Child Health Unit

Information for tutors

The following are suggested answers or responses to the activities and exercises in this unit. Exercise 1 is a summary activity, built from the knowledge and understanding gained from the previous activities on structures. Exercise 2 on growth charts includes case studies and answers within the workbook. Instructions on how to best utilise activities and exercises within a learning session are given in the workbook. Some activities require access to the internet and some can be completed individually as part of self study or as preparation for the teaching session. Good opportunities for group activities are indicated. References and links to further information are provided in the workbook.

Activity 1: What are the pros and cons of the biomedical and WHO definitions of health?

The biomedical model of health looks at individual physical functioning and describes poor health and illness as the presence of disease. Health is freedom from disease. It focuses on treatment rather than prevention. This is easy to measure but limiting, as it does not take into account the wider determinants of health.

The social model of health, as described in the WHO model, looks at how society and our environment affect our everyday health and well-being, including factors such as social class, poverty, poor housing, diet, pollution and income. The WHO definition of health has been criticised for being too idealistic – (defined after the Second World War – 1946) also people can have physical disabilities and still be described as 'healthy'. Not easy to measure.

Activity 2: Life expectancy as an indicator for health.

In one affluent area of Glasgow life expectancy is 82, in another poorer area of the same town it is 54.
Think about how reliable is the data
What factors explain this?
Can life expectancy be a proxy for health?

Data reliability - Crude death rates were used (data not age standardised) therefore those areas with larger numbers of older people are likely to show a lower life expectancy as they are not offset by the younger population - therefore may not be reliable. Factors such as class differences in health – social determinants of health. Risk behaviour (smoking, alcohol). Access to employment, housing, work, income, health services. The lower the social class the higher the mortality rate. Apart from breast cancer, more people in the lower social classes die from preventable diseases such as cardio-vascular disease, lung cancer, stroke, obesity, accidents. Poverty. The lower the socio-economic gradient, the worse the health. Life expectancy is closely connected with health conditions so is a useful (and popular) measure of population health but it is not a measure of healthy life – here you would need to factor the quality as well as the quantity of life lived, for further information look at QALY (quality adjusted life years) as a measure of disease burden.

Activity 3: Think about why England has high rates of teenage pregnancy and what might be done to reduce them (use footnote reference – Every Child Matters to help)

Teenage parents statistically more likely to become parents of children who themselves become teenage parents – difficult cycle to break – culturally – leading to generations of child poverty. Teenage parents often have low self esteem (self-fulfilling prophecy) and poor life chances. Sexual health services poor or inappropriate for target audience.

Improve education (particularly sex and relationship education – and peer education run by 'peer educators' of teenage parents who go into schools to talk to teenagers) and general employment chances – access to suitable advice and guidance (around contraception/work/life

Activity 5: Screening

What screening is usually done and what are the consent challenges?
What are the 4 possible outcomes of screening and antenatal testing?

Routine screening: Weight and Height (to calculate BMI); assessment of uterine growth; Blood Pressure; fetal position. Urine test to exclude pre-eclampsia or infection. Blood tests for anaemia; blood group; rubella; genetic linked diseases such as sickle cell and thalassaemia; infections such as HIV, Hepatitis B, Syphilis and antibodies. Screening for fetal abnormalities such as Down's syndrome (via ultrasonic scan and/or blood test)

Consent challenges: Informed consent is required for all screening tests in pregnancy. Many of the consent challenges relate to screening for abnormalities. Partners should be involved if possible in making decisions on screening – particularly around screening for fetal abnormalities. Informed consent requires specific skills and time to counsel parents (sometimes decisions have to be made relatively quickly). Need to provide balanced information (e.g. about lives of people with Down syndrome) to support decision making. Discussion around a decision tool that addresses issues of personal beliefs and values as well as knowledge of screening, to guide parental consideration of the best route for them. This is more of a challenge as screening information is not provided (generally) pre-conceptually (or within general/biology/sex education) so parents often have to take in a lot of information in a short period of time – hindering their opportunity of full informed consent. Need to understand about true and false positives for outcomes.

4 possible outcomes of screening:

	Outcome	
Screen positive	True screen positive False screen positive	Do have disease
Screen negative	False screen negative True screen negative	Do not have disease

Activity 6: Antenatal care (group activity – Birth to Five Book good source)
What is the purpose of AN care and how do women access it? – what are the barriers to access?

Public health advice - lifestyle and risks: folic acid, vitamin supp, nutrition, hygiene and lifestyle advice, lifestyle factors – smoking, drugs, alcohol – management of weight (prevention of obesity) risk assessment for gestational diabetes, pre-eclampsia. Screening for RH factor, Hep B, Pre-eclampsia, anaemia, rubella, HIV, syphilis, sickle cell and thalassaemia, cystic fibrosis, Tay Sachs, Cervical Cancer, Herpes

Access is generally through GP. Barriers to access – transient populations (e.g. travellers who may not have GP's – young people who might hide pregnancy (or do not want to go to GP) and present late. Those who may not trust health service/GP – some low SES groups (lack of transport) – people in employment who are afraid or unable to ask for time off to attend AN care.

Activity 7: Supplementing folic acid (pairs or group activity)

Think about the folic acid debate and the USA and UK public health approach. What are the pros and cons of each approach? Explore this further with your colleagues.

Arguments for supplementing folic acid in bread (pros):
spina bifida can be reduced by 75% if folic acid taken prior to conception
In Scotland increased rate of spina bifida because women less likely to abort on diagnosis
Food Standards Agency (FSA) said evidence of cancer risk not convincing) and calling for bread fortification in UK
Arguments against
Spina bifida is rare (incidence is 1-2 or 3-4 per 1000 population
Evidence of cancer risk with supplementation (colorectal cancer – also evidence that it speeds up cognitive decline in elderly.

Activity 8: Child mortality (individual/paired activity – access to internet required)
Compare the United Nations 2009 figures supplied for the under 5 mortality rates between the UK and Sierra Leone1. Discuss reasons for differences – how might the gap be lessened?

UK under 5 rate is 6 per 1000, Sierra Leone 278.1 per 1000. Reasons could be nutrition, public health, access to antenatal/maternity/child health services. Diseases such as HIV (Sierra Leone has high rates of HIV). Improve nutrition and reduce rates of HIV – improve access to health services and public health advice.

Activity 9: Infant nutrition (paired/group activity – can be allocated by question)
Consider the importance of adequate nutrition to the health and well-being of the infant and the structures that support this. Consider:

a. How much input should policy have and how much is this down to the individual parents and guardians?
b. What are the pros and cons of breastfeeding?
c. Breastfeeding has been shown to be beneficial, how can we best promote it?
d. What impact does advertising, cultural norms and the commercial influences of formula feed producers have?
e. Could the UK do more in controlling formula feed promotion and easy availability
f. Why is formula feed a bigger threat to families in poorer countries than affluent countries?
g. What is the relationship between 2005 rates of breastfeeding and age, education and socio-economic status in the UK?

Discuss (either one or more questions) in pairs or small groups and put key points from the discussion in the space below

Tips for above question on question f: As well as infection from poor hygiene and lack of clean water, the tendency to dilute and concentrate the feed persists - dilution to make it go further in poorer communities and the possibility of poor regulation/quality control leaving infants malnourished and vulnerable. Higher concentrates, by adding more formula than required, can lead to obesity and other health problems and is frequently associated with early and suboptimal weaning. In the UK the Health Visiting service and the postnatal child development clinics advise but is tighter regulation called for?

Activity 10: Financial support for pregnancy and childbirth (individual or paired activity – internet access required).
Find out what current statutory financial provision is available for pregnancy and childbirth in the UK for pregnancy and the first 12 months following delivery. Look at the Child Poverty Action Group details and discuss whether we need to do more, keep things as they are, do less and/or change and rethink

Mandatory, non means tested - Child benefit for all children.
Lone parents: child maintenance (through Child Support Agency)
For people claiming income related benefits: Job Seekers Allowance. Employment and Support Allowance, Income Support. Also In work credit (£40 tax free to lone parents claiming benefits and who go back to work for 16 hours a week or more). Childcare costs: 80% of childcare costs. Job Grant – for people who start work for 16 hours a week or more and stop getting benefits.
Issue is that it is often a difficult and complicated system – perhaps change and rethink as some people are often less well off due to childbirth – complicated benefit system does not help.

[1] http://data.un.org/Data.aspx?d=MDG&f=seriesRowID%3A561

Activity 11: Sure Start

Consider what benefits Sure Start may bring to a family unit and to a community. Look at one community profile (perhaps one where you intend to work). Think about how, in your professional capacity, the community might benefit from this provision.

Sure Start brings together health, social services, and education to support families with children under five. Aimed at the marginalised, disadvantaged families who tend not to access health, social and education support. In most disadvantaged areas – providing learning and day care, parent outreach, antenatal services, family support, special needs and employment advice and guidance. Support for ten hours a day, five days a week for 48 weeks a year. Sure Start centres are close to where communities live. Some good evidence to support this type of support – to help people get out of poverty and disadvantage – give better start for under fives (to break the cycle of deprivation).

Activity 12: Childcare – who is responsible?

Think about how you might support families who need to go back to work as soon as possible. What provision is needed for parents/carers who might struggle financially with childcare? Make some notes in the space below.

Some examples could be: good quality childcare for the very young – preferably within their workplace. Childcare funds so that people might pay for a childminder/nanny/nursery. Financial support – this could be provided through fiscal policies (government tax credits) or direct payment for childcare. Free childcare places for those who might struggle financially.

Exercise 1: Structures to support child health

Look at the table below on structures supporting the child up to 1. Working in pairs or groups, complete the blanks in the slide – discuss:

Time period	Potential health risks	Ideal outcomes	Structures to support -	public health issues
Pre-conception	Environmental – lead, mercury/tetrogeneic pollutants, chemicals, x rays, high risk activities (smoking, alcohol) lack of folic acid obesity	Understanding own health and well-being	General/health education National Healthy Schools Scheme	Folic acid Obesity Health behaviour
Around conception/ sexually active	Risks to potential child health STD's Teenage pregnancy	Happy and healthy woman Pregnancy established – good health for women and fetus (if pregnancy wanted). No STD, no miscarriage	Primary care and Maternity Services Sexual health service	If pregnancy is unplanned Unhealthy lifestyle

Pre-natal and early pregnancy	Food and microbial infections (listeria in soft cheeses) toxoplasmosis, smoking STI's Immune cond. and Rh neg,	Ensure pregnancy is healthy, potential risks are reduced	Pregnancy service (screening) Welfare structure Income policies	• Access of antenatal care • Screening: consent challenges and outcomes • Folic acid and neural tube defect debate
Around birth	Fetal distress, oxygen deprivation, infection, sepsis, birth trauma (injury to mother and/or child)	Healthy birth outcome	Adequate birth care and support	Hygiene at place of birth
Post natal	Infection (child/mother) Fail to thrive, poor development (inadequate nutrition) Mental health (PN depression)	Healthy mother/family (child thriving and developing normally)	Breast feeding support / Vit K postnatal support services (HV, B/F Counselling) Screening for development	• Rate of b/f nationally – why rates low? – reliability of data • Support for disadvantaged (Sure Start etc) – impact on household income (means tested support)
Early years	Child development (physical, social, emotional, intellectual)	Health child and family	Appropriate childcare Health visitor support	lack of awareness of care provision poor parenting

Activity 13: information about 'over the counter' medicines (individual activity – use of internet required)

Look on the web for advice for Aspirin, Paracetamol and Lemsip. How easy is this information to interpret, what is the evidence?

Huge amount of information on web – some of it conflicting, particularly around pregnancy. NICE guidance says, as few conventional medicines are established as safe during pregnancy use few as possible. Over the Counter Medicines may be used to relieve symptoms, e.g. heartburn, constipation, nausea and vomiting and haemorrhoids.

Exercise 2: Growth Centile charts

This activity includes 3 cases – use growth charts to plot and interpret

Answers to case studies in workbook

Activity 15: Immunisation

Attempt at least one of the following:

1. Consider the pros and cons of voluntary versus mandatory immunization policies.
2. Explore herd immunity and how vaccination rates are recorded in populations.
3. How would you respond to a parent expressing concern about the MMR vaccine and why consent is needed?

Compulsory vaccination policies infringe on the freedom of the individual to choose medication, even if the choice increases the risk of disease to themselves and others. But if too many opt out there is insufficient immunity in the population to provide protection and increase risks to population as a whole.
Herd immunity information is provided in workbook. Those living in crowded (city) environments are more at risk than those living in the countryside (close contact) therefore important to vaccinate more in cities. There is also a seasonal relationship to disease; meningitis and flu rates rise in the winter months therefore vaccinate those at risk seasonally.
Need to Inform about the risks and benefits of the vaccine – cannot compulsory vaccinate only to give informed advice and guidance about the risks and benefits. Most people are rational

Activity 15
1. Think about the challenges associated with targeted TB prevention rather than universal coverage.
2. Look at your local immunisation provision and number/type of reported infectious incidents

Challenge is the same as for herd immunity argument – particularly for TB as it is spread in dense populations. 75% of cases in England (in 2005) from those coming from abroad. Linked to poor social conditions/lifestyle – risk for drug resistant cases rising

Activity 16. Control of infections in children
Explore concerns about spread and control of such conditions

Concerns might be how to control in risk areas (such as school); reducing stigma through careful social marketing – providing information on detection and treatment in community – such as in clinics, schools, churches, shopping centres, libraries etc. Ensure information is accessible (for culture, language etc)

Activity 17: Public Area Playgrounds (individual – internet access required)
Public area playgrounds have changed substantially- go to http://www.capt.org.uk and look at the quizzes, critiquing them and consider how they, as a health professional, would use with parents or child minders.
One comment – that they are not provided in other languages – not always culturally sensitive and some rely on people having access to IT

Activity 18: social marketing as a health promotion tool
What is social marketing and how can it help to promote a health message?
Go to the Change 4 Life website and find out about the support available for children aged 5-8 in your local area. Discuss the accessibility of the programme, any potential barriers for particular groups.

Social marketing is a tool used in health promotion using marketing principles to effect behaviour change. Change 4 Life is a social marketing health promotion campaign. Some requires IT access – could present access challenges for those without IT.

Activity 19: Child Health Protection

Consider how children are protected on their way to, in, and after school.
Draw up a list of what and who children are protected against and how this is done.
What more could be done?
What could be done better?

You might consider sun safety, CRB. Also immunisation status and health checks including weight measurement, school health referral schemes, fruit in school, water access and near school premise legislation – parking, crossing, retail, adverts. Bullying and other policies, physical activity. Medication management (e.g. asthma and sickle cell). Before 9pm TV rules and advertising on TV, breakfast and after school clubs. Hearing and eye testing and referrals, support for special needs and disability

The list could include: bullies - school bullying policy; potentially harmful adults – CRB checks for those looking after school children etc. There will be some cross over with following activity

Activity 20: Risks to child health and well-being

There are a number of risks to children and many have been mentioned earlier in the workbook. As the child now moves into a formal school setting what are the major risks to their health and well-being? List some of those you consider a main risk – how might they be addressed?

Think about bullying, snacking/eating habits, poor home environment; sleep deprivation; family traumas; RTA's and other accidents, infections, emergent illnesses, intellectual impairment

Activity 21: effectiveness of interventions

Think about these or other child health interventions you might have heard about – how effective do you think they are? If you were commissioning a health promotion service for children in your area, how would you find out how effective the intervention is?

The National Service Framework for Children, Families and Young Children provides guidance on the quality of services that could be commissioned. NICE provides some guidance on effectiveness of interventions – National Obesity Observatory provides some guidance on services for weight management.

Activity 22: evidence of effectiveness of interventions

Look at health promoting interventions such as MEND, CHALK, HENRY – what approaches do they use for children and families age 4-8? Which of the above NOO criteria do these interventions address (from looking at the information given on their websites). Why do you think it is difficult getting quality evidence of effectiveness for this type of approach?

Complex interventions on behaviour change often more difficult to evaluate than a single intervention – lack of robust evidence – ethical issues in researching with children.