HSE Review of the Risk Prevention Approach to Occupational Health

Applying Health Models to 21st Century Occupational Health Needs

Health Models Information Pack

HSL/2005/57

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Science Group: Human Factors and Health Sciences

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This information pack was produced by the Health and Safety Laboratory to facilitate an expert workshop held in September 2005 titled ‘Applying Health Models to 21st Century Occupational Health Needs’. The workshop was organised by HSL on behalf of HSE. As part of a 2 year review process the main premise of this workshop was to explore the utility of HSE’s risk assessment approach to addressing contemporary occupational health concerns and whether ‘health models’ might offer more effective alternatives.

This pack therefore provides a potentially useful resource to anyone interested in the psychosocial aspects of health and their relevance to current government occupational health initiatives.
Information Pack

Workshop: Tuesday 20th September 2005
9.30am - 4.30pm
Radisson SAS Hotel, Manchester Airport
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Introduction

HSE has invited you to participate in a review it is undertaking to examine the utility of its current risk prevention approach to occupational health. This will be done through evaluating the potential contribution other "health models" can make in creating sustainable improvements to the occupational health of the modern day workforce.

This information pack has been put together with the view to facilitating your preparation for this workshop. Accordingly, it is divided into the following sections:

- **SECTION A - BACKGROUND & DEFINITION**
  Review background, its aims and objectives and the aims and objectives of the workshop. A definition of occupational health to be used during the course of this review is then to be provided.

- **SECTION B - CONTEMPORARY OCCUPATIONAL HEALTH NEEDS**
  Overview of current occupational health needs.

- **SECTION C - HORIZON SCANNING**
  Preliminary projections about future occupational health needs and their link with trends in workforce demographics.

- **SECTION D - GOVERNMENT INITIATIVES**
  Current government initiatives endeavouring to tackle contemporary occupational health needs.

- **SECTION E - RISK PREVENTION**
  Overview of HSE’s current risk prevention approach.

- **SECTION F - HEALTH MODELS**
  Overview of a range of health models that could inform the review.

- **SECTION G**
  References.

N.B. Please note that this document is not intended to provide an exhaustive or rigorous account of the range of health models available or health initiatives that are underway. Rather, it is intended to provide those less familiar with the area an impression of the variety of avenues by which models are applied to health. Research will be commissioned as a result of this first workshop in order to expose the evidence base for those models deemed most relevant to the aims of this review.
Section A: Background

Britain has a world-class record for safety at work and the Health and Safety Executive (HSE) is widely respected for playing a major role in achieving this record. However, HSE has not been as successful in achieving the same record for health issues. One contribution to this difference is thought to be a reliance on a philosophy of regulation that is grounded in the prevention of the realisation of risks. While this has arguably proved successful for safety problems and, in a more limited way, for traditional health issues such as chemicals and noise, it has yet to be shown to be successful for non-traditional health issues such as musculoskeletal disorders (MSD), work-related stress, depression and anxiety, that predominate in the working age population. If sustainable improvements in health at work are to be achieved, HSE will need to ensure that such health issues are more effectively addressed by HSE as regulators and its stakeholders in their roles as duty holders and independent advisors.

Other approaches and models, derived from, for example, occupational medicine, psychology, economics, horizon scanning, legal and public health domains, may offer equally or more successful ways of thinking about and tackling the problems. This will particularly be the case in dealing with rehabilitation, which cannot easily be embraced by the risk prevention model. Moreover, there is a view that, since not all illness can be prevented, intervention strategies aimed at securing better health that rely solely on prevention will not succeed. Encouraging people to cope with less than perfect health may be a more useful way of framing the issue. Using just one model (however successful it might have been in the past) for tackling these issues is likely to give only partial answers. HSE, partners and stakeholders will need to know which model works best for different aspects of its work. Consequently, a pluralist approach is likely to represent the preferred option, in which the most useful aspects of different models are tailored to the nuances of varying occupational health needs. HSE therefore needs to engage others as equal partners in the search for better solutions to address occupational health problems common to all.

Reviews and Objectives

The review aims to provide HSE and its partners with a flexible decision-making framework for handling more effectively the spectrum of health issues arising in the 21st Century workplace. This will be accomplished by:

- Reviewing the different models which provide a means of framing health issues to establish their applicability to improving occupational health;
- Examining the scope for, and implications of, using the various models in joined-up approaches to improving occupational health;
- Providing guidelines for users of the various models to assist co-operation in joined-up approaches.

Workshops Aims and Objectives

The review will be a consultative process running over two years, centered on two stakeholder workshops. The aim of the first workshop on the 20th September will be to scope the potential value of different health models in accommodating 21st Century occupational health and well being needs. The workshop will seek to:

- Discuss the ability of the current risk prevention approach to address contemporary occupational health needs.
- Gauge future projections of occupational health trends and their implications for the current risk prevention approach.
- Gain further insight into the ways in which other models of health can potentially facilitate occupational health in the long term.
- Achieve consensus on future work that needs to be undertaken to test the viability of other health models in improving the management of occupational health.

Approach

An eclectic, inclusive approach will be taken in considering models that can apply to the long-term management of occupational health. To ensure the output is grounded in the realities of the workplace this process will also be informed by forecasts of changing work-force dynamics.
Section A: Background

Occupational Health Construct for the Health Models Project:

For the purpose of this review the following interpretation of occupational health will be applied. This definition was chosen on the basis of it providing a 'holistic' portrayal of health at work that is in line with the aspirations of this review. It is a definition of occupational health that expands on the World Health Organisation's (WHO) definition of health. Namely, occupational health concerns:

**Definition:**
"A state of physical, mental and social well being at work, and not merely the absence of disease and disability, that is influenced by factors within and outside the work place."

**Related concepts:**
Implicit within this definition is the recognition that occupational health contributes to employees' overall quality of life experience (QOL).

**Achieved by:**
This state (definition) can be achieved by ensuring the work place is characterised by the principles underpinning Scottish Executive/Health Direct (part of NHS Scotland) definition of "Healthy Working Lives".

This definition is embodied by Adisesh's 2003 Occupational Health Paradigm (see figure 1).

The Occupational Health Paradigm (Adisesh, 2003)

"The interaction between health and work has been a long held paradigm for occupational health that tends to emphasise the adverse effects of work on health. This model includes 'wellness' - an often-overlooked factor in the occupational health equation. Work can contribute to good health." (Adisesh, 2003)

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1 The World Health Organisation (WHO) defines QOL as "an individual's perception of their position of life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns" (WHO, 1996). Consequently, an optimal quality of life concerns minimising the gap between current life experiences and perceptions of how life should be.

2 "A healthy working life is one that continuously provides working-age people with the opportunity, ability, support and encouragement to work in ways and in an environment which allows them to sustain and improve their health and well-being. It means that individuals are empowered and enabled to do as much as possible, for as long as possible, or as long as they want, in both their working and non-working lives."
According to the HSE Occupational Health Statistics Bulletin 2003/04:

Each year over 2 million people suffer from ill health which they think is work-related...
Overall, in 2001/02 an estimated 2.3 million people were suffering from an illness which they believed was caused or made worse by their current or past work; around 700 thousand of these first became aware of the illness in the past 12 months.

...An Estimated 20.8 million working days (full day equivalent) were lost through illness caused or made worse by work...
On average each person suffering took 22.2 days off in that year

...with over 20 thousand new cases each year severe enough to be seen by specialist doctors...
In 2001-2003 an estimated 23,000 new cases per year were seen by specialist doctors in The Health and Occupation Reporting network, while nearly 8,000 per year were assessed for compensation under the Department for Work and Pensions’ Industrial Injuries Scheme.

...and several thousand people dying each year from past exposures at work.
Each year an estimated 6,000 people (uncertainty range 3,000 to 12,000) die from cancer due to past exposures at work. In 2002 over 1,800 people died from mesothelioma, a cancer caused mainly by occupational exposure to asbestos, and at least as many again from asbestos-related lung cancer. Around 100 died from asbestosis and nearly 300 from other types of pneumoconiosis, mostly associated with coal dust and silica.

Over half of all cases of work-related illness are MSDs or stress...
The most common types of work-related illness were MSDs, in particular those affecting the back and upper limbs, stress and other types of mental illness. Both self-reporting surveys and surveillance by specialist doctors show each of these accounting for around a third of the total incidence (see Figures 2-3).

...but the total also includes diseases ranging from asthma and dermatitis to infections and deafness.
Other types of ill health with significant numbers of cases reported by doctors or compensated by the Government were lung diseases such as asthma and pneumoconioses; contact dermatitis and other skin diseases; diarrhoea and other infections; and disorders related to vibration or noise (Figure 4).

Jobs with high risks for MSDs included metal plate workers and typists...
The jobs carrying the highest risks of MSDs, according to reports from rheumatologists in 2001-03, were metal plate workers, shipwrights and riveters, with an annual average incidence rate approximately 40 times the average for all occupations, followed by typists (18 times the average) and road construction operatives (16 times).

...while protective services, healthcare and education occupations are most at risk for mental ill health, and protective services also for violence at work.
Consultant psychiatrists reported non-commissioned officers (NCOs) and other ranks in UK armed forces as the occupation with the highest incidence rate of work-related mental ill health in 2001-03, at around 15 times the overall average, followed by medical practitioners (12 times). The British Crime Survey showed protective service occupations with the highest risk of being a victim of an assault at work.

Among the riskiest jobs are: vehicle spray painters for occupational asthma; floral arrangers/florists for contact dermatitis and care assistants/home carers for infectious diseases.
Vehicle spray painters had the highest estimated incidence rate for occupational asthma in 2001-03, at roughly 80 times the average for all occupations, floral arrangers/florists had the highest rate for contact dermatitis (14 times the average) and care assistants/home carers for occupational infections (25 times the average), according to reports from respiratory physicians, dermatologists and communicable disease specialists.

On the positive side, General Household Survey data (ONS, 2003) show that increases in sickness and disability between 1972 and 1995 began to stabilise in 1996.
The Office of National Statistics data on trends in self-reported sickness by sex and age, 1972 to 2003 for: a) a longstanding illness, b) a limiting longstanding illness and c) restricted activity in the 14 days prior to interview, are shown in Figure 5. Overall, trends reflect a gradual increase since 1972.
SECTION B: Contemporary Occupational Health Issues

Figure 3: Estimated incidence of work-related illness reported by specialist doctors, annual average, 2001-03
Source: HSE 2003/04

Figure 4: Incidence of disablement benefit cases under the Industrial Injuries Scheme, annual average 2001-03
Source: HSE 2003/04

Figure 5: General Household Survey: trends in self-reported sickness and disability (all persons of working age) 1972 to 2003
Source: ONS (2003)
Employment prospects for people with impaired health:

Aspiration: The green paper “Towards Full Employment” sets out the Government’s Goals for unemployment ‘to create and sustain employment opportunities for all over the next decade’ (2002).

Workforce Predictions

<table>
<thead>
<tr>
<th>Employment prospects</th>
<th>Potential implications for people with impaired health</th>
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<tbody>
<tr>
<td>By 2012:</td>
<td></td>
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<tr>
<td>• Employment will continue to rise with the long-term rate of employment growth estimated to be just under 0.5% per annum.</td>
<td>• More job opportunities to compensate for shortfalls created by replacement/retirement and low and stable unemployment levels.</td>
</tr>
<tr>
<td>• The number of additional jobs over the ten-year period is forecast to be 1.3 million and the majority of these will be part-time.</td>
<td>• Immigrant worker population is unlikely to meet the shortfall created by replacements.</td>
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<tr>
<td>• In addition to the 1.3 million new jobs, there will be over 12 million job vacancies arising due to replacement demands, mainly due to retirement.</td>
<td></td>
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<tr>
<td>• Unemployment is expected to remain low and stable, provided that general economic conditions continue to be favourable.</td>
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<tr>
<td>• Annual net immigration levels (currently 130,000 per annum) to remain stable.</td>
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Sector prospects

By 2012, see figure 6 (Working Futures, 2004):

<table>
<thead>
<tr>
<th>Potential implications for people with disadvantaged health</th>
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</thead>
<tbody>
<tr>
<td>• An increase in more sedentary professions such as professional services is likely to favour people with physical disability and other health limitations.</td>
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</table>

• Employment in manufacturing and the primary and utilities sector (which includes agriculture and mining) will continue to decline, although these industries will continue to play a crucial role in the economy. Job cuts are expected in most manufacturing industries, reflecting restructuring and productivity improvements. Even in industries where output is expected to grow strongly in the long term, such as pharmaceuticals, little or no employment growth is expected.

• Many of the jobs created in retailing are expected to be part-time.

• Employment in banking, insurance, and other related financial services is likely to increase in the short-term. However, this growth is expected to be modest as IT expenditure will increase to improve productivity. In the long term, the study predicted that employment in banking will decline whilst small increases are expected in insurance.

• Employment in professional services is expected to grow from 2005 onwards, due to the increasing needs for professional advice in mergers and acquisitions, IT and business restructuring.

*Source: Institute for Employment Research*
### Occupational Projections

By 2012, see figure 7 (Working Futures, 2004):
- There will be significant increases in managers and senior officials, professional occupations, associate professional and technical occupations, and personal service occupations.
- For professional occupations, the highest rate of growth is projected for business and public service professionals. Substantial increases are also predicted for teaching and research, and science and technology professionals (including engineers), with around 200,000-300,000 jobs forecast in each case.
- For associate professional and technical occupations, the fastest rates of growth are expected for the culture/media/sports occupations. In terms of absolute numbers however, the largest rise is predicted for the business and public service group.
- Business and public service professionals include legal, business and statistical, public service professionals, architects, town planners, surveyors, librarians and related professionals.

### Potential implications for people with impaired health
- An increase in more sedentary professions, such as professional services, may increase opportunities for people with physical disability.

### Demographic projections

By 2020, see figure 8 (Working Futures, 2004):
- Within the UK the current increase in proportion of workforce that fall within the 45-59 and 60-74 age bands is likely to continue. This is attributed by researchers to economic growth, increased demand for labour and attitude changes towards the capabilities of the older generation. It may be compounded further by an anticipated pensions crisis, rise in the retirement threshold for women from 60 to 65, and introduction of legislation forbidding age discrimination.
- Along with an ageing population and increased ethnic and cultural diversity, the gap between the richest and poorest segments of society is anticipated to increase despite overall rises in the average income.

### Potential implications for people with impaired health
- Since ageing increases propensity to physical health problems, more onus will be placed on the workplace to accommodate the health needs of an ageing workforce. Employers will be less able to assume they can fall back on the wider job market.
- As well as an increased age profile, the future workforce is also likely to contain increased cultural and ethnic diversity.
- Employers may have to mitigate any detrimental health effects created by social inequality variations within their workforce.

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*Source: Institute for Employment Research.*

*These projections are based on natural change and exclude migration.*

*Source: Smith et al (2004).*
SECTION C: Future Occupational Health Issues

Organisational size projections

| Potential implications for people with impaired health |
| At the start of 2003 (see figure 9): |
| • Within the private sector, small size (<50 employees) companies employed the majority of the workforce (46.1%). Large companies (>250) employed a slightly smaller proportion (41.8%) of the workforce. |
| • Provided this pattern continues, due to their greater resource limitations, small size companies may have more difficulties in addressing the health needs of employees with less than perfect health. |

Disability

| Potential implications for people with impaired health |
| Between 1999 and 2003: |
| • A gradual growth was observed in employment rates among key disadvantaged groups in the UK including those with disability. This growth exceeded that of the total working-age population, and was smallest for people without formal qualifications. |
| • Providing this trend continues, it should again favour people with physical health limitations, but less so for those without formal qualifications |

Summary:

According to the information presented: workforce replacement demands, a continued shift away from manufacturing towards the service sector, and an ongoing rise in the proportion of “desk-based” professions provides a more promising outlook for job opportunities amongst people with disadvantaged physical health. An ageing workforce, rise in retirement threshold and near saturated employment levels is likely to put employers under increased pressure to accommodate their health needs once at work. Moreover, employers will need to ensure that their employees falling into this category do not succumb to the adverse effects of the more common health problems encountered in the contemporary workplace, such as MSDs and stress.

7-8 Source: National Statistics online: socialinequalities.work.employmentgrowsthroughtheadvantaged

9-10
SECTION C: Future Occupational Health Issues

Figure 6: Workforce Share by Broad Sector 1982 to 2012 (Working Futures, 2004).

Figure 7: Workforce by Occupation 1982 to 2012 (Working Futures, 2004).

Figure 8: UK Populations by age predictions (Working Futures, 2004).

Figure 9: Share of businesses, employment and turnover by size of business, UK private sector, start of 2003
SECTION D: Current Government Initiatives For Occupational Health Needs

This section is divided into the following categories:

Part 1: Health and Safety Commission/Health and Safety Executive initiatives

- HSC’s 10 year strategy (including Revitalizing Health and Safety and Securing Health Together),
- Public Service Agreements,
- Fit3 Programme (including Workplace Health Direct).

Part 2: Department of Work and Pension (DWP) initiatives.

- New Deal for Disabled people.
- Building on New Deal (BOND).
- Pathways to Work.
- Incapacity Benefit Reform.
- Access to Work.
- Workstep.
- Job Introduction Scheme (JIS).
- Disability Symbol.

Part 3: Department of Health (DOH) Initiatives

- Department of Health’s Public Health green paper on health promotion.

Part 4: Local Government Initiatives

- Employer’s Organisation for local government’s (EO) role.

Part 5: Regional Occupational Health Services

- Sheffield Occupational Health Advisory Service.
The main drivers behind HSE’s current occupational health strategy include:

HSC’s 10 year strategy.

A strategy for workplace health and safety in Great Britain to 2010 and beyond

The strategy is designed to promote our vision: to see health and safety as a cornerstone of a civilised society and, with that, to achieve a record of workplace health and safety that leads the world.

Drawing on the experience of the last 30 years and extensive consultations with a wide range of stakeholders, the strategy sets out a new direction for the health and safety system and the roles of Health and Safety Commission, the Health & Safety Executive (HSE) and local authorities (LAs).

The strategy acknowledges Britain’s safety record as already commendable, with fatal accidents reduced by over two thirds since the introduction of the landmark Health and Safety at Work etc. Act in 1974, but recognises more needs to be done. 40 million working days were lost to occupational injury and ill health in 2001/02: 33 million days were attributed to ill health. Implementing the strategy should further energise Britain’s approach to improving workplace health and safety for the future.

Strategy themes comprise:

- The development of closer partnerships, particularly with local authorities. This includes using a strategic-partnership approach to address occupational health demands and challenges.

- Help people to benefit from effective health and safety management and culture through workforce involvement and accessible advice and support.

- Focusing of HSC/HSE’s core business and on the right interventions where HSC/HSE’s best placed to reduce workplace injury and ill health by being clear on priorities, developing an interventions strategy and continuing to enforce where appropriate.

- Communicating HSE’s/HSC’s vision effectively.

HSC’s 10 year strategy builds on earlier strategies relating to occupational health, namely Revitalising Health and Safety (RHS) and Securing Health Together (SH2).

Public Service Agreements

During 2004, the Department for Work and Pensions (DWP) was set certain Public Service Agreement (PSA). The PSA targets addressing occupational health included the requirement that HSE (as part of DWP) must address the following:

- A reduction in the incidence rate of work-related ill health: 6% reduction by 2007-08;

- A reduction in the number of days lost due to injuries and ill health: 9% reduction by 2007-08.

HSE set two Strategic Delivery Programmes to meet its PSA obligations. One of these, the Fit3 programme, focuses on occupational health.

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9 Source: http://www.hse.gov.uk/aboutus/hsc/strategy.htm
10 Details of RHS and SH2 are provided on http://www.hse.gov.uk/aboutus/plans/index.htm
**SECTION D**: Part 1: HSC/HSE Initiatives

**Fit3**

**Fit for Work, Fit for Life, Fit for Tomorrow’ Strategic Delivery Programme**

The ‘Fit3’ Strategic Delivery Programme is based on analysis of injury and ill health generation across known hazard and sector hotspots in businesses, large and small.

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**Source**

Major occupational health initiatives encompassed by Fit3, as a contribution to rising to the challenge of occupational health, include:

- A major communication campaign on MSDs, which includes piloting the ‘Backs Week’ projects designed to reduce the incidence of manual handling injuries
- Rolling out the management standards for stress across key sectors, including the public sector
- Launching the Workplace Health Direct advice line and selecting partners to pilot new occupational health support services providing accessible advice and support (see below)
- Targeted initiatives to reduce the incidence of skin disease in the hairdressing and beauty sectors
- Targeted initiatives to reduce the incidence of occupational asthma in manufacturing, woodworking and health services
- Introducing new Vibration Regulations and Noise Regulations.

Fit3 also aims to deliver a 9% reduction in the incidence rate of days lost due to work-related injuries and ill health. We will achieve this by targeting the public sector. The Stress, MSD, Slips and Trips and Construction Programmes will deliver significant contributions. Major initiatives planned also include:

- Developing, monitoring and influencing the implementation of the Ministerial Task Force on Health, Safety and Productivity delivery plan, in which HSE are working closely with Cabinet Office and HM Treasury.
- Raising the profile of sickness absence management in the health and safety and human resource cross-government officials network.

Workplace Health Direct

Workplace Health Direct is an occupational health, safety, and return to work support service for small and medium sized enterprises currently being piloted by HSE. It comprises an Advice line and regionally based problem-solving services.

Workplace Health Direct will be available to employers and workers in small and medium sized enterprises (SMEs). The service will comprise:

- A central occupational health, safety, and return to work advice line and website (Level 1); and
- A problem-solving occupational health, safety, and return to work service for employers and workers in SMEs (Level 2). This will comprise a number of suitably qualified health and safety advisors, who would also offer signposting to specialist help (Level 3).

Callers to the advice line will be passed to a regionally based problem-solving service, who will undertake workplace visits and signpost to specialist support, as appropriate. This element of the service is to be provided by regionally based partnerships.

Below is a diagram of the model of the service:

The procurement process is currently underway. Workplace Health Direct hopes to announce locations for the level 2 pilots in September 2005. The pilot service is due to launch in early 2006.

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The Department for Work and Pensions (DWP) in its five year strategy, Opportunity and Security Throughout Life, (February, 2005.), outlined their commitments to meeting the PSA targets15. These involved four main objectives. Those that directly relate to creating employment opportunities for people with less than perfect health include:

- Promoting work as the best form of welfare for people of working age, while protecting the position of those in greatest need.
- Combating poverty and promoting security and independence in retirement for today's and tomorrow's pensioners.
- Improving rights and opportunities for disabled people in a fair and inclusive society.

The Department for Work and Pensions (DWP) is the parent government department of HSE. Corresponding DWP based initiatives or schemes affecting rehabilitation and retention at work include the following programmes:

**New Deal for Disabled People.**16

New Deal for Disabled People (NDDP) supports people in receipt of disability or health-related benefit in finding and retaining paid employment. It is a voluntary programme, delivered through a network of job brokers across England, Scotland and Wales. Job brokers come from a range of organizations, and are contracted to help customers find, secure and sustain paid employment. Job brokers work with employers to match vacancies with the skills and potential of NDDP customers. NDDP was launched in July 2001, and was intended to run until March 2004; however, it has been extended to March 2006.

NDDP supported over 46,000 disabled people into work between July 2001 and September 2004.

**Pathways to Work**18

Currently in a pilot phase, Pathways to Work is intended to provide people on incapacity benefit a more structured and supported route back to work that had previously not been available. For optimal effectiveness, DWP highlights other actions that employers need to undertake. These include providing:

- healthier workplaces;
- a more active role for employers;
- more back-to-work support provided by GPs and the wider NHS;
- extended employment advice and support;
- a reformed benefit, which rewards work and gives more help to those with severe impairments; and
- the ongoing system of stronger disability rights.

**Reforming Incapacity Benefit**

DWP aims to change incapacity benefits so that they reflect the more accurate view of the world, that people with health conditions and impairments want to work. DWP also aims to ensure financial security whilst also offering the right rewards for taking steps to return to or enter work.

**Access to Work**

Access to Work is available to employers to help them recruit or retain the services of people who because of injury, ill health or disability require extra or alternative equipment or modification to premises, to enable them to continue working. This may include a grant for such equipment/modification (depending on the company's size).

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18 Source DWP Five Year Strategy (Feb. 2005)
SECTION D: Part 2- DWP Initiatives Affecting Rehabilitation and Retention at Work

Workstep

Workstep is managed by Jobcentre Plus and provides job support to disabled people who face more complex barriers to getting or keeping a job, but who can work effectively with the right support. It enables eligible disabled people to realise their full potential to work within a commercial environment, giving them, wherever possible, an opportunity to progress into open employment. The programme also offers practical assistance to employers.

Job Introduction Scheme (JIS)

JIS is also managed by Jobcentre Plus and provides a grant to employers of disabled people during the first few weeks of their employment, to help pay towards wages or other employment costs such as training.

Disability Symbol

Disability Symbol enables employers to show their commitment to the employment, training, retention and career development of disabled people. ‘Symbol’ using employers have agreed to take action on these commitments. Employers who display the symbol guarantee to interview disabled applicants who meet the minimum criteria for that job.

Job Retention and Rehabilitation Pilot

The Job Retention and Rehabilitation Pilot project was designed to study the effectiveness of services aimed at getting people back into work after sickness leave of between 6 and 26 weeks. NatCen is carrying out an evaluation of JRRP, in collaboration with SPRU (the Social Policy Research Unit at York University) and the Urban Institute, on behalf of the Department of Work and Pensions (DWP) and the Department of Health (DOH).

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SECTION D: Part 3: DOH Initiatives

NHS Healthy Working Lives.

An initiative intended to improve the working lives of NHS employees by:

- Promoting equality of opportunity and embracing diversity.
- Investing in training and professional development.
- Involving everyone in decision-making.
- Encouraging flexible working.
- Promoting healthy ways of working up to retirement.

The plan was launched in July 2000.

Department of Health's Public Health green paper on health promotion.

In March 2001, Derek Wanless (ex-Group Chief Executive of Natwest) was commissioned by the Chancellor to examine future health trends and identify factors, which determine financial and other resources required to ensure the NHS can provide a publicly funded, comprehensive, high quality service available on the basis of clinical need and not ability to pay. His final report, "Securing Good Health for the Whole Population” (published in February 2004), provided an update of the challenges in implementing the “fully engaged” scenario set out in his report on long-term health trends. The review focused on prevention and the wider determinants of health in England. He made a number of recommendations including:

- Setting and reassessing quantified national objectives.
- Regulation of nicotine and tobacco.

He highlighted smoking and obesity as the most important determinants of future health.

NHS Plus

NHS Plus is a network of NHS occupational health (OH) departments across England, supplying quality services to industry, commerce, and the public sector, with a focus on small and medium sized enterprises (SMEs).

The network comprises of about 50% of NHS OH departments which have met accreditation standards. Although most NHS Plus providers do provide services to SMEs, the continued development of the service has been restricted because of a shortage of occupational health staff which has limited the services capacity to meet both the needs of NHS staff and non-NHS employers. Work is currently underway in DOH to increase capacity, which may result in a reorganisation of the way their services are delivered.

23 Source: http://www.nhsplus.nhs.uk/
Employers’ Organisation (EO) for Local Governments

The role of the Employers’ Organisation (EO) for local governments is to help local councils achieve the high standards of people management needed to ensure the continuous improvement of services. The EO believe that organisational effectiveness and efficiency can be vastly improved by minimising health and safety risks, managing ill health and reducing sickness absence.

The EO has a range of guidance available to councils to support them in managing the health, safety and welfare of their employees including:

- Strategic guidance on health and safety management practice
- Guidance on how to manage sickness absence and ill health
- Information and guidance on measuring sickness absence
- Addressing stress at work
- Sickness Absence Case Studies Report

The EO’s ‘Management of Ill Health Handbook’ provides guidance for council employees on medical advice, including how to seek advice, developing an effective relationship with occupational health provider, disagreements about advice and the use of medical advice in Local Government Pension Scheme ill health retirement decisions. The Management of Ill Health Handbook is endorsed by the Association of Local Authority Medical Advisers (ALAMA).

To find out more about the EO’s health and safety work visit http://www.lg-employers.gov.uk/default.php or contact Steven Sumner on 01254 761075.
Sheffield Occupational Health Advisory Service

SOHAS has been providing a comprehensive range of services to support and empower people to manage their workplace health for 24 years. SOHAS is a charitable organisation, made up of a board of seven trustees, a manager and 24 staff. SOHAS:

- works to prevent and alleviate the negative effects of work on health.
- offers an independent, free, and confidential service to workers in the Sheffield area through GP surgeries, office appointments, and over the telephone.
- works with partner organisations across the UK, with local and national government to try and create a higher quality of working environment for everybody.

Workplace health programme

The primary care referral service aims to reduce the impact of work-related ill health to individuals, employers and society. SOHAS methods, which have been adopted nationally, enable advisers to identify and respond to changing work-health needs. Advice, advocacy, and mediation are provided on prevention, rehabilitation, employment law and rights, and benefits.
SECTION E: HSE's Current Risk Prevention Approach

This Section is divided into 5 parts

**Part 1:** Health and Safety Law: employers and employees’ responsibilities.

**Part 2:** Overview of HSE's guidelines for developing an effective health and safety management system.

**Part 3:** Description of HSE's decision-making framework for risk reduction.

**Part 4:** Description of a model designed to enable them to help inspectors make enforcement decisions in accordance with HSE's risk prevention approach.

**Part 5:** Some problems with risk assessment, as highlighted by Pickvance (1999).

**Part 6:** Relationships between risk and harm: Process Leading to Harm Model and Dose-Response Model - an ergonomics model.
SECTION E: Part 1 - A) Health and Safety Law: The employers responsibility

What health and safety law requires

The basis of British health and safety law is the Health and Safety at Work etc Act 1974. The Act sets out the general duties which employers have towards employees and members of the public, and employees have to themselves and to each other. In the act the employer has duties to avoid or reduce health and safety risks ‘so far as is reasonably practicable’. An employer does not have to take measures that are technically impossible or if the time, trouble or cost of the measures would be grossly disproportionate to the risk. The law requires that good management and common sense would lead employers to look at what the risks are and take sensible measures to tackle them.

The Management of Health and Safety at Work Regulations 1999 (the Management Regulations) generally make more explicit what employers are required to do to manage health and safety under the Health and Safety at Work Act. Regulations 3, 4 and 5 cover Risk assessment, principles of prevention to be applied and Health and Safety arrangements.

The main requirement of the 1999 Regulations on employers is to carry out a risk assessment (see “The five steps to risk assessment” below). Employers with five or more employees need to record the significant findings of the risk assessment. Besides carrying out a risk assessment, employers also need to:

■ make arrangements for implementing the health and safety measures identified as necessary by the risk assessment;

■ appoint competent people (often themselves or company colleagues) to help them to implement the arrangements;

■ set up emergency procedures;

■ provide clear information and training to employees;

■ work together with other employers sharing the same workplace.

Other regulations require action in response to particular hazards, or in industries where hazards are particularly high.

B) Health and Safety Law: The employee’s responsibility

As well as employers having substantial responsibilities to manage health and safety risks in the workplace, employees also have legal responsibilities. They include:

■ taking reasonable care for your own health and safety and that of others who may be affected by what you do or do not do;

■ co-operating with your employer on health and safety;

■ correctly using work items provided by your employer, including personal protective equipment, in accordance with training or instructions; and not interfering with or misusing anything provided for your health, safety or welfare.
SECTION E: Part 2 - Successful Health and Safety Management (HSG65)

In their ‘Successful Health and Safety Management’ guide, HSE recommends the following components are key elements needed in the workplace to manage health and safety effectively.

**Policy**

Effective health and safety policies set a clear direction for the organisation to follow and contribute to all aspects of business performance.

**Organising**

An effective management structure and arrangements are in place for delivering the policy. Senior managers lead arrangements and all staff are involved in delivering the policy. All staff are motivated and empowered to work safely and protect their long term health.

**Planning**

There is a planned and systematic approach to implementing health and safety policy. The aim is to use risk assessment methods to decide on priorities and set objectives in order to eliminate hazards and minimise risks.

Risks are eliminated through selection and design of facilities, equipment and processes. If risks cannot be eliminated, they are minimised by the use of physical controls, or through systems of work and protective equipment. Performance standards are established and used for measuring achievement. Specific actions to promote a positive health and safety culture are identified.

**Measuring Performance**

Performance is measured against agreed standards to show where improvements are needed. This is accomplished by:

- **Active Monitoring**: both environmental factors and human factors are monitored to assess how well the management system is functioning.
- **Reactive Monitoring**: investigation of accidents when controls fail.

**Auditing and Reviewing Performance**

The organisation learns from experience and applies the lessons. Data from monitoring and independent audits is used to review performance. These combined approaches form the basis of self-regulation and of complying with the Health and Safety at Work Act (1974). There is a continuous improvement approach to policies, systems and techniques of risk control.

The HSE information leaflet “The five steps to risk assessment” outlines the stages as follows:

**STEP 1:** Look for the hazards.

**STEP 2:** Decide who might be harmed and how.

**STEP 3:** Evaluate the risks and decide whether more should be done.

**STEP 4:** Record your findings.

**STEP 5:** Review your assessment and revise it if necessary.
Key Elements of Successful Health & Safety Management

Figure 8: Summary of HSG65 guidelines
SECTION E: Part 3: Reducing Risks, Protecting People: HSE’s decision making process

The publication ‘Reducing risks, protecting people’ (HSE books, 2001) made HSE’s decision-making framework and the philosophy behind it transparent to all interested parties. It was not intended to guide other organisations in the approach they should take, that is covered in other publications such as Successful Health and Safety Management (HSE Books, 2003), rather it was to explain how HSE applies the process in its operations.

HSE’s decision-making framework originated from what HSE had learned about control of risks at nuclear power stations, which had been developed into a universal approach for HSE in formulation of regulations and guidance. This is not to say that a uniform approach to risk management is taken, rather that particular philosophies are applied in a consistent way which is suitable to the given context. The publication also highlighted the difficulties inherent in applying a consistent approach such as ethical, social, economic, societal and scientific factors.

HSE’s publication ‘Reducing risks, protecting people’ describes a six-stage process for informing and reaching decisions:

Stage 1: Deciding whether the issue is primarily one for HSC/E;

Stage 2: Defining and characterising the issue;

Stage 3: Examining the options available for addressing the issue; and their merits;

Stage 4: Adopting a particular course of action for addressing the issue efficiently and in good time, informed by the findings of the seconds and third points above and in the expectation that as far as possible it will be supported by stakeholders;

Stage 5: Implementing the decisions;

Stage 6: Evaluating the effectiveness of actions taken and revisiting the decisions and the implementation if necessary.

It is worth noting: these stages are not worked on separately or in a fixed sequential order; no single document/report will describe all the work done within this process; stakeholder involvement is key; the extent to which each stage is exercised depends on the circumstances.
SECTION E: Part 4 - Enforcement Management Model

What is the Enforcement Management Model?

The Enforcement Management Model (EMM, See figure 9) is a framework which helps inspectors make enforcement decisions in line with the Health and Safety Commission's (HSC) principals. A key principle is that enforcement action should be proportional to the health and safety risks and the seriousness of the breach.

The purpose of the EMM

The EMM is not a procedure in its own right. It is not intended to constrain inspectors' discretion when making enforcement decisions, and it does not direct enforcement in any particular case. It is intended to:

1. promote enforcement consistency by confirming the parameters, and the relationships between the many variables, in the enforcement decision making process;

2. promote proportionality and targeting by confirming the risk based criteria against which decisions are made;

3. be a framework for making enforcement decisions transparent, and for ensuring that those who make decisions are accountable for them; and

4. help experienced inspectors assess their decisions in complex cases, allow peer review of enforcement action, and be used to guide less experienced and trainee inspectors in making enforcement decisions.
**SECTION E: Part 4 - Enforcement Management Model**

**INPUTS**
(Section 1)

- Permissioning
- Priorities for action (section 1)
- Assess risk of serious personal injury (Section 2)
- Determine risk gap (Section 3)
- Identify initial enforcement expectation (Section 4)
- Apply duty holder factors (Section 4)
- Apply strategic factors (Sectors 5)
- Enforcement conclusion (Section 5)

**Figure 9: EMM Model Overview** (HSE, http://intranet/operation/emm/em_model/chapter2/index.htm)
Pickvance (1999) argued that risk assessment has a number of limitations, and questioned it as the central tenet of health and safety legislation in the UK. He pointed out that risk is not an objective phenomenon. Understandings of it vary within individuals and within different sectors of society. Other problems with risk assessment include the fact that it is often not performed, it may be inadequate, it may not be acted upon, and the risks may not be quantifiable. Many aspects of the working environment have not been studied in enough detail for meaningful assessment to be made. Also, many work-related illnesses have multi-factorial aetiologies.

Pickvance pointed out that risk assessment is just one approach amongst many that European Union Health and Safety legislation highlights in order to reduce ill health caused by work. He suggested occupational health professionals should use a more pre-emptive and creative approach to prevention of harm at work.
HSE’s risk prevention approach is based on the premise of a dose-response relationship with the assumption that greater exposure to a hazard leads to greater risk of harm. Examples of models used by HSE that exemplify these principles include early ergonomics models (Armstrong, Buckle, Lawrence et al (1993)) and the Process Leading to Harm model. Each of these are described as follows:

### Process Leading to Harm Model

These diagrams have been prepared for the ISO/TR 14121-2 standard, which is currently in draft form. The standard relates to ‘Safety of Machinery - Principals of Risk Assessment’ but the diagram could easily apply to other risk assessment situations.

A hazardous situation exists when one or more persons are exposed to a hazard. The diagram contrasts ‘acute’ and ‘chronic’ exposure to risks that can lead to harm either in terms of injury or ill health. In the case of injury (i.e. safety risks) exposure to a harmful event leads to harm (injury) unless technical or human intervention takes place. In the case of ill health risks, exposure to a hazard leads to ill health over a period of time, an exposure period. Once again, other factors may intervene to prevent harm.

The draft ISO standard recognizes that hazardous situations that lead to ‘chronic’ harm due to cumulative exposure over time (such as dermatitis, occupational asthma, deafness or repetitive strain injury) need to be handled differently to those that lead to ‘acute’ sudden harm (such as cuts, broken bones, amputations, short term respiratory problems).

A weakness of risk assessment, highlighted by this example, is describing a hazardous event. Particularly, discriminating between acute and chronic exposures and the likelihood that chronic exposures can lead to harm. Factors such as: how much exposure; for how long; and individual susceptibilities need to be considered and can make risk assessments for health effects problematic. Difficulties include:

- Gauging the risk presented by a hazard
- Differentiating risk from harm
- Predicting the range of possible health outcomes, from illness, to disability, to death
- Occurrence of a hazard assumes a discrete event (more the case in acute than chronic exposure)

### Conditions of occurrence harm

Source: Roger David, CRAMIF - France

The model (nicknamed ‘Mickey Mouse’) has been criticised for being over-simplified but some consider its simplicity as being one of its strengths because it highlights the contrasts, the different factors that effect risk assessment processes for health and safety problems.

### Dose-Response Model - an ergonomics model

#### Ergonomics view of MSDs

In an overview of ergonomics (or human factors) and MSDs, Buckle (2005) said a strong relationship exists between factors within the working environment and the development of MSDs - conditions which can result in significant sickness absence and reduced productivity. Understanding the causes of MSDs, especially those which are work-related is the key to primary prevention. Contemporary ergonomics stresses the importance of a participatory approach to prevention and solution finding that engages key stakeholders. Buckle notes that earlier models of the causation of MSDs (as shown overleaf) demonstrated how worker activity and physical forces lead to adverse responses; they recognised the role of psychological and social factors but since then it has been acknowledged that these factors should carry more weight. More recently, Buckle (2005) acknowledges that models should illustrate how work organisation factors and psychosocial work-factors (perceptions or beliefs held by workers about how work is organised) are associated with the development of MSDs.
The proposed model contains sets of cascading exposure, dose, capacity and response variables, such that, the response at one level can act as a dose at the next level. In addition, the response to one or more doses can diminish (impairment) or increase (adaptation) the individual's capacity to resist destabilisation in response to successive doses.

Source: Armstrong, Buckle, Lawrence, et al. (1993)
SECTION F: Health Models - An Overview

According to Glanz and Rimer (1995, cited by Trifiletti, Gielen, Sleet and Hopkins, 2005):

“Theories and [models] can be used to guide the search for reasons WHY people are or are not following public health advice, or not caring for themselves in healthy ways. They can help pinpoint what you need to know before developing or organising an intervention program. They can provide insight into HOW you shape program strategies and reach people and organizations and make an impact on them. They also help you to identify what should be monitored, measured, or compared in the program evaluation”.

All the models that follow can be related to each of these uses to varying extents. None have been used widely within occupational health. Instead a general description of each is provided, along with a summary of their relative strengths and weaknesses as derived from general health research. Their potential applicability to occupational health is then identified. This is not intended to provide an exhaustive or rigorous account of the range of health models available. Rather, it is intended to provide those less familiar with the area an impression of the variety of avenues by which models are applied to health. Research will be commissioned as a result of this first workshop in order to expose the evidence base for those models deemed most relevant to the aims of this review.

Models that relate to health do so from different perspectives. Accordingly, for the purpose of this information pack ‘health models’ are grouped under the following categories:

**Part 1:** Overarching models of individual and organisational health

**Part 2:** Health Behaviour Prediction Models

**Part 3:** Coping and Stress Models

**Part 4:** Models of Disability

**Part 5:** Lay versus Expert Models of Health and Risk Prevention

**Part 6:** Intervention Planning
SECTION F: Part 1 - Overarching Models of Individual and Organisational Health

(a) The Biopsychosocial Approach to Health

Description:

The biopsychosocial approach to health takes a holistic or systems view of health, regarding it to be a function of the interplay between biological (e.g. stress biomarkers), psychological (e.g. coping strategies, personality), social (e.g. social support, organisational culture) and macro (e.g. socio-economic status, policies and ethnicity) levels. It represents an alternative to the traditional "mind-body" dualism espoused by the biomedical perspective of health which explains disease by focussing on physical changes caused by either exposure to an external pathogen, or inherited genetic weaknesses. In so doing, the biomedical model does not fully accommodate the wider multi-cause, multi-effect pathways now recognised as mediating health and wellbeing. The biopsychosocial perspective expands the biomedical view of health as being the presence or absence of disease to encompass all facets of well-being, be they psychological or physiological in origin (Bartlett, 1998, Blair, 2005, Coggon, 2005, Santana, 2005).

Strengths:

The biopsychosocial approach:

- Has sufficient complexity to account for the multi-factoral nature of health and wellbeing.

- Encourages a more holistic approach to health that requires cross-discipline, or "trans-discipline" collaboration. This will avoid any fragmentation in health initiatives created by discipline specific ‘silo’ thinking.

- Has garnered support from basic and applied research conducted across a range of areas, notably within cancer and cardiac care (Suls and Rothman, 2004).

- Any diagnosis that considers the interaction of biological, psychological and social factors should lead to improved diagnosis and better predictions about treatment and follow-up.

- Health interventions considering biological, psychological and social parameters should be more informative and effective than interventions targeting just one set of variables.

Weaknesses:

- Due to (a) resistance from biomedical traditionalists, (b) the methodological complexity necessary for evaluating this approach and (c) failure by health researcher to consistently and comprehensively measure the three levels encompassed by the approach, the full potential of the biopsychosocial model remains unrealised.

- Consequently the biopsychosocial approach still remains at the stage of a conceptual framework rather than a model in which links between biological, psychological and social components are clearly delineated and verified by research.

Application to Occupational Health:

- According to this approach, any occupational health intervention that fails to take into account the interplay between biological, psychological and social influences will have limited effectiveness. This approach largely renders any ‘magic bullet’ strategies for health as unfeasible.

- Any biopsychosocial-based occupational health interventions will need to take into account variations in the state of health or illness progression of its recipients, as these vary over time.

- The implications of a biopsychosocial interpretation of health are that a risk prevention approach will not reduce the risk as expected (Coggon, 2005).

- Resources should be directed at better understanding the prevalent occupational illnesses, and role of psychosocial factors in their cause (Santana, 2005).
SECTION F: Part 1 - Overarching Models of Individual and Organisational Health


Description:

Wilson et al.'s (2004) theoretical model of a healthy work organisation builds on earlier models (e.g. Cox et al, 1990, deJoy and Southern, 1993) describing interdependency between the worker, the social-organisational and physical aspects of their work-environment in shaping both employee and organisational health. A comprehensive profile of all the various facets making up a healthy organisation is provided. Each ‘higher order’ factor is broken down into its constituent parts as follows:

- Organisational attributes: Reflecting overall culture and leadership orientation. Comprises (1) values (internalised beliefs about social/moral norms), (2) beliefs (regarding employer's commitment to employee well being) and (3) policies and practices.

- Organisational climate: Reflecting employee perceptions regarding the climate of support, communication and autonomy operating in their environment. Comprises (1) organisational support, (2) co-worker support, (3) participation and involvement, (4) communication and (5) health and safety climate.

- Job Design: Reflecting employees perceptions of their immediate work tasks. Comprises (1) workload, (2) control/autonomy, (3) job content, (4) role clarity, (5) environmental conditions, and (6) work schedule.

- Job Future: Reflecting job security and progression prospects. Comprises (1) career development (2) organisational fairness (3) work-life balance, and (4) job security.

- Psychological Work Adjustment: Reflecting subjective judgements and appraisals of the organisations treatment of their well being at work. Comprises (1) Job satisfaction, (2) organisational commitment, (3) psychological empowerment, and (4) perceived job stress.

- Employee Health and Well Being Outcomes: Comprises (1) health risks (e.g alcohol consumption and tobacco use), (2) attendance behaviour (turnover and absenteeism), (3) self-reported health, and (4) psychological health (depression, stress and anger).

Strengths:

- Provides a comprehensive profile of the various organisation and individual factors that characterize a healthy organisation.

- Recognises employee health as integral to organisational health.

- One of the few “organisational health” models to have undergone empirical testing which supported the hypothesised relationships.

Weaknesses:

- A relatively new model. Its validation so far limited to large US retail organisations. Applicability to other organisation types and countries remains untested.

- Testing has so far been undertaken at an employee rather than organisational level.

- Testing to date has been cross-sectional in nature. The relationships have not as yet been verified as cause and effect.

- Relationship directions are portrayed as one rather than two-way. Intuitively, employee health outcomes may have upstream effects on organisational health.

Application to Occupational Health:

- Informs the necessary organisational components that must be considered when planning organisational change interventions.

- Portrays the channels by which change in any one component reverberates to effect overall organisational health.

- Underscores the importance of open communication in garnering employee commitment to change.

- Emphasises the interdependency between employee health and organisational health. Depending on further validation, the model could potentially be used to explain to employers the pervasive ramifications of not ensuring employee well-being.
SECTION F: Part 1 - Overarching Models of Individual and Organisational Health

Figure 10: de Joy et al.’s (2004) Model of a Healthy Working Organisation
SECTION F: Part 2 - Health Behaviour Prediction Models

(a) Health Beliefs Models: (e.g Rosenstock 1974) (See figure 11).

Description:

The Health Belief Model (HBM) describes key beliefs that effect the likelihood that a given health behaviour will occur. The model posits behavioural likelihood to be a function of two related appraisal processes. Threat appraisal is an amalgam of perceived susceptibility to a health threat and the perceived severity of the health outcomes associated with that threat. According to this model, a threat appraisal in itself is not enough for ensuring behavioural change. The individual is only likely to change their behaviour when they perceive the advantages of avoiding a perceived threat to be in excess of any disadvantages through a cost-benefit trade-off. Cues refer to the presence of either internal or external cues that may trigger the new behaviour.

Example: According to HBM quitting smoking thus depends on (a) how severe an individual believes the health, economic and social effects of continued smoking will be, and (b) how likely they think they will suffer those consequences. Even if they recognise adverse personal consequences of smoking as highly likely they will only seek to reduce that threat if they construe the benefits of quitting (e.g. in terms of financial savings and improved health) to outweigh its disadvantages (e.g. enjoyment, socialising, sheer difficulty of overcoming addiction).

Strengths:

- Statistically significant associations between HBM components have been recorded, albeit with small effect sizes (Bennett and Murphy, 1997).
- Common sense constructs easy to interpret.
- Underpins many public health promotion campaigns.

Weaknesses:

- Assumes human decision making as rational.
- HBM does not accommodate a clear role for social and environmental influences, emotion or past behaviour.
- HBM does allow for interaction between its component variables and behaviour likelihood.
- HBM explanatory power when applied to specific behaviours has been constrained by its use of broad constructs.
- HBM does not include the formation of an intention to change behaviour as a precursor behavioural change (Sheeran and Silverman, 1999).

Application to Occupational Health:

- Underlines the importance of initially assessing and taking into account the target population’s health beliefs before planning any occupational health intervention.
- Implies threat appraisal as insufficient for motivating change. The employee must believe that they have the necessary resources for reducing that threat and that their risk mitigating attempts will be successful.
- Model limitations demonstrate that health beliefs are weak predictors of behaviour change and that their interaction with the environment, the individual’s self-confidence and anticipated emotional reactions in combination determines behaviour likelihood.
**SECTION F:** Part 2 - Health Behaviour Prediction Models

![Health Beliefs Model (Rosenstock, 1974)](image)

**Figure 11:** Health Beliefs Model (Rosenstock, 1974)
(b) Health Behaviour Prediction: The Theory of Planned Behaviour (e.g. Azjen, 1988) (See Figure 12).

Description:

The Theory of Planned Behaviour (TPB) (Azjen, 1988) endeavours to provide a simplistic model of the decision making determinants of behaviour (Conner and Abraham, 2001; Norman, Abraham and Conner, 2000). The TPB posits that an individual's intention to act in a certain way and sense of control over his/her environment are the most immediate pre-cursors of behaviour. The model then describes intention to stem from:

Attitudes: (to the behaviour): Comprising of beliefs about the possible consequences of a given behaviour and evaluation of whether that outcome is important (e.g. “if I don't smoke my health will improve, which is important to me”).

Subjective norms: Comprising of perceptions of any social norms or pressures to perform a given behaviour combined with an evaluation of importance. (e.g. “my family would like/prefer it if I ate a healthier diet, and what they think is important”).

Perceived behavioural control (PB): Referring to the extent the individual believes they are in full control over their behaviour based on internal control factors, (e.g. abilities) and external control factors (e.g. environmental barriers). E.g. “I could give up smoking but it's hard when everyone lights up in the pub”.

Strengths:

- Used extensively in successfully predicting general public health behaviours (Sheeran & Silverman, 2003, Ogden, 2003) and as a basis for designing health promotion interventions (Murray-Johnson et al, 2001).
- Allows for irrationality in decision-making as judgemental elements are recognised e.g. desire to comply with social norms.
- Accommodates social and environmental influences such as the impact of organisational culture and peer attitudes through its inclusion of social norms.
- TPB variables better predict the intention to change rather than actual change: e.g. 39% and 27% (respectively) (Armitage and Conner, 2001).

Weaknesses:

- Despite its ability to predict behaviour to a statistically significant extent, a large proportion of behaviour variance (e.g. 70%) remains unaccounted for by the model. The model is more effective in predicting self-reported behaviour rather than more objective behavioural indexes (Conner et al, 2001). In particular, subjective norm, has weakest explanatory power.
- The model's ability to explain behaviour could be improved by including moral obligations in subjective norms and also adding organisational support and competing goals as behavioural predictors (Sheeran and Silverman, 2003).
- Omission of emotion and personality: the emotion that a given action is anticipated to elicit, and conscientiousness as a personality trait, have been found to increase the model's ability to predict behavioural intention (Conner and Abraham, 2001).
- Regarded as a model that better describes the motivators that contribute to the intention to act, rather than the action itself (e.g. Schwartz, 1992).
SECTION F: Part 3 - Models of Stress and Coping

Figure 12: Theory of Planned Behaviour (Ajzen 1988)
Application to Occupational Health:

Only in recent years has it been applied to occupational health and safety in the context of predicting violation behaviours amongst anaesthetists (Beatty & Beatty, 2004) safe lifting behaviour (Johnson & Hall, 2005); safety compliance (Perez-Floriano, 2001), and personal protective equipment (PPE) usage amongst farmers (Petrea, 2001). Collectively, these findings imply that TPB can inform susceptibility to occupational health risks as follows:

- The need to include a planning stage means that the more conscientious employee or employer is more likely to adopt healthier work practices because they are more likely to plan in detail how they will meet health and safety regulations.

(c) The Stages of Change : Prochaska and DiClemente (1984) Transtheoretical Model of Change (See figure 13).

Description:

Prochaska and Diclementes’ (1984) transtheoretical model (TTM) depicts the stages people pass through when undertaking behavioural change. When in precontemplation, change is not considered. During contemplation, preliminary considerations of the need to change are made at a remote, often non-committal level. The individual then engages in preparation, whereby they actively plan for the implementation that occurs in the action stage. The subsequent maintenance stage reflects efforts in sustaining change over time. The model is cyclical and bi-directional, in that individuals engaged in behavioural change can start at any stage in the model and relapse back to earlier stages (Conner and Norman, 1996).

Strengths:

- The extensive intuitive appeal of this model has led to its widespread uptake and application within health promotion (Bunton, et al., 2000; Weinstein, Rothman and Sutton, 1998; Whitelaw et al., 2000).

- Emphasises the temporal and dynamic nature of behavioural change (Conner and Norman, 1996).

- Stages have partial support from mainly cross-sectional studies (Ogden, 2001).
SECTION F: Part 2 - Health Behaviour Prediction Models

Figure 13: Prochaske and Declemente's (1984) Stages of Change Model

Figure 14: Stage or Sequential Model of Workplace Self-Protective Behaviour (de Joy, 1996)
(d) Stage or Sequential Model of Workplace Self-Protective Behaviour (de Joy, 1996) (See figure 14).

Description:

de Joy's (1996) work-place self-protective behaviour model draws on aspects of the PRECEDE, TTM, HBM and TPB models to describe the factors that motivate employees to reduce exposure to injury or illness. The model comprises:

- Hazard appraisal: employees judge the scale of the risk, based on risk knowledge, perceived severity and perceived susceptibility to the hazard in question, thereby resembling HBM. Appraisal accuracy may be biased, e.g. by lack of appropriate knowledge, training, experience and risk perception.

- Decision-Making: akin to the HBM, during this stage a cost-benefit judgement is made between the perceived advantages and disadvantages of avoiding or controlling the risk. Decision-making is also influenced by self-efficacy and response efficacy beliefs.

- Initiation and Adherence: as with the TTM this model differentiates implementation from sustained change. Although interacting with each stage of the model, environmental based ‘facilitating’ conditions, and safety climate (e.g. management attitudes and culture), has a significant role in shaping the success of initiation and adherence stages through either hindering or supporting uptake and sustained self-protective behaviour.

Strengths:

- Applies and synthesises a range of social cognition models traditionally used within the public health domain to explain the psychosocial factors that determine workplace self-protective behaviour.

- Encompasses individual and environmental influences of exposure risk.

- Describes the stages an employee goes through in determining their response to a perceived occupational hazard.

- Potentially has large intuitive appeal to occupational health experts.
SECTION F: Part 2 - Health Behaviour Prediction Models

Weaknesses:

- To date this model appears to have received little, if no empirical testing or validation.
- The stage nature of the model implies that, as with other stage models, it is difficult to refute or verify.

Application to occupational health:

- The model provides a framework for understanding the psychosocial factors that influence exposure to occupational health hazards that is directly relevant to the workplace.
- In having already identified their relevance de Joy’s (1996) model overcomes the need to interpret the applicability of a range of health models typically used in health promotion to occupational health (i.e. TTM, HBM, TTB, PRECEDE).
- As with the TTM, de Joy’s (1996) model implies that occupational health interventions need to be tailored to the particular stage employees fall within, e.g., according to whether they accurately appraise risk, or make cost-benefit judgements in such a way that the perceived disadvantages of avoiding exposure are outweighed by the perceived benefits.
SECTION F: Part 2 - Health Behaviour Prediction Models

(a) Leventhal and Cameron’s (1987) self-regulatory model of illness behaviour. (See figure 15).

Description:

The model (Leventhal and Cameron, 1987, cited by Pitts and Phillips, 1998) describes the individual, when faced with presentation of a health threat, as an active problem solver. Three stages regulate behaviour.

1. Interpretation of the health threat, including symptom perception and consideration of the possible causes and consequences.

2. An action plan/coping strategy evolves. This may be an ‘approach’ strategy, such as seeking medical attention, or an ‘avoidance’ strategy, such as denial of the problem.

3. Appraisal: the individual uses a set of criteria to assess the effectiveness of their actions.

It is an iterative process whereby behaviour is modified if progress is perceived as inadequate. Self-regulation occurs as the person tries to return to their ‘normal’ state of health. Emotional reactions can occur at any stage. Coping structures and cognitive representations vary according to different cultural or social influences.

Leventhal and colleagues have elaborated on their work considerably. They proposed a model for coping with chronic disease in 1996 (Maes, Leventhal and de Ridder, 1996), because general coping models were not sensitive enough to evaluate the way people cope with specific disease related stressors. By contrast, specific scales, such as pain scales, only inform about coping with specific problems or symptoms. The model for coping with chronic disease was an elaboration of the stress-coping model based on the work of Lazarus (1991, cited by Maes et al, 1996) and others. The model shows that adaptation to chronic disease is mainly dependent on an evaluation of the stressor by the individual, effectiveness of coping behaviour and the social support the person receives to gain control over the stressor.

Martin et al. (2003) discussed common sense models (CSM) of illness and behaviour. CSM describe cognitive and affective systems operating independently and interactively to influence health and illness behaviour. Martin et al highlight the importance of lay representations of illness, which typically include the following five types of information: symptom labels, causal attributions, perceived consequences, temporal expectations and symptom management beliefs.

Strengths:

- An active model.
- Stresses how the individual can reflect and operate on his/her own environment.
- Has been used in Primary Care (Theunissen et al., 2003).
- Offers an understanding of health/illness behaviours to health care practitioners and researchers.
- Many studies support the five components of lay representations.

Weaknesses:

- SRM is not amenable to testing, especially through questionnaire construction, compared with other models, such as the health belief model.
- Research suggests that many people do not enter the final stage of appraisal, mainly because of avoidance and denial (Berry, 2004).

Application to occupational health:

- SRM has been used to frame research, which developed a tool for general practitioners to discuss illness representations, and action plans of patients with hypertension (Theunissen et al., 2003). This is important since lay representations of illness influence treatment adherence.
- The model for coping with chronic disease may also provide a useful framework, since chronic illness is the predominant disease pattern in the UK today.
SECTION F: Part 3- Models of Stress Coping

Figure 15: Leventhal and Cameron’s self-regulatory model of illness behaviour (1987)

Source: The Stress-Coping Model and Measurement of Coping with Chronic Disease, Maes Leventhal + de Ridder (1996)
SECTION F: Part 3 - Models of Stress and Coping

(b) Lazarus and Folkman’s (1984) Coping Model.  
(See figure 16)

Description:

According to this model (Lazarus and Folkman (1984) cited by Bartlett, 1998), stress involves a transaction between the individual and his/her external world. The stress response is only elicited if the person perceives the event as actually stressful (Ogden, 2000). The way a person construes an event is termed ‘appraisal’. Lazarus and Folkman distinguish between primary and secondary appraisal:

- Primary appraisal occurs when a person determines whether or not he/she has anything at stake in an encounter. Events are appraised as either; irrelevant, relevant and positive, or relevant and negative. An event, which is relevant and negative, is seen in a negative way and will be experienced as stress.

- Secondary appraisal involves an assessment of a person’s coping ability.

In primary appraisal the outside world is appraised, in secondary appraisal the individual appraises his/herself (Lazarus and Folkman, 1984a, cited by Bartlett, 1998).

This approach views the person and environment as in a dynamic, transactional relationship. It describes stressful transactions in a process orientated way. This contrasts with other models of stress, which are limited because they are static and structural, assuming that the person and environment are completely separate entities. These models tend to discuss stress in terms of stimulus - organism - response, and ignore the processes of feedback and re-evaluation. Lazarus and Folkman’s model is more in harmony with the biopsychosocial approach.

Lazarus and Folkman have followed up their work on stress, focussing on the process of coping (Folkman, Lazarus, Dunkel-Schetter, DeLongis and Gruen, 1986). Numerous other researchers have used Lazarus and Folkman’s work to frame their own research. For example, Knussen et al. (1992) assessed the ‘Ways of Coping’ (Revised) questionnaire, and found it was potentially useful to those investigating coping in families with special problems.

Strengths:

- The model:
  - has been widely used to frame other research on stress and coping.
  - is dynamic and recognises the role of feedback and re-evaluation in stress response (not static).
  - is in harmony with the biopsychosocial approach.

Weaknesses:

- extends little across to other levels eg. Physiology.
- does not specify the mechanisms by which stress may influence health.
- is over simplified.
- The notion of ‘coping’ is not clear, although Lazarus clearly defines it. Coping is a wide-ranging concept and includes much of human activity.

Application to Occupational Health:

- The model has been used extensively to investigate stress and coping e.g. coping strategies in relatives of people with schizophrenia before and after psychiatric admission and stress and coping among cardiovascular nurses: a survey in Brazil (Bianchi, 2004).

- However, research by Lazarus et al. has been criticised, because it has failed to yield significant relationships between physiological, psychological and behavioural variables and somatic health status. Generally, it has not tried to measure physiological functioning (Bartlett, 1998).

HSE’s Stress Management Standards.

HSE have produced stress management standards which represents HSE’s perspective on stress and controlling the risk factors for stress. Details can be found on http://www.hse.gov.uk/stress/standards. Also, refer to Mackay, Cousins, Kelly, Lee and McCaig (2004).
SECTION F: Part 3 - Models of Stress and Coping

**FIGURE 16: Lazarus and Folkman’s (1984) Coping Model**

- **Primary appraisal**
  - ‘Is this stressful?’

- **Potential stressor**

- **Secondary appraisal**
  - ‘Can I cope with this?’

- **Stress**

- **Coping**

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*Applying Health Models to 21st Century Occupational Health Needs*
Overview:

A number of models have been proposed in relation to disability; however, no single model has been accepted. Huge debate surrounds the issue with no consensus among the different factions. The most widely used definition of disability is the International Classification of Impairments, Disabilities and Handicaps (ICIDH, 1980), which is a supplement to the World Health Organisation (WHO)'s International Classification of Diseases (Marks, 1997). This model proposed that disability is the result of impairment, and that impairment is the result of disease or disorder. It defined impairment as a loss of structure or function, which operates at an organ level. Disability is a restriction or lack of ability to perform activities, and operates at the level of the individual. Handicap (or participation) involves disadvantage and role limitation, and operates at the level of the individual in a social context. The model has been widely criticised and was revised in 1998.

Johnston (1996) criticised the WHO model as inadequate, because it fails to explain many of the findings in the field. She suggested examining disability as behaviour and integrating the WHO model with the Theory of Planned Behaviour. This leads to predictions that impairment influences attitudes, subjective norms and perceived behavioural control over behaviours characterised as disability. This determines a person’s intention to act, which in turn determines performance.

Johnston and Pollard (2001) argued the importance of testing the empirical validity of models and proposing amendments, which address deficits identified. They highlighted another problem with the ICIDH. The scientific value of its definitions of impairment, disability and handicap are limited because they depend on an idea of ‘normality’. In practice, ‘normal’ structure, function, activity and roles show wide variation. Also, there is evidence that disability is not completely explained by impairment. Fisher and Johnston (1996, cited by Marks, 1997) demonstrated that factors such as anxiety also affect disability - not just impairment. Johnston (1987, cited by Marks, 1997) found that nurses rated patients as more disabled than did therapists. These differences probably reflect different social demands on patients in two care settings, and not changes in impairment.

Marks, (1997) notes that disability activists have criticised both the medical and psychological models of disability because they focus on defects in intellectual and bodily functions, and fail to acknowledge defects in the environment. She supports the social model because it examines a wider frame.

In a special issue of The Psychologist (2005) issues surrounding enablement and disability were discussed. Supple (2005), reviewing literature up to 2001, noted that the medical model predominates. Lawthom and Goodley (2005) urged psychologists to “enable rather than disable”, by using community psychology and disability studies which work with disabled people rather than “on” them.

Gorfin and McGaughlin (2005) argued for the need to give all disempowered groups the opportunity to voice their opinions, and hence gain greater power and control over their lives. Woolfson (2005) suggested the self-regulation model (Leventhal et al, 1992, cited by Woolfson, 2005) might be used with parents of disabled children to examine parental beliefs and their impact on coping.

Strengths:

- ICIDH provides a structure for defining disability (albeit with limitations).
- Psychological model embraces cognitive and emotional factors.
- Social model. Locates disability in an excluding and oppressive social environment. It is derived from the struggles of disabled people for independent living and civil rights. It challenges the way in which we think and live in society.

Weaknesses:

- ICIDH has a medical focus and relies on a shared notion of normality. It ignores environmental and cognitive or emotional factors.
- Psychological model (eg Johnston) ignores environment and locates problem within the individual.
- Social model fails to discuss significance of emotional and bodily experiences. Environmental adaptation is not helpful to all. It is a form of social reductionism.
Application to occupational health:

- Consideration of models of disability is highly important to issues surrounding occupational health not least because of the growing population of older people, and the fact that the predominant disease pattern in England is chronic illness (DoH 2001).

- However, there seems to be no consensus about a suitable model. Huge debate surrounds the issue. Medical, psychological and social models have been suggested. Each has its relative merits.
SECTION F: Part 4 - Models of Disability

FIGURE 17: International Classification of Impairments Disabilities and Handicaps (ICIDH), World Health Organisation (WHO), 1980

SECTION F: Part 4 - Lay Versus Expert

Description:

Lay versus expert models of risk expose the difference between the way experts (doctors) present and consider health risk information, and the way members of the public regard health risk. Experts tend to consider risk in terms of population derived statistics, and will often express it in percentages. Whereas lay people consider their own individual level of risk, and think of it in more simple terms, such as “high” or “low” (Berry, 2004, p.49). In addition lay people think of health outcomes in terms of good or bad luck. Hence a mixture of luck and high/low risk determines the final health outcome.

Misselbrook investigated patients’ responses to risk information about the benefits of treating hypertension and proposed a simplified lay model of risk (Misselbrook and Armstrong, 2001, cited by Misselbrook, 2002). The model has implications for the way health risk information is communicated. Misselbrook argued that scientific models of risk are inadequate predictors of an individual’s risk of being afflicted by an illness. Scientific models of risk can only enable us to predict when groups of people are at risk of developing a particular illness.

Ogden (2000) described lay theories about health as studies of health beliefs, which do not use the specific structure of other models, such as the Theory of Planned Behaviour (TPB). In particular, medical sociologists and social anthropologists have investigated health beliefs in terms of lay theories. They used mainly qualitative approaches and found that lay theories were as sophisticated as medicine’s explanatory models but different. For example, Pill and Stott (1982, cited by Ogden, 2000) found that working class mothers were more likely to see illness as uncontrollable (i.e. they had an external locus of control) and take a more fatalistic view of their health. Hence, lay theories have implications for health professionals’ interventions because to be effective they need to address the health beliefs of the patient.

“Lay beliefs” may be derived from various sources such as the media, popular myth and stereotypes. They may interfere with accurate perception of risk and stop preventative behaviours being adopted.

Weaknesses:

- Is simplistic (although this could also be a strength!).
- There is little evidence of empirical testing available.
- Is more of a theory than an operational model.
- Misselbrook’s model is derived from general practice, and may/may not be applicable in other areas of health.

Application to Occupational Health.

- Risk communication: Lay models have their most obvious application to occupational health in the communication of risk information (Berry, 2004). Since people tend to judge their own personal risk of developing illness as high or low, health workers might better express it in these terms.
- Health Education: The issues raised in discussion of lay beliefs and lay representations of illness have numerous implications for the way that health education is delivered and received/interpreted.
- Medical Encounter: The model has implications for the distribution of power during the medical encounter. The patient’s “expert” knowledge on his or her own life, priorities, beliefs, choices and goals should be considered.
- Chronic Disease: Viewing the patient as a partner in treatment empowers the patient.
- Health outcome Prediction: According to Misselbrook (2001), lay models offer a more useful way of predicting whether an individual patient will be afflicted by a certain illness.

Strengths:

Lay versus expert model:

- Recognises that lay people have an informed understanding of risk.
APPARENTLY

SECTION F: Part 4 - Lay Versus Expert

Figure 19: Misselbrook's simplified Lay Model Of Risk (2001, cited by Berry, 2004).
SECTION F: Part 5- Intervention Planning

(a) The Precede-Proceed Model: (Green et al, 1980; Green and Kreuter, 1991)

Description: The PRECEDE-PROCEED is in essence a health promotion planning tool and comprises:

1. a needs assessment phase referred to as PRECEDE (derived from the Predisposing, Reinforcing and Enabling Constructs for Educational Diagnosis and Evaluation) and

2. an implementation phase labelled PROCEED (derived from Policy, Regulatory and Organisational Constructs in Education and Research).

During the PRECEED stage members of the target population need to be actively engaged in the following diagnostic activities (Brosseau et al., 2002):

- Social diagnosis: What are the target population’s perceptions of its needs concerning the problem of interest?

- Epidemiological diagnosis: What health problems are of greatest importance to target population? How does the health problem of interest fit into the broader quality-of-life issues for the population in question?

- Behavioural/environmental diagnosis: What are the important behavioural determinants of the health problem? How important is each determinant? How easily can it be changed?

- Educational/organisational diagnosis: What predisposing, reinforcing, and enabling factors would allow initiation and maintenance of change in health behaviours? What should be the target of the intervention?

- Administrative/policy diagnosis: What policies (e.g. regulations) and resources (e.g. time, people money) facilitate or hinder implementation of the intervention(s)?

Additional phases of the model correspond to the PRECEDE stage which entails: implementing the intervention, evaluating its effectiveness using process and outcome indicators.

Strengths:

- Provides an overarching planning tool for systematically ensuring a health promotion intervention comprehensively addresses all the social, epidemiological, behavioural and organisational factors that can impact upon intervention effectiveness.

- Is widely used in health promotion and injury prevention research. Studies assessing the extent to which behavioural and social sciences theories are used in “unintentional injury prevention research” found it to be the most frequently applied theory (Trifiletti et al., 2005).

- Engages the target population’s commitment to the planning process.

Weaknesses:

- Claims that the PRECEDE-PROCEDE model provides a useful framework for design and intervention in the occupational setting (Brosseau et al., 2002) do not appear to be backed up by outcome based evaluations.

Application to occupational health:

- Provides a systematic method for guiding intervention planning in a way that ensures attention is paid to all the important and relevant socio-organisational characteristics and environmental characteristics that can either help or hinder the intervention.
SECTION F: Part 5- Intervention Planning

(b) The Hanasaari conceptual model for occupational health nursing. (See figure 20).

The Hanasaari model was developed to allow for flexibility in occupational health nursing practice. It was devised during a workshop at Hanasaari, Finland (1989) and has been used as a framework to develop the Occupational Health Nursing Syllabus (Harrington and Gill, 1992). The concepts outlined can be used to inform occupational health nursing professional practice and standards, education and management.

It combines three fundamental concepts: total environment; human, work and health; and occupational health nursing interaction. The total environment concept embraces five factors. Economic, political, social, ecological and organisational factors may have an impact on health. This is a general environmental system, which encompasses aspects of health and safety, (and is represented as a large circle in the model). The human, work and health concept is represented as a triangle, and operates within the total environment concept. Aspects of the total environment have significant impact on workplace health. For example, political policies can lead to expansion or reduction of occupational health services. Organisational cultures and strategies may have a stronger influence. Occupational health nursing interaction is presented in the centre of the model, and is used to demonstrate the areas included in the role of the occupational health nurse. Prevention, care, health promotion, teamwork and research are all responsibilities of the occupational health nurse.

(c) Health Needs Assessment (HNA)

In an overview, Quigley et al., (2004, on behalf of the Health Development Agency) described three decision-making approaches commonly used across sectors to improve health and reduce health inequalities. These were:

- Health Impact Assessment (HIA)
- Integrated Impact Assessment (IIA)
- Health Needs Assessment (HNA)

Sectors using these approaches include local, regional and national government, voluntary agencies and the NHS. The approaches work best when a wide variety of stakeholders are involved, and they are building new ways of working together. Their advantages are:

- They involve people from many sectors and can be led by a member of any sector.
- Community involvement is often featured. This reassures decision makers that recommendations reflect community opinion. HIA

HIA is an approach that can help identify and consider how a proposal impacts on the health inequalities for a given population. The usual starting point is a proposal (policy, programme, strategy, plan, project or other development), and the output is a set of evidence-based recommendations, aimed at informing the decision-making process. HIA often uses the determinants of health as a basis for assessing proposals and judging its impact on the health of a population. The determinants of health include; transport, housing, education, environment and economic activity.

The 6 steps to HIA are:

1. Screen to decide whether to use an HIA.
2. Scope to decide how to undertake the HIA.
3. Appraise the evidence of health impact.
4. Formulate and prioritise recommendations.
5. Further engage with decision-makers.
6. Ongoing monitoring and evaluation.

IIA

IIA is an approach that assesses the possible impact of proposals on a range of issues that previously may have been assessed separately. Such as economic, environmental, health, wellbeing and quality of life issues.

The 6 steps to IIA are:

1. Scope the initiative.
2. Appraise options for delivery.
3. Policy or activity appraisal.
4. Full plan or project appraisal.
5. Indicator selection to establish when goals are achieved.
6. Monitor and evaluate to ensure the initiative is on target.
Figure 20. The Hanasaari conceptual model for occupational health nursing (R.M. Alston et al., 1989, Workshop for Occupational Health Nursing, Hanasaari, Finland), from Harrington et al. (1992)
SECTION F: Part 5- Intervention Planning

HNA
HNA is an approach that reviews systematically the health issues facing a given population. Its starting point is a defined population. The target population is usually defined by categories based on, for example: geographic area, shared experience or having a particular health condition.

The 5 steps to HNA are:

1. Establish aims, objectives and a project framework.
2. Identify population health priorities.
3. Assess health priorities.
4. Plan actions.
5. Review project impact.

Links between the 3 approaches.

Both HIA and IIA start with a proposal then predict its impact. By contrast HNA starts with a population and identifies its health assets and needs so that proposals are made which improve programmes and services.

(d) The Population Strategy.

Rose (1992, cited by Mackay et al., 2004) described the population strategy. This involves applying a strategy to populations rather than aiming at individuals. This aims to:

- Control the determinants of the incidence of disease.
- Lower the mean level of risk factors.
- Shift the whole population in a desired direction.

This is based on the principle that a small risk to a large population may be a greater burden than a large risk to a small number of people. If large populations are exposed to a risk, a small change in a risk factor may generate a sizeable improvement in the health of the population.
SECTION G: References


Effective Workplace Interventions- Use of the Precede-Proceed Model. AAOHN. Vol. 52. No. 5


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