the dignity they deserve. 79 Being in mixed-sex hospital accommodation can be difficult for some patients for a variety of personal and cultural reasons. It can affect a patients’ health at a time when they may already feel vulnerable. The most common concerns include physical exposure, being in an embarrassing or sexually threatening situation, noise, and the possibility of other patients overhearing conversations about their condition. These worries can disrupt a patient’s recovery. 80

Women, older people and some ethnic minority groups are more likely to worry about being in mixed-sex accommodation. Older people represent the largest users of NHS services and account for two-thirds of NHS hospital admissions. They are most likely to find mixing ‘not at all acceptable’. 81 Patients talk about feeling more relaxed and comfortable in same-sex accommodation. Some believe that the greater sense of ease helps them to recover more quickly. 82,83

Social interaction

Patient studies have indicated that social support reduces stress and improves recovery outcomes. Hospital design can facilitate or hinder access to social interaction. 7 Levels of social interaction can be increased by providing lounges, day rooms, and waiting rooms with comfortable movable furniture arranged in small flexible groupings. Studies in psychiatric wards and nursing homes have found that appropriate arrangement of movable seating in dining areas enhances social interaction and also improves eating behaviours, including increasing the amount of food consumed by geriatric patients. 84 Renovating a traditional waiting area in a neurology clinic by making small changes to the general layout, colour scheme, floor covering, curtains, and providing informational material and information displays resulted in more positive environmental appraisals, improved mood, altered physiological state, and greater reported satisfaction among patients. 85

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b Professor Sir Michael Marmot looked at the social gradient in health concluding that the higher the social position, the better the health. He labelled this ‘the status syndrome’. According to Marmot, the better health enjoyed by higher status people was due to their greater social participation and autonomy.
Nature and hospital gardens

Laboratory and clinical studies have shown that viewing nature produces stress recovery, evident in physiological changes, such as in blood pressure and heart activity. Research has demonstrated that looking at built scenes lacking nature (rooms, buildings, and parking lots) is significantly less effective in fostering restoration and may worsen stress. Visual exposure to nature improves outcomes such as stress and pain. A study in a Swedish hospital found that heart-surgery patients in intensive care units who were assigned a picture with a landscape scene reported less anxiety/stress and needed less analgesics than a control group. A study of blood donors in a waiting room found that blood pressure and pulse were lower on days when a television played a nature videotape, compared to days with continuous daytime television programmes. Hospital gardens not only provide restorative or calming nature views, but can also reduce stress and improve outcomes through other mechanisms, including fostering access to social interaction and providing opportunities for positive escape and a sense of control with respect to stressful clinical settings. A study by Whitehouse et al in 2001 indicates that patients and families who use hospital gardens report positive mood changes and reduced stress.

For information on what is happening in the UK please see Appendix 1
Areas for action

As stated in the European Charter on Environment and Health good health and wellbeing require a clean and harmonious environment in which physical, psychological, social and aesthetic factors are all given their due importance. Improving patients’ experience of care requires the cooperation of both staff and the wider organisation.

Set out below are key areas for action in helping to address the psychological and social needs of patients.

• Healthcare organisations should:
  - ensure that the Planetree model of patient-centred care is applied in healthcare environments:
    - welcome the patient’s family and friends
    - value human beings over technology
    - enable patients to fully participate as partners in their own care
    - provide flexibility to personalize the care of each patient
    - encourage caregivers to be responsive to patients
    - foster a connection to nature and beauty.
  - put measures in place to ensure patients have the option to partake in both recreational and creative therapies. Such activities should be regularly reviewed so provision is appropriate to the current patient and staff mix,
  - should promote wellness by creating physical surroundings that are psychologically supportive. They should ensure that patients are not overcrowded, provide a variety of spaces that are ventilated and spacious. Sufficient attention should be given to natural and artificial lighting. This applies not only to hospital settings but also in GP surgeries. This may not always be possible within existing building design, but it should be a consideration in all future builds and renovations.

• Dignity in care needs to be considered as an integral part of service provision. Dignity consists of many overlapping aspects, involving respect, privacy, autonomy and self-worth.

• Health professionals should be encouraged to involve patients in treatment decisions, recognising patients as experts with a unique knowledge of their own health and their preferences for treatments, health states, and outcomes.

• Addressing the psychological and social needs of patients should be a theme that runs through all undergraduate and postgraduate curricula. It is essential that undergraduate and postgraduate students have a good knowledge base and understanding of the basic principles of clinical psychology and medical sociology.
- The acquisition of communication skills should be a key feature from the outset of medical training.
- Effective communication is necessary to ensure that patients’ concerns are understood by those providing care, and that relevant information, advice and treatment are understood, recalled and acted upon by patients.
- Patient-doctor communication relies on effective doctor to doctor and doctor to manager communication. Increasingly, medical treatment requires many different physicians to contribute to the outcome, and difficulties in communicating can have a direct impact on patient care.
Appendix 1

What is happening in the UK?

• In 2003 the Health Service Journal launched its ‘Fit for Purpose’ campaign ‘demanding urgent action to improve the depressing and dangerous environments in which many service users are still treated’. Mental health Trust performance ratings include ‘physical environment’ which looks at ‘environmental conditions, space relationships, service effectiveness, amenity, and location all of which impact on the successful delivery of client care’ and the rating categories range from ‘A’ (‘very satisfactory, no change needed’) to category ‘X’ (‘nothing but a total rebuild or relocation will suffice’).

• Patient Environment Action Teams (PEAT) is an annual assessment of inpatient healthcare sites in England that have more than 10 beds. It is a benchmarking tool to ensure improvements are made in the non-clinical aspects of patient care, such as cleanliness, food and infection control. The assessment results help to highlight areas for improvement and share best practice across healthcare organisations in England. PEAT assess cleanliness and other aspects of the patient environment and score hospitals using a five-point scale. The PEAT programme commenced in 2000 and assessments are undertaken on an annual basis to ensure that standards are being met.xci

• In February 2000 the King’s Fund launched its ‘Enhancing the Healing Environment Programme’. The programme encourages and enables nurse-led teams to work in partnership with patients to improve the environment in which they deliver care. The programme initially focused on improving acute hospital environments, before being extended to mental health and primary care settings. The latest phases include work to improve environments for care at the end of life and improvements to the environment in which healthcare is delivered to prisoners. To date, 150 teams from 133 NHS Trusts, two hospices and five HM prisons across England have joined the programme and more than 1,500 staff and patients have been involved in improving their healthcare environments.

• The NHS ‘Achieving Excellence Design Evaluation Toolkit’ (AEDET) was first published in 2001 to assess and evaluate new healthcare buildings. The toolkit included 10 sections of questionnaire items that looked at functionality (use, access and space), impact (character, innovation, citizen satisfaction and internal, external and social environment) and build standard (performance, engineering and construction). It was updated in 2008 and an improved version, ‘AEDET Evolution’, was published. It is based on the lessons learned from an academic evaluation of its use. The toolkit includes references to evidence-based design literature and this is related to the criteria used in the evaluation.

• NHS Estates Design Review Panel (DRP) was set up in 2001 to ensure that good design is embedded within the NHS hospital building programme by providing advice, guidance and support to the NHS in the form of a design review and subsequent report, highlighting comments and recommendations. The Government are now working with a variety of organisations, including the architectural
profession, the Design Council, the Royal College of Art and several universities in an attempt to redress the balance in terms of building design and environmental design and safety. One paper prepared by NHS Estates, states that in 1995 50 per cent of NHS buildings pre-dated the NHS itself, whereas by 2003, this figure had decreased to 25 per cent. Within current planning frameworks, by 2010, 40 per cent of buildings will be less than 15 years old. NHS Estates was formed in April 1991 and abolished in September 2005 when the DH Estates and Facilities Division assumed responsibility for the role. The division delivers improved health outcomes through innovative estates and facilities solutions which enable high quality, safe patient care.

- NHS Estates Design Brief Working Group (DBWG) was commissioned to produce an advice note for Trusts involved in or embarking on health buildings. The advice notes were written by a multidisciplinary team of top practitioners in the fields of architecture, design, engineering and healthcare planning and can be used on every scale of project. They complement AEDET using it to create a base template from which a Trust can develop its own specific design briefing requirements. It identifies the quality requirements and aspirations that should be taken into consideration. For further information on the DBWG Advice please see Appendix 2.

- The Future Healthcare Network (FHN) is an initiative that has been implemented to focus on planning, architecture, engineering, IT and the workforce in relation to the design of buildings for healthcare. Their work is based on three main tenets.
  1. Design can reduce operating costs not only of the building but also the service, as it leads to increased retention and efficient working patterns.
  2. Design can affect health outcomes by reducing length of patient stay; it can also affect the wider social community in terms of regeneration and improving social conditions.
  3. Design contributes to healthcare quality and patient safety.

- The DH ‘Inspiring Design Excellence and Achievements’ (IDEAs) toolkit is a design tool to aid Trusts, and their architects and design consultants, to develop their design ideas. IDEAs is intended to help create aspirations towards good design from the beginning of the process and direct attention towards qualities that otherwise are often lost in highly technical healthcare environments. IDEAs treats both interior and exterior spaces as ‘places’ where a number of activities commonly take place. It works by understanding these activities and the functional and emotional needs of the people involved.

- The DH A Staff and Patient Environment Calibration Tool (ASPECT) evaluates the quality of design of staff and patient environments in healthcare buildings. It delivers a profile that indicates the strengths and weaknesses of a design or an existing building. The ASPECT toolkit addresses eight key headings (privacy, company and dignity, views, nature and outdoors, comfort and control, legibility of place, interior appearance, facilities and staff). ASPECT is designed to be used by those
involved in the commissioning, production and use of healthcare buildings. In particular public and private sector commissioning clients, developers, design teams, project managers, estates/facilities managers and design champions may find ASPECT helpful. User clients such as patient representatives and members of the general public should also be able to use ASPECT. It can be used to evaluate existing buildings in order to compare them or understand their strengths and weaknesses. It can be used on the plans for new buildings in order to evaluate and compare designs. It can be used on ‘imaginary’ buildings in order to set standards for a brief. ASPECT can be used at various stages during the design of healthcare buildings.

- The DH Improving Access to Psychological Therapies (IAPT) Commissioning Toolkit programme aims to help Primary Care Trusts (PCTs) implement the National Institute for Clinical Excellence (NICE) Guidelines for people suffering from depression and anxiety disorders. The Government is committed to improving access to psychological therapies and in June 2010 announced additional funding to increase services over the next year. The IAPT Commissioning Toolkit is designed to help PCTs improve or establish stepped care psychological therapies following NICE guidelines. The toolkit is structured around the commissioning cycle and is specifically linked to the World Class Commissioning competencies. It brings together a wide range of existing tools and guides and includes positive practice examples throughout. 95

- Accreditation for Acute Inpatient Mental Health Services (AIMS) is a voluntary accreditation from the Royal College of Psychiatrist’s Centre for Quality Improvement that identifies and rewards acute psychiatric wards that have high standards of organisation and patient care. The AIMS accreditation process incorporates elements that research has demonstrated to be effective in bringing about quality improvement. It gives encouragement to identify and prioritise problems and sets achievable targets for change. AIMS has worked in collaboration with the Healthcare Commission to ensure that standards are compatible with those which will be used in the planned improvement review of acute inpatient mental health services. 96

- The Star Wards initiative is a project which works with mental health Trusts to enhance mental health inpatients’ daily experiences and treatment outcomes. Its aim is to inspire excellence in inpatient care. The handbook gives practical ideas for improving the daily experiences and treatment outcomes of acute mental health inpatients. 97

- The Nightingale Project brightens up the environment in mental health services through art and music. The Nightingale Project see it as vital to bring life and colour into a hospital or clinic setting to provide a conducive setting for medical and therapeutic work. To receive a patient in a hospital environment which is pleasant, cheerful, and welcoming can be seen as an essential first step in treatment, and a fundamental contribution to the process of recovery. It is a charitable project that works with Central and North West London NHS Foundation Trust, a large mental health trust with
many sites in the London area, to make the treatment environment more human and more uplifting for both inpatients and outpatients. They do this through putting on temporary exhibitions of high-quality art in waiting rooms, commissioning artists to produce works of art for permanent display in the wards, and through bringing musicians into hospitals to play live for the patients. The Project began at the South Kensington and Chelsea Mental Health Centre in 1998, and has since spread to numerous other sites.

The Point of Care programme, launched in 2008 by the King’s Fund, involves two practical initiatives to ‘promote compassion in care and improve patients’ experience’.26

- Experience Based Design involves patients and staff working together to improve the experience or feel of using services, drawing on ideas from design in which users are a central part of the process. Patients and staff are partners in the process, strengthening the link between them.

  The Point of Care programme will be piloting Experience Based Design with the Integrated Cancer Centre at Guy’s & St Thomas’ NHS Foundation Trust and King’s College Hospital NHS Foundation Trust.

- The Royal Free Hampstead NHS Trust is piloting the US Schwartz Center Rounds system, which involves a monthly one-hour session for staff from all disciplines to come together and discuss difficult emotional and social issues arising from patient care.
Appendix 2

NHS Estates: Advice to Trusts on the main components of the design brief for healthcare buildings

Use
The service philosophy and strategy of the Trust
Describe the purpose of the building in detail with particular attention to patient and staff needs.
Set out:
- your healthcare philosophy and design vision
- what effectiveness and efficiency of delivery means for you
- your model of care.

The prime functional requirements of the project
Set out:
- your operational policies
- the operational capacity you seek
- relevant future projections.

The importance and dignity of individuals
The design of the building should consistently relate to patients, staff and visitors. Issues to consider:
- clinical, therapeutic and other services and complex diagnostic and specialist activities should be well integrated so that patients perceive a unified and seamless service
- information technology should be used to ensure that information is shared between all providers in a patient-focused manner.

Work flows and logistics
Work flows and logistics within and between processes should be carefully thought through and optimised. Issues to consider:
Healthcare processes –
- departmental workflow should be direct
- routes should be as short as possible
- inefficient or dangerous cross-flows must be avoided.
Logistics –
- movements of people, distribution of supplies, storage, and waste disposal should be carefully considered
- number, size and location of storage and holding bays should reflect the supply and disposal policy.
Adaptability
The building should be designed to be adaptable, to respond to change and to enable expansion.
Issues to consider:
• the design of the layout, the lighting and Mechanical and Electrical (M&E) controls should be
  versatile to allow everyday changes of use, activity and spaces
• the overall design should be capable of accommodating therapeutic, technological, organisational
  and formal innovations while retaining design coherence
• the structural design should enable adaptability and expansion with limited disruption
• the possibility of future change and expansion should be built into the design of all M&E systems
• space should be allowed for departments to expand (eg operating, wards, outpatient department, kitchen, critical care unit).

Security and ease of control
Set out the:
• security brief
• visitor monitoring strategy.
Issues to consider:
• the layout should include suitable supervision and control points
• entrances and departments should be designed to enable ready supervision and security
• the layout should maximise passive supervision and overlooking through isovistas.

Access
Access for vehicles
Set out access requirements for all vehicles, including on-site roads for ambulances, public transport, service vehicles, and fire appliances. Issues to consider:
• routes should be clearly marked
• roads, widths, turning circles etc should be safe and convenient
• the site design should accommodate public transport access having regard to the proximity or
  otherwise of public transport stops
• car parks, access routes, loading docks and entrances should be well lit.

Parking for visitors and staff
Set out car, motorcycle and bicycle parking requirements. Issues to consider:
• drop-off points should be appropriately provided at entrances
• sign posting to parking areas should be adequate.

Goods and waste disposal vehicle segregation. Issues to consider:
• separate access routes should be provided where required
• service routes should be clearly sign posted
• access and loading bays should be thought through in terms of safety and convenience.
External way-finding and sign posting

The external way-finding and sign posting strategy should be of high quality and fully integrated into the design solution. Issues to consider:

External way-finding –
- the external appearance and site layout should support intuitive way-finding
- distinctive ‘land marks’ eg to signal the main entrance should be incorporated into the design
- the hard and soft landscape design should support intuitive way-finding.

Sign posting –
- the sign posting should be an integral part of the way-finding strategy
- routes and sign-posting to and from parking areas and public transport points should be clear and obvious.

Pedestrian access

Issues to consider:

Pedestrian routes should be –
- obvious
- well sign posted
- safe from vehicles, with safe crossings
- free from obstacles
- pleasantly landscaped
- well lit at night.

Access for all

Issues to consider:

- pedestrian routes should be suitable for wheelchair users, and other people with physical or learning disabilities, and impaired sight or hearing
- there should be parking spaces reserved and marked for disabled people
- parking for disabled people should be provided close to entrances.

Integration with fire planning strategy

The fire planning strategy should be integrated to allow for ready access and egress. Issues to consider:

- compliance with Firecode with provision for safe horizontal escape routes
- free access by fire fighting appliances to the building perimeter.
Space

Functional content and space standards
Set out requirements for functional content and space standards. Issues to consider in addition to
departmental areas:

- public and entrance areas
- social spaces for patients, staff and public
- children’s areas
- scope for external franchises and other add-ons
- storage
- circulation
- plant and servicing
- exterior terraces, play areas, etc.

Adjacencies
Set out adjacency matrix indicating appropriate relationships between different functions derived from
operational policies. Issues to consider:

- the inter-departmental relationships should be convenient and help efficient functioning
- there should be clarity about the priority of key relationships
- internal relationship within departments (main rooms, bays, storage, service rooms) should be
  convenient and help efficient functioning.

Space utilisation
Issues to consider:

- spaces should be capable of being shared where appropriate – seen as a resource, not
  personal territory
- dual use of circulation space should be exploited where effective eg to encourage informal
  association and gathering.

Privacy, isolation and communality
Set out:

- requirements of visual and acoustic privacy
- requirements for gender segregation
- infection control regimes including isolation rooms and beds.

Additional issues to consider:

- reception areas should enable confidential conversations without embarrassment
- the design should help avoid unintended isolation, allowing patients to communicate with
  staff when needed.
Guidance in Health Building Notes and other good practice documents

Set out the guidance to be followed and protocol for departure from it. List specific Health Building Notes (HBNs) and Health Technical Memoranda (HTMs) to be adhered to; avoid blanket statements.

- The HBN are a series of publications that set the DH’s best practise standards in the planning and design of healthcare facilities. They inform project teams about accommodating specific department or service requirements. HBN recommendations are reflected in the cost guidance promulgated by the Department as a benchmark for demonstrating value for money in business cases. They are used in the management of the investment process, particularly at business case stages and, as the quality element of Value for Money (VfM) benchmarks, they underpin the economic case for investment. Titles in the series are viewable from DH Estates & Facilities Division’s publication list and are also downloadable free to the NHS via the DH Estates Knowledge and Information Portal.

- The HTM series of publications sets healthcare specific standards for building components such as, windows and sanitary ware and the design and operation of engineering services, such as medical gas installations and fire safety requirements. HTM recommendations are reflected in the cost guidance promulgated by the Department as a benchmark for demonstrating value for money in business cases. The FIRECODE tiles of the HTM series contain requirements on trusts that are mandatory. The HTMs are supported by other technical guidance, such as the Model Engineering Specifications. Titles in the series are viewable from DH Estates & Facilities Division’s publication list and are also downloadable free to the NHS via the DH Estates Knowledge and Information Portal.

Character and innovation

Lifting spirits and helping recovery
Issues to consider:

- the design of the building should aid therapeutic objectives
- the building should engender wellbeing and raise patients’ and visitors’ spirits.

Expressing excellence
Issues to consider:

- the design should express a strong positive image of the health service
- the building should raise staff morale.

A clear vision
Issues to consider:

- the design should embody a clear and coherent vision confidently communicating its function and aspirations through its physical elements.
**A stimulating design**

Issues to consider:
- the design should have sufficient variety to stimulate the mind and the senses
- users and visitors should feel that the building has a positive character
- art should be integrated into the total experience of the building.

**New knowledge**

The design should explore with due rigour innovation in practice, technique and built form. Issues to consider:
- the development should clearly reflect new models of healthcare provision in the design
- the design should respond to advanced thinking about architecture and the built environment
- where possible the design should develop new and transmissible knowledge about buildings for healthcare.

**The value of good design**

The building should in itself be a demonstration of the value of good design. Issues to consider:
- the building should show how good design can improve patients’ and staff’s lives and add value for the Trust over the building’s lifetime.

**Citizen satisfaction**

**Orientation**

The building should be designed with its consideration to its orientation. Issues to consider:
- sunlight and how it falls on the building
- prevailing winds and their effect, in conjunction with the building, on visitors
- how the building is entered in respect of natural points of arrival and local landmarks.

**Scale and proportion**

Issues to consider:
- the scale should be thought through in relation to adjoining buildings
- irrespective of the size of the building the scale should be considered from the point of view of patients, visitors and staff so as to make them welcome

**Composition**

The building’s form should be pleasing and well composed. Issues to consider:
- profile and skyline of the building from a distance and on approach
- the shapes the building is made up of
- the interplay of light and shade
- the relationship of the parts to the whole
- coherence of the parts and the whole
• consistency and attention to detail
• the integration of service elements such as rainwater pipes, flues, grilles, plant rooms, refuse bays.

**External materials**
Issues to consider:
• the choice of materials should be on the basis of enhancing the building as a whole
• the form and materials should be well detailed
• the weathering, maintenance and durability of the materials should be thought through.

**Colour and texture**
Issues to consider:
• colours and textures where used should articulate and enrich the building’s form and enhance its enjoyment.

**Internal environment**
**A pleasant, varied and stress reducing environment**
Issues to consider:
The internal environment generally –
• the main entrances and reception areas should be pleasant and welcoming
• the internal appearance should be calming and non-intimidating
• the building should have good acoustics
• temperatures should be comfortable in all seasons
• the air quality should be fresh.
Materials, finishes, textures –
• materials and finishes should work with the layout to create a set of varied places with degrees of privacy
• finishes, fittings, furniture and notices should be well coordinated and designed to reduce clutter
• selection of finishes and materials needs to take account of infection control issues.
Use of art to enhance the healing environment –
• art should be an integral part of the design of the interior
• the design should make provision for changing art displays
• the design should make provision for presentations of the performing arts
• the design should make provision where appropriate for art activities to take place for patients and staff.
Light and colour
Issues to consider:
Light and shade –
  • light and shade should be used effectively to enhance the perception of three-dimensional space
Colour –
  • the contribution of colour to providing continuity and variety, stimulation and calmness should be thought through
  • colour schemes should assist way-finding.
Daylight –
  • daylight should be fully exploited to enhance the experience of patients, staff and public
  • internal spaces and courtyards should be orientated for optimum sunlight penetration
Artificial light –
  • lighting should be used creatively and sensitively to enhance the use and experience of the interiors.

Views
Issues to consider:
  • there should be special attention to creating patient, staff and public areas with pleasant views.

Internal way-finding
Issues to consider:
  • the interior should be integrally designed to support intuitive way-finding
  • distinctive ‘landmarks’, such as art and sculpture should be incorporated into the design
  • where repetitious building forms are used thought should be given to avoiding disorientation.

Spatial quality
Issues to consider:
  • there should be a sense of spaciousness with overcrowding avoided
  • spaces should be experienced as a sequence of attractive places with appropriate degrees of enclosure
  • long, narrow corridors, without daylight or views out of the building, should be avoided
  • circulation spaces and common areas should be designed as places in their own right – enjoyable rather than utilitarian.
Urban and social integration

A sense of place
The building should create a sense of place. Issues to consider:
- the building should be sited and designed with mind to its overall urban (rural) setting
- the building should enhance the civic qualities of its setting.

A good neighbour
Issues to consider:
- the building’s height, volume and skyline should relate well to the surrounding environment
- in the design thought should be given to what local residents and passers-by will think of the building.

A positive contribution to the community
Issues to consider:
- the design should promote a sense of belonging to and integration with the neighbourhood and wider community.

Fit with site
Issues to consider:
- the building should be well integrated with the site topography
- the spaces immediately outside the building should be pleasant
- the levels should be designed to be appropriate for entrances and access to outside spaces
- thought should be given to making land available for future development and expansion
- the design should take advantage of orientation.

Landscape Design
Issues to consider:
- hard and soft landscaping, including courtyards, should be designed with regard to their therapeutic value
- the landscape design should maximise the security of pedestrians and avoid ‘no-go’ areas
- the landscaping around the building should contribute to the neighbourhood
- the external grounds and gardens should be designed for safety and security.
Performance

Daylight
Set out daylight standards to be achieved. Issues to be considered:
- there should be sufficient daylight in each area as required.
- glare and solar gain should be controlled (eg with louvers and blinds).

Air quality
Air quality should be fresh for patients, staff and the public. Issues to consider:
- quantity of space with natural/artificial ventilation and/or air conditioning
- access by occupants to natural ventilation
- control by occupants of heating and ventilation.

Acoustics and noise
Issues to consider:
- a good acoustic environment to deal with internally generated noise
- sufficient sound proofing against external sound to provide comfort internally
- adequate sound insulation between rooms
- building acoustics to aid communication.

Passive thermal comfort
The design of the building fabric itself should help create thermal comfort conditions.
Issues to consider:
- passive summer cooling
- minimising solar gain
- high thermal insulation
- control of infiltration.

Durability
Issues to consider:
- the building should be able to withstand wear and tear in use
- the finishes should be durable.

Operability
- the building should be easy to operate.
Engineering

Operational building and engineering management systems and controls
Issues to consider:
- engineering systems should be flexible, efficient and economic in use, and in use of resources
- local controls should be provided for use by staff and patients
- engineering systems should operate quietly.

Specialist engineering systems
Set out brief, requirements and standards to be followed for specialist systems. Issues to consider:
- medical gases
- fire engineering
- emergency generators
- batteries
- nurse call systems
- theatre and other lighting
- cold water storage
- telephones.

Standardised elements in engineering design
Consideration should be given to the use of standardised elements. Issues to consider:
- structural elements
- plant and equipment
- lighting fittings and bed-head units
- sanitary installations
- others as appropriate.

Prefabricated elements in engineering design
Consideration should be given to the use of prefabricated elements. Issues to consider:
- structural elements
- plant pods or pallets
- sub-systems
- pre-wiring
- others as appropriate.

Artificial lighting
Set out quantitative standards for artificial lighting. Issues to consider:
- energy consumption
- therapeutic benefits
- appropriateness and accessibility of control systems
- relative levels of background and task lighting.
Fire planning strategy
A clear fire planning strategy should be incorporated into the design. Issues to consider:
  • fire alarm and detection system
  • high life risks potentially compromised by high fire loads.

Emergency backup systems
The emergency backup systems should be designed to minimise disruption. Set out emergency backup requirements and standards. Issues to consider:
  • medical gases
  • emergency generators
  • batteries
  • nurse call systems
  • heating
  • theatre and other lighting
  • hot water
  • cold water storage
  • telephones.

Heating, ventilation and air conditioning systems
The heating, ventilation and air conditioning systems should be logically designed to operate efficiently and provide local control where required. Set out thermal and ventilation requirements and performance standards. Issues to consider:
  • maximising the use of natural ventilation
  • minimising the use of heating
  • minimising the use of cooling
  • surface temperatures of radiators
  • zoning, draining and cut-off controls.

Energy and power systems
Set out requirements and performance standards. Issues to consider:
  • optimising fuel consumption
  • maximising flexibility.

Hot water and steam/operational engineering systems
Issues to consider:
  • flexibility and efficiency of engineering systems
  • economy in use of resources
Telecoms and IT systems
The telecommunications and data systems should be easy to operate and ‘future proofed’ as far as possible. Set out voice/data/comms brief and standards. Issues to consider:

- flexibility and efficiency
- ease of learning
- reliability.

Water and drainage system
Set out requirements and performance standards (refer to specific guidance as appropriate). Issues to consider:

- flexibility and efficiency
- minimising the use of resources
- capacity of the water supply system to provide safe potable drinking water
- adequacy of water pressures for clinical processes
- leak proofing the drainage system.

Construction
Phasing for planning or construction stages
Consider whether the project needs to be built in phases. Issues to consider:

- provision for future phases to be added with minimum disruption to the buildings in use
- consistency of phasing with the estate strategy and development control plan
- self containment and operational quality for each phase.

Maintenance
The building should be able to be readily maintained. Issues to consider:

- the building should be easy to clean
- the construction should be durable
- components in the building should be able to be readily cleaned, maintained or replaced when necessary.

Robust construction
Issues to consider:

- junctions between materials and components should be well detailed
- components and finishes specified should have sufficient strength and integrity for their functions or locations
- sound break out of potential nuisance to neighbours should be dealt with in the design.
Integration of engineering systems, structure and fabric
The structure, fabric and the engineering systems should be well integrated within themselves and with each other. Issues to consider:

- systems and structure clearly and logically organised for ease of use, maintenance and future expansion
- the structural and engineering systems should be well integrated into the design
- the mechanical, electrical and water systems should be well coordinated
- the IT and communication systems should be well coordinated with other systems.

Health and safety
The building should be designed for health and safety in its construction and operation. Issues to consider:

- the building should support patients by conveying a feeling of safety and reliability
- clinical and other workplaces should be designed for health and safety
- the design should provide safe access and working conditions
- the following areas (inter alia) should be designed and specified to prevent accidents and to comply with health and safety requirements: stairs and lifts, floors, replacement and cleaning of glazing and windows, doors, radiators and hot water systems, lighting and cold water systems.

Standardised elements

- consideration should be given to the use of standardised elements where they promote efficiency, speed of construction, higher quality, sustainability or overall value for money.

Prefabrication

- consideration should be given to the use of prefabricated elements where they promote efficiency, speed of construction, higher quality, sustainability or overall value for money.

Considered construction
The methods and materials used in the building should be well thought through from the point of view of:

- efficiency
- impact on neighbours
- safety
- health.

Climate Change
Future climate change should be considered in the design of the building.

Demolition and recycling
Consideration should be given in the design to demolition and recyclability.
References


