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Economic analysis of workplace mental health promotion and mental disorder prevention programmes and of their potential contribution to EU health, social and economic policy objectives

Final Report

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Executive summary

In the last decade, concerns over the extent to which mental health disorders are affecting the population have grown. This has been reflected in several relevant EU strategies and policies which recognise the barriers that mental health disorders can impose to the EU in meeting their policy objectives to improve public health and increase economic growth.

In this context, Matrix was commissioned by the European Agency for Health and Consumers (EAHC) and DG Health and Consumers (SANCO) to assess the potential contribution that mental health promotion and mental disorder prevention programmes can make to the EU-policy objectives of promoting the sustainability of health and social welfare systems, increasing the employment rate of the population and increasing the productivity of the economy.

With this aim in mind, the objective of this study was to provide an economic analysis of mental health promotion and mental disorder prevention programmes at workplaces. Specifically, the study included a review of the existing scientific literature, case studies with Member States and workplaces, and an economic model. In combination, these methods were designed to provide answers to five specific research questions:

What are the major past and expected future trends in public and workplace mental health and illness in the EU? Evidence from multiple sources demonstrated that workplace mental disorders today account for a significant share of the health problems affecting workers, with one in five employees suffering from a mental health problem at any one time (OECD, 2011). In the EU25 (including Norway, Iceland and Switzerland) it has been estimated that productivity related costs of mental health disorders are €136.6 billion (McDaid, 2008)[1]. Projections show that under current treatment and care arrangement these costs will continue to grow at a significant pace. Although current unemployment rates imply a surplus of labour force, the ageing of the EU population will put significant pressures on the labour force. In this context the economic case for the protection of the mental health of the workforce will become even stronger, for the economy as a whole but also for employers.

What is the economic impact of mental disorders on health and social welfare systems, employment and productivity in the EU? Our estimates indicate that the total costs of work-related depression in the EU27 are nearly €620 billion per annum. The major impact is suffered by the employers due to absenteeism and presenteeism (€270 billion), followed by the economy in terms of lost output (€240 billion), the healthcare systems due to treatment costs (€60 billion), and the social welfare systems due to disability benefit payments (€40 billion). As with any economic model these estimates are for a certain scope and conditional to numerous assumptions. They should therefore be treated as indicative of the large size of the problem, more than as an actual fact.

What type of workplace mental health promotion and mental disorder programmes are available? What is their economic return on investment? What is their impact on health

[1] McDaid, 2008. Consensus paper: Mental Health in Workplace settings

and social welfare systems, employment and productivity? Workplace mental health promotion and mental disorder programmes may be categorised into three groups by the type of population the programmes are aimed at: universal, targeted and treatment programmes. These programmes adopt a range of approaches including Cognitive Behavioral Therapy (CBT) other psychotherapeutic approaches, stress management, problem-solving, workplace improvement, employment training, and exercise-based. These programmes may generate improved mental health scores and improved employment outcomes. Evidence from the workplace case studies strongly suggests that implementing a mental health programme in the workplace has a great potential to generate economic returns and improve the mental health of the workforce. In particular, companies that implement a mental health program have seen significant improvements in absenteeism and productivity. However, due to the **range of programmes** and the different methodologies applied, no consistent evidence was found in the literature to support **any one particular type** of programme or approach, resulting in a basket of options from which investors can choose from. Therefore selection of which type of programme a company should invest in should be based on the particular needs and objectives of the company as well as the resources that are available.

What is the role of health and social welfare systems in workplace mental health promotion and mental disorder programmes? A sample of four Member States suggests that measures put in place to combat the impact of mental health disorders in the labour market do not fall under one specific public department; rather they are a collaborative effort between departments and government agencies, including those in charge of health, occupational safety and health and social welfare systems, active in mental health issues working together with employers and unions. This does not mean that non-cross departmental actions are not valuable. Looking to Germany as a model of good practice shows that the healthcare system can play a significant role in implementing initiatives and frameworks to help tackle poor workplace mental health.

What would be the contribution of mainstreamed workplace mental health promotion and mental disorder programmes to realising EU-health, social and economic policy objectives? For a selected number of programmes showing positive effects in depression rates among their targeted population, we estimated their potential contribution to reducing pressures on healthcare systems, social welfare systems, employers, and the economy as a whole. Our results suggest that the net economic benefits generated by these programmes over a 1 year period can range between €0.81 to €13.62 for every €1 of expenditure in the programme. These values fall within those estimated by other authors for similar types of programmes (Knapp et al 2011). The net economic benefits (reduced costs and lost output) generated by these programmes range from -€3 billion to €135 billion.

Drawing from the results of this research, the choice of which intervention to implement would need to be decided based on the specific objectives of the different stakeholders, taking into account whether the programmes are value for money to the society as a whole and the budgetary implications for each of the stakeholders. From the perspective of employers, the majority of the interventions generate sufficient benefits to outweigh the costs. This is also reflected in the workplace case studies, whereby all the companies interviewed stated that

employing mental health programmes resulted in significant positive impacts on employee wellbeing, reduced absenteeism and increased productivity. However for two of the interventions, employers alone would not be able to support the costs of the programme. Therefore, in case of encouraging companies to implement workplace mental health promotion and mental disorder prevention programmes, mechanisms for shared funding and creation of incentives may need to be implemented. This is especially significant as with the ageing of the population the proportion of healthy workforce available is decreasing, and companies will need to act in order to keep people productive and in work.

It should also be mentioned that these programmes are likely to be contextually dependent – not only on a positive engagement between employers and employees – but also in terms of the wider societal view of mental health. These contextual factors mean that the effectiveness of the programmes derived from the academic literature may not be replicated when programmes are implemented as mainstreamed EU initiatives. Our sensitivity analysis, however, provides some comfort in that the conclusion of the analysis – i.e. that these programmes represent a good investment from an economic point of view – generally remains, even when the effect of the programmes is reduced by 50%-75%.

Despite the growing body of evidence in this area, some major data gaps remain. The lack of data means that the findings from this study are subject to limitations on a number of areas Future research efforts should try to fill in some of these gaps, in particular the employment dynamics of people with mental health disorders and the effect of programmes targeting individuals outside employment.

1.0 Introduction

Matrix was commissioned by the European Agency for Health and Consumers (EAHC) and DG Health and Consumers (SANCO) to assess the potential contribution that mental health promotion and mental disorder prevention programmes can make to the EU-policy objectives of promoting the sustainability of health and social welfare systems, increasing the employment rate of the population and increasing the productivity of the economy.

With this aim in mind, the objective of this study was to provide an economic analysis of mental health promotion and mental disorder prevention programmes at workplaces. Specifically, the study included a review of the existing scientific literature, case studies with Member States and workplaces, and an economic model. In combination, these methods were designed to provide answers to the following questions:

1. What are the major **past and expected future trends** in public and workplace mental health and illness in the EU?
2. What is the **economic impact of mental disorders** on health and social welfare systems, employment and productivity in the EU?
3. What type of workplace mental health promotion and mental disorder **programmes** are available? What is their **economic return on investment**? What is their **impact** on health and social welfare systems, employment and productivity?
4. What is the role of **health and social welfare systems** in workplace mental health promotion and mental disorder programmes?
5. What would be the **contribution of mainstreamed workplace** mental health promotion and mental disorder programmes to realising EU-health, social and economic policy objectives?

The remainder of the report is organised as follows:

- **Section 3** describes the different methods applied in the study.
- **Section 4** presents the results from the study. These are organised into five sections following the structure of the research questions presented above.
- **Section 5** summarises the results and provides recommendations for future research.

2.0 Policy context

Relevant EU strategies and policies demonstrate a European initiative towards mental health promotion and prevention (Table 1). These represent a shift from the previous culture of curative mental care and institutionalisation of people with mental health problems (Vieth, 2009). These policies include for example, the European Pact for Mental Health and Well-Being (2008) that calls for action to be taken in five domains:

- Mental health in youth and education.
- Mental health of older people.
- Mental health in the workplace.
- Prevention of depression and suicide.
- Addressing stigma and social exclusion.

The importance of mental health in the workplace is recognised in this as well as other EU initiatives such as the Lisbon Strategy on Growth and Jobs (2005); the Community Strategy on Health and Safety at Work (2007 to 2012); Together for Health: A strategic approach for the EU (2008 to 2013). These policies accept that good health is needed to increase productivity and reduce absenteeism; and in line with the mental health policies they emphasize the promotion and prevention of mental health.

Table 1: Relevant policy in the EU

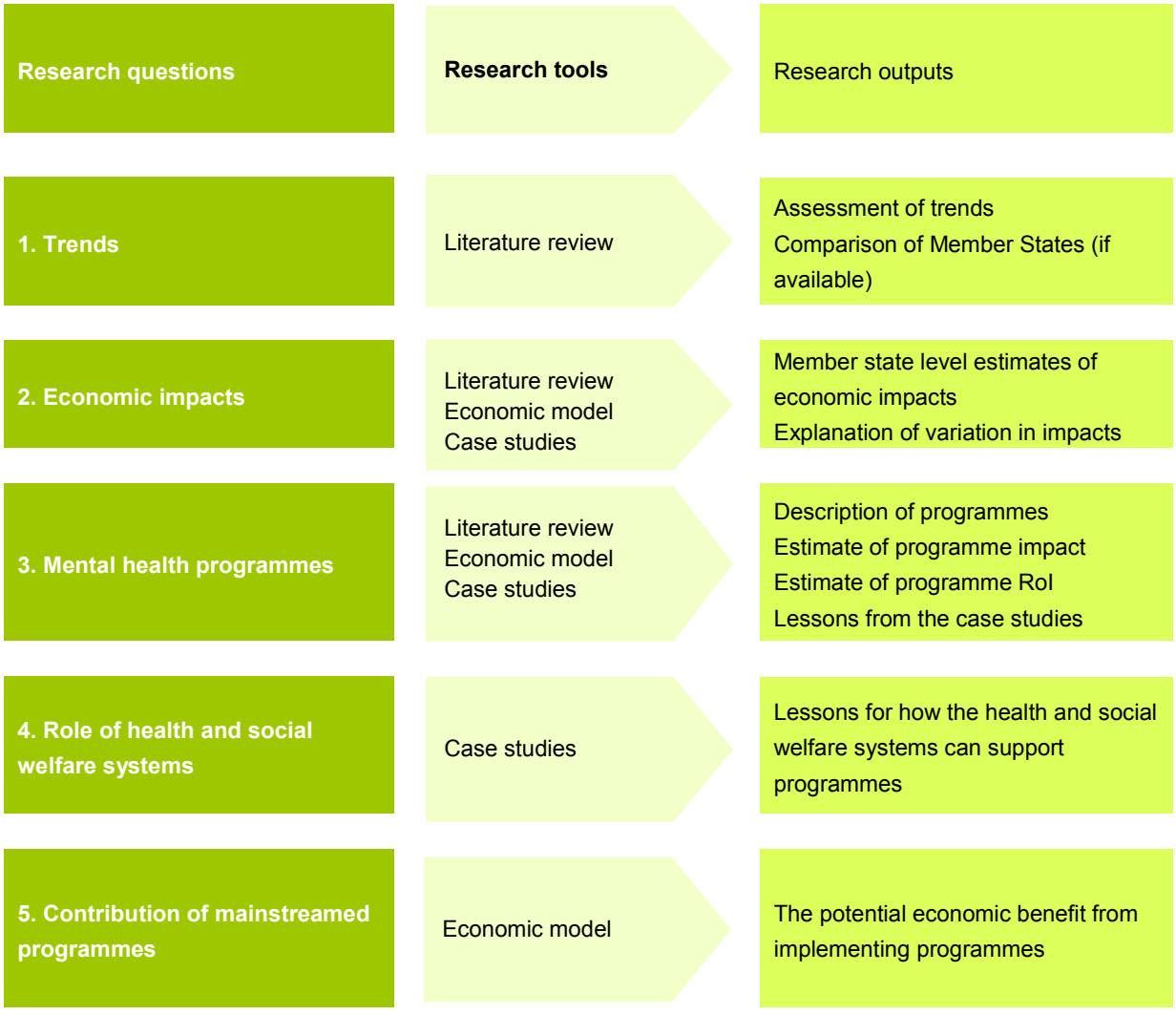
Policy	
European Pact on Mental Health and Well-Being (2008)	The pact identified five key areas for policy makers and stakeholders across the EU to take action: (1) mental health in youth and education; (2) mental health of older people; (3) *mental health in the workplace*; (4) prevention of depression and suicide; and (5) addressing stigma and social exclusion. The policy is not legally binding but demonstrates the EU's commitment to reducing the burden of mental illness and towards mental health promotion and prevention rather than curative mental care.
Lisbon Strategy on Growth and Jobs (2005)	Objectives are to improve the skills, employability and adaptability of the workforce, as well as promoting the functioning of labour markets in the EU, including the greater participation of population groups that currently face difficulties who may be excluded from the labour market. This includes promoting and maintaining good mental health and wellbeing in the workplace across the EU.
Community Strategy on Health and Safety at Work (2007 to 2012)	Highlights the importance of good health in order to achieve quality and productivity in the workplace. Calls for a change towards a more preventive culture, including the promotion of mental health at the workplace as a priority.
Together for Health: A strategic approach for the EU (2008 to 2013)	Emphasises that the cost of mental illness is due to the loss of productivity in the workplace highlighting the need to promote the health of the workforce.
Europe 2020 (2010)	The main objectives of this new policy is to increase the rate of people in

Policy	
	employment (target: 75% of 20-64 years old to be in employment by 2020) promoting a healthy and active ageing population to allow for social cohesion and higher productivity.

3.0 Methodology

In this section we describe our methodology. Figure 1 presents an overview of the study design, including the five research questions, the research methods and outputs. The purpose of Figure 1 is to help understanding how the different elements of this study fit together and shed light on why some research questions are being addressed jointly. The remainder of this section describes each of the research methods in further detail.

Figure 1: Overview of study design



3.1 Literature reviews

The literature review component of this project comprised a rapid evidence assessment (REA), with a view to providing answers to the following research questions:

- The major **past and expected future trends** in public and workplace mental health and illness.
- The **economic impact of mental disorders** on health and social welfare systems, employment and productivity.
- The **return on investment and impact** of mental health promotion and mental disorder programmes.

REAs use a systematic search methodology to identify and synthesise the most relevant studies from a range of databases and other sources. Our tools and methods ensure that a full audit trail is generated at each stage of the review process, ensuring transparency and reproducibility. The key features of the literature review methodology are summarised below:

- **Searching**: We developed a targeted, focused strategy to locate evidence that might be relevant to the review questions.
- **Screening**: We used clearly defined inclusion criteria as we screened abstracts to determine which of the located studies were relevant to the review questions.
- **Data extraction**: We used data a extraction tool to capture all necessary data, including study context, population, intervention content, and effectiveness and cost-effectiveness findings.
- **Data synthesis**: Data from the studies were summarised narratively to draw conclusions across the body of evidence reviewed.

Please refer to Section 7.1 of Appendix 1 for a more detailed description of the methodology.

3.2 Case studies

The main objectives of the Member State and workplace case studies were to address the following research questions:

- The **economic impact of mental disorders** on health and social welfare systems, employment and productivity.
- The **return on investment and impact** of mental health promotion and mental disorder programmes.
- The **role of health and social welfare systems in workplace** mental health promotion and mental health disorder programmes.

In particular, the objectives of the Member State case studies were to identify good practice with respect to which Member States have mental health supporting initiatives and have developed (or are in the process of developing) workplace mental health policies as well as to explain

variations and commonalities across Member States. The objective of the workplace case studies was to identify and describe examples of good practice at workplace level.

Member States and workplaces were selected based on data availability and to ensure a balanced geographical coverage of the EU27. Specific criteria for selecting the case studies are described in Section 7.2 of Appendix 1. Based on these criteria Tables 2 and 3 present the selected Member States and workplaces.

Table 2: Selected Member State case studies

Country	Prevalence of mental health disorders	Perception of mental health disorders	State of policy
Germany	Low (12%)	Medium (21%)	National and company level
Italy	Low (14%)	Medium (20%)	National and company level
Poland	Low (9%)	Low (not difficult to talk to someone with MH) (16%)	Slow emergence
Sweden	High (17%)	High (difficult to talk to someone with MH) (32%)	National and company level

Table 3: Selected workplace case studies

Country	Company	Description	Type of case study
Austria	Fairwurzelt	Womens regional work initiative Nonprofit organization	Treatment SME
Hungary	MOL Hungarian Oil & Gas company	Manufacturing	Targeted
Netherlands	Agis Zorgverzekeringen	Financial and insurance activities	Targeted
Spain	Corporació Sanitària Parc Taulí	Public health and social services	Public employer Treatment
United Kingdom	BT Group	Telecommunications	Universal

The case studies were carried out through interviews with Member State and workplace representatives. Please refer to Section 7.2 of Appendix 1 for the questionnaire used in the interviews with Member State and workplace representatives.

3.3 Economic model

This section presents the objective and methodology for developing the economic model. The aim of the economic model was to provide answers to the following research questions.

- The **economic impact of mental disorders** on health and social welfare systems, employment and productivity.
- The **return on investment and impact** of mental health promotion and mental disorder programmes.
- The potential **contribution that mainstreamed programmes workplace** mental health promotion and mental disorder programmes could make in terms of **social and economic impacts**.

The first step of the economic model was to develop a conceptual model. This is presented in **Error! Reference source not found.**. The majority of the literature on workplace mental health relates to stress and depression. As such for the economic model it was decided that depression would be used as a measure of mental health disorder. Stress was not used, as it is a risk factor for a mental health disorder. The conceptual model can be interpreted as follows:

The working age population can be split into the following groups:

- **In employment**. Those in employment can be further split into:
    - No symptoms detected, given by those who currently present no symptom of depression. A proportion of these individuals are likely to suffer depression in the future.
    - Stress, given by those who currently present stress or, more generally, a determinant of depression. A proportion of these individuals are likely to suffer depression in the future.
    - Mental health (MH) disorder, given by those who currently suffer depression.
- **Unemployed or inactive due to or in relation to a mental health disorder**. These individuals are currently out of work and suffer from depression.
- **Inactive not related to a mental health disorder**. These individuals are considered of no particular interest to the research questions and are thus excluded from the model.

All individuals included in the above groups who suffer (currently or in the future) from depression (will) impose economic costs to a number of stakeholders, including:

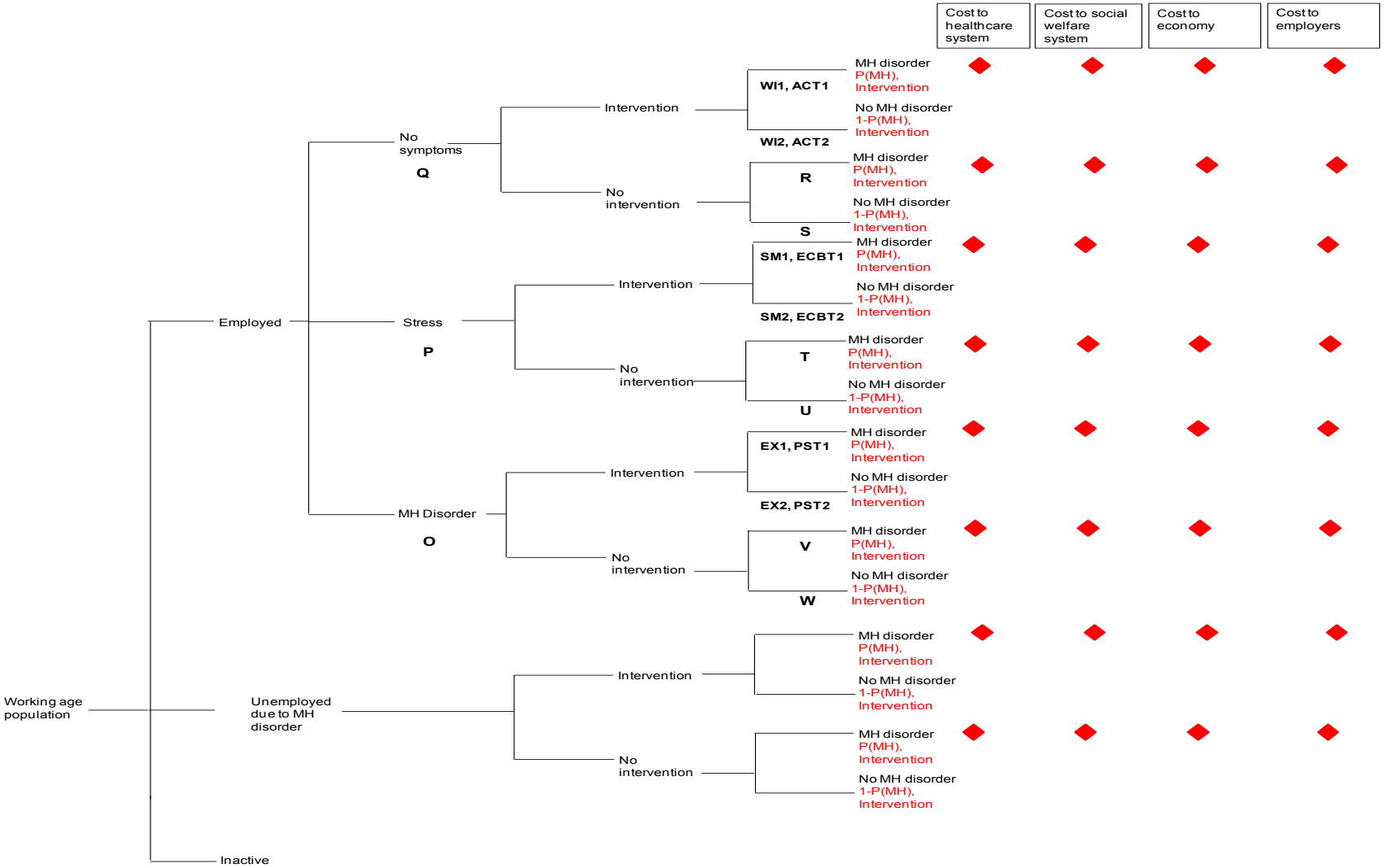
- The health care system, through mental health treatment when this is needed.
- The social welfare system, through benefit payments when due to depression individuals are absent from work, either temporarily (sick leave benefit) or permanently (disability benefit).
- The economy, through lost productivity due to a person being unable to work due to their mental disorder.

- Employers, through production loss when due to their mental disorder individuals are absent from work (absenteeism) or perform at reduced productivity levels (presenteeism).

The following is an example of how the conceptual model works:

- A person of working age (15-64 years old) who is employed could fall into one of three categories of mental health; no symptoms, stress or mental health disorder (in the model this is depression).
- In each category, they may or may not receive an intervention aimed at preventing or treating mental health problems. In either scenario there is a probability that they will go on to develop depression.
- It is expected that this probability is lower in the 'intervention' arm of the model.
- A person developing depression will incur costs to:
    - Healthcare system, through use of GP services, prescription, etc.
    - Social welfare system, through benefit claims.
    - Economy, through lost productivity and tax revenues
    - Employers, through lost productivity to the company.
- By preventing or treating mental health problems, interventions have the potential to reduce the number of cases of depression, and thus avoid the above costs – or, in other words, generate cost savings.

Figure 2: Conceptual model of the economic impacts associated with mental health disorder



Estimating the economic impact of mental disorders on health and social welfare systems, employment and productivity

By populating the "no-intervention" arms of the model –i.e. where no intervention is provided (current practice or do nothing), we estimated the current economic impact of depression on the health and social welfare systems, on employment and productivity. The data requirements included:

- **Prevalence** of stress and depression.
- **Cost per case** of depression to the healthcare system, the social welfare system, the economy, and employers.

The values of these parameters and calculation details are presented in Section 7.3 of Appendix 1.

Estimating the return on investment and the potential contribution of mainstreamed programmes

Mental health programmes have the potential to generate economic benefits by reducing the prevalence of depression and hence preventing costs to the different sectors. More precisely:

- Programmes for individuals **with no symptoms detected** have the potential to prevent cases of depression.
- Programmes for individuals **who present determinants of depression** have the potential to prevent cases of depression.
- Programmes for individual **who currently suffer from depression** have the potential to prevent more severe cases of depression.
- Programmes for individuals **unemployed or inactive due to or in relation to depression** have the potential to improve their mental health and eventually get them back to work.

By populating the interventions arms of the model and comparing these with the non-intervention arms we estimated the return on investment of a selected number of programmes and the potential economic benefits. The data requirements included:

- The **effects** of the programmes, expressed in terms of reduced rate of depression.
- The **costs** associated with the delivery of the programmes.

The selection of programmes modeled was made in collaboration with EAHC/SANCO. The criteria used for selecting programmes are specified in Section 7.3 of Appendix 1, along with their effect and cost parameters and calculation details.

Assumptions of the economic model

Due to the complexity of the model and to data limitations, the following assumptions were made when populating the model:

- **Stress and depression**. The percentage of employed individuals who suffer from stress was drawn from a report published by OSHA (2005) and the percentage of those who suffered from depression was extracted from Wittchen and Jacobi (2005). It was assumed that there is a 100% overlap between stress and depression. In other words, a person who has depression also suffers from stress. This assumption may imply that the population with no symptoms represents an underestimate, thus underestimating the costs of mental health.
- **Severity of depression**. No account for severity of depression was made in the model. The implication of this assumption is that for those who experience mild depression costs may be overestimated whilst for those suffering from severe depression the costs may be underestimated.
- **Counterfactual**. In the baseline scenario it was assumed that a person already suffering from depression, will continue to suffer from the condition – i.e. no treatment is sought and/or provided. Although detection rates of depression are relatively low, many individuals do not tend to seek treatment and, even when do, remission rates may be low, our assumption may represent an overestimation of the morbidity of the condition. Therefore for this particular population the costs of depression may be overestimated.
- **Relapse**. In the programme scenario it was assumed that once a person receives treatment, this is successful – i.e. there is no relapse – and a case of depression is thereafter avoided. This assumption may represent an underestimation of the costs of depression.
- **Duration of impacts**. The economic model has a timeframe of up to five year. More specifically:
    - **Costs to the healthcare system** are for one year.
    - **Costs to the social welfare system** are for up to five years as they are based on the weighted average disability benefit taking into consideration that the duration of the benefit may range between 1.5 months and 5 years.
    - **Costs to the economy** are for up to five years as loss of output is assumed to happen during the same period over which individuals receive disability benefits.
    - **Costs to employers** are for one year based on the average number of lost days per year due to absenteeism and presenteeism.
- **Transferability**. Many of the data used to populate the model refer to the United Kingdom and were assumed to be transferable to the EU27 countries. This implies that the results are subject to limitations as they may not capture the contextual factors at country level. Section 7.3 in Appendix 1 provides detailed descriptions of the data sources used.

In addition, when interpreting the results it should be considered that:

- All estimates are presented in 2011 prices.
- Any costs with duration of more than one year are presented in present values using a 4% discounting rate.
- Costs to employers include the opportunity cost of having employees participate in the programme instead of working. Prices are given for 2011 and any costs.
- No monetary value has been put on the health and quality of life gains for the individuals benefiting from the programmes.

4.0 Results

This section presents the results from the three research methods applied in the study. The results are organised as follows:

4.1 Trends in workplace mental health and illness

Determinants of mental health in the workplace

The development of mental health problems is a complex interaction between biological and genetic predisposition and a number of social and environmental factors, including those experienced in the workplace (WHO, 2005). The content and context of work can have both good and bad effects, by contributing positively to a person's mental health, exacerbating an existing problem, or contributing to the development of a mental health problem (WHO, 2005).

The changing workplace, with globalisation and migration of workers, increased reliance on technology, and pressures from international economic difficulties, can add pressures that may be detrimental to the mental health of the workforce (WHO, 2005; OECD, 2011). Beneficial changes in the workplace include increased incomes for employees, better access to education and training, and improved working conditions. Negative changes include greater decentralisation, outsourcing and flexible work environments. In the European Union, 100 million of the estimated 140 million employees work in small or medium sized workplaces or are self-employed, and so may not be protected by policies to improve the mental health of staff (WHO, 2005).

Studies have repeatedly found an association between working conditions and the mental health of the workforce. Factors that have a **negative effect on mental health** include (WHO, 2005; OECD, 2008; Rugulies et al., 2006):

- Having excessive demands imposed on the worker.
- Having little or no control over one's work.
- Having to perform tasks that the worker does not enjoy or find interesting.
- Having poor working relationships with colleagues.
- Having poor support from, or being treated unfairly by, managers.

In contrast, factors that **protect against mental health problems** include having good working relationships, functional support at work and at home, being rewarded fairly for good

performance and having job security (WHO, 2005; OECD, 2011; de Lange et al., 2004). More precisely:

- Female employees in Denmark had twice the risk of depression if they had little influence at work or little support from supervisors, while men had double the risk of depression if they had job insecurity (Rugulies et al., 2006).
- A longitudinal study of Dutch workers found that an increase in job demands led to depression and emotional exhaustion in workers approximately one year later. However, the relationship went both ways, with mental disorders adversely affecting job status and conditions. Employees who are emotionally fatigued may also perceive their job more negatively over time, and so may report greater demands and less support even if there has been no actual change. Similarly, happier employees who experience increased job satisfaction may perceive this as an increase in job control (de Lange et al., 2004).

Certain groups of workers have been shown to be at higher risk of developing mental health problems, including:

- Women (OECD, 2011; Søgaard & Bach, 2009; Veronese et al., 2012).
- Younger workers (OECD, 2011; Veronese et al., 2012).
- Lower paid workers (WHO, 2003).
- Workers with lower educational attainment (WHO, 2003; OECD, 2011; Søgaard & Bach, 2009; Veronese et al., 2012).

Similarly, certain occupational groups have reported a higher prevalence of mental health problems, such as:

- Clerical and administrative staff in the UK (Stansfeld et al., 2011; Hussey et al., 2008).
- Sales staff in the UK (Stansfeld et al., 2011).
- Education workers in the Netherlands (Roelen et al., 2009) and the UK (Hussey et al., 2008).
- Healthcare workers in the Netherlands (Roelen et al., 2009) and the UK (Hussey et al., 2008).

In contrast, other groups have been found to have a low prevalence of mental health problems, such as:

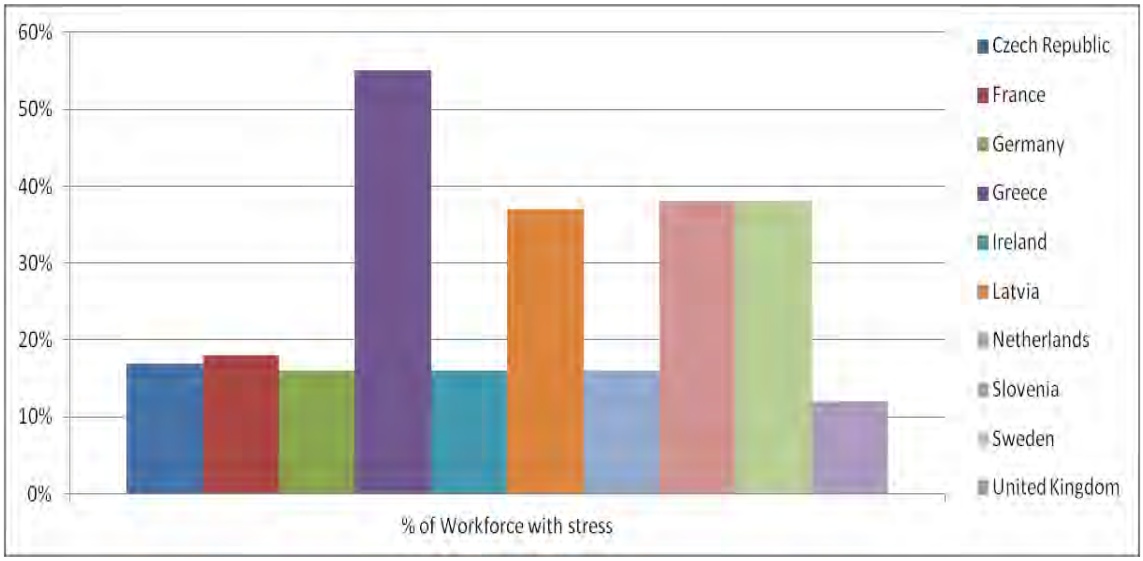
- Construction workers, plant and machine operatives in the UK (Stansfeld et al., 2011; Hussey et al., 2008) and the Netherlands (Roelen et al., 2009).

Prevalence of work-related and other determinants of mental health

We found little research on the prevalence of work-related determinants of mental health problems. The number of workers reporting potentially stressful working conditions such as having to do high-intensity work or working long hours has increased in OECD countries, but other factors such as experiencing discrimination in the workplace have declined (OECD, 2008).

Stress and burnout are important risk factors for mental health disorders. Each case of stress-related ill health leads to an average of 30.9 working days lost (Mental Health Foundation, 2007). A report by the European Agency for Safety and Health at Work (2009) found that stress at work was reported by 20% of people in EU15 countries in 2005 and by 30% of those in EU10.countries. As illustrated in Figure 3, Greece reported the highest percentage of stress at work (55%), while the UK had the least with 12%

Figure 3: Stress at work, EU10 countries (European Agency for Safety and Health at work, 2009)



If prolonged, stress can lead to burnout. The prevalence of burnout in a sample of 1,000 Swedish workers in 2004 was 13%, affecting 16% of women and 10% of men overall. The prevalence was higher in younger workers compared with those over 50 years, with a peak prevalence of 21.5% in women aged 35 to 44 years (Norlund et al., 2010).

Work intensity, a major contribution to stress, increased in Europe in the 1990s, but lack of autonomy has been stable since 1995 (European Foundation for the Improvement of Living and Working Conditions, 2007). A study by the Richmond Foundation found that 36% of people in employment tend to work more than 40 hours per week, 10% had taken leave of absence for stress or burnout, and 20% reported that their work had caused them some form of emotional or mental health problems (Richmond Foundation, 2011).

Job security may have an impact on the mental health of the workforce and can contribute to absenteeism. The Eurobarometer Report for Mental health (European Commission, 2010)

found that of people who are taking anti-depressants, 39% felt that their job security was under threat and 31% of people who were absent from work in the previous month to the survey also felt their job security was under threat.

A key protective factor against mental health problems is having a supportive manager. Data from a European survey suggested that less than 60% of workers with serious mental disorders had a supportive manager, compared with 70% of workers with less severe mental disorders and 85% of those with no mental disorder (OECD, 2011).

Prevalence of mental health problems

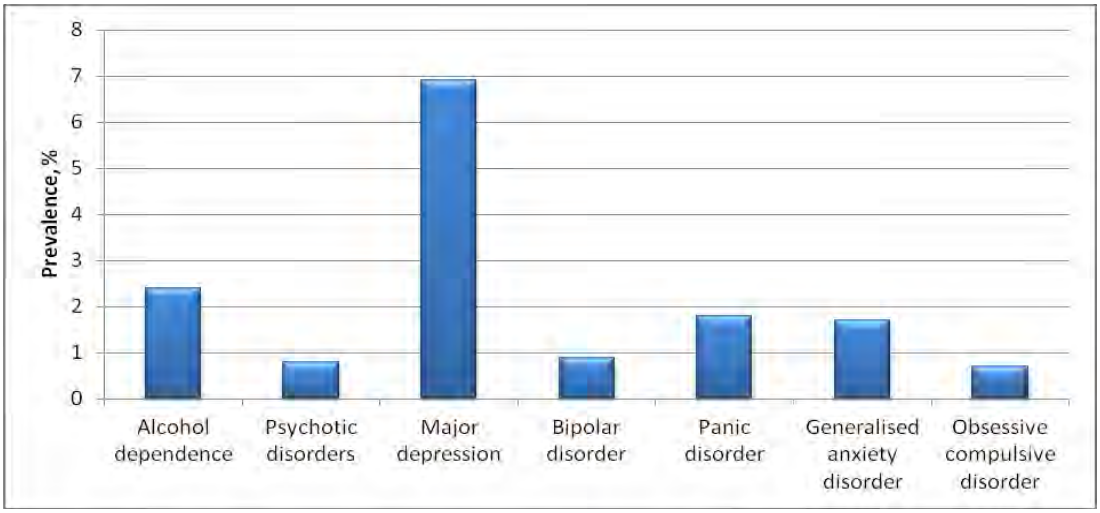
Estimates for the proportion of the workforce in Europe who may suffer from a mental health problem at any one time range from one in five (OECD, 2011) to two in five (Wittchen et al., 2011), with a lifetime risk of at least two in five (OECD, 2011). In the EU27 it was found that 15% of citizens had sought help for a psychological or emotional problem, with 72% having taken antidepressants (European Commission, 2010). Depression and anxiety were the most common reasons for people taking antidepressants (European Commission, 2010)

The shares of sickness absence and early retirement for mental health problems have increased across Europe over the past few decades. This is the case in particular in relative terms compared to sickness absence and early retirement for reason of physical health problems. A study from 2007 found that in the 15 countries for which relatively complete data were available mental disorders accounted for 27.5% of people receiving disability benefits in 2005[2]. Another reason for the increase is thought to be due to reduced social stigma and discrimination against people with mental illness leading to greater recognition of previously hidden problems, rather than a true increase in prevalence (OECD, 2011; Wittchen et al., 2011). Typically, three quarters of those affected by mental disorders have a “common mental disorder” such as mild to moderate depression, anxiety and substance-use disorders, and one quarter have a “severe mental disorder” such as severe depression or psychotic illnesses like schizophrenia. Common mental disorders are less disabling for the individual, but, because they are more prevalent, they account for more sickness absence and disability benefits than severe mental disorders (OECD, 2011).

Several studies have found that one of the most frequent mental health disorders in the EU is major depression (affecting 6.9%; Wittchen et al., 2011; Mladovsky et al., 2009). No substantial cultural or country variations have been identified in the prevalence of mental disorders (Wittchen et al., 2011).

[2] Diseases of the musculoskeletal system and connective tissue (22%), diseases of the circulatory system (12%) and neoplasms (10½%). Source: ec.europa.eu/social/BlobServlet?docId=3007&langId=en

Figure 4: Twelve month prevalence of mental disorders in the EU (Mladovsky et al., 2009)



The features of mental disorders that affect the workforce and their prevalence in European population are reported below in
Table 4.

Table 4: Description and prevalence of mental disorders in Europe

Disorder	Features (WHO, 2005, Mental Health Foundation, 2007)	Prevalence in Europe
Depression	Sadness, fatigue, loss of interest in most activities, lack of energy, insomnia, loss or gain of appetite, self-blame, poor concentration. Can lead to suicidal thoughts or suicide.	Depression: 6% to 10% per year (Wittchen et al., 2011; Mladovsky et al., 2009; Mental Health Foundation, 2007). Suicide: 17.5 per 100,000 in Europe (Mental Health Foundation, 2007).
Anxiety	Specific and recurring fears that the sufferer recognises as irrational, unrealistic and debilitating, Impaired ability to understand new information, plan activities or undertake complex tasks.	Anxiety: 1.7% (Mladovsky et al., 2009)
Panic disorder	Recurrent panic attacks, with sudden and intense fear, physical symptoms of anxiety, and fear of future attacks	Panic disorder: 1.8% (Mladovsky et al., 2009)
Bipolar disorder	Depression and mania occurring at different times in the same person; mania characterised by elated mood, increased activity, overconfidence and poor concentration.	0.9% (Mladovsky et al., 2009)
Drug and alcohol abuse	Preoccupation with use and inability to control use of the substance despite damaging consequences. Excessive use can lead to increased absenteeism, decreased productivity, accidents, thefts, aggressive behaviour, including violence at work and at home.	Hazardous drinking: 26% (38% of men, 15% of women) Drug dependence: 3 to 4% (Mental Health Foundation, 2007)

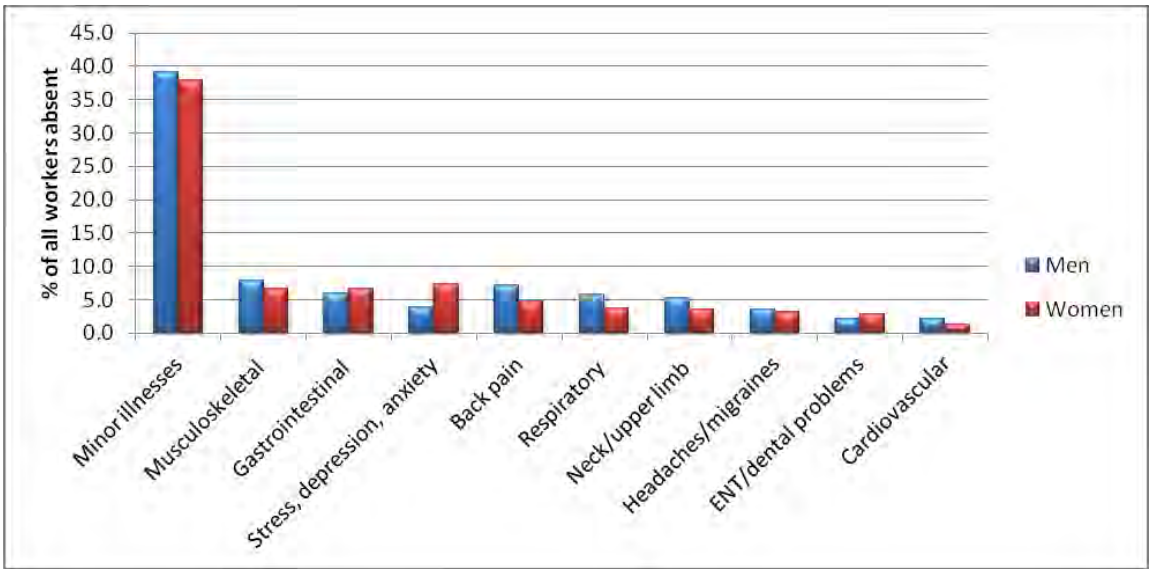
Disorder	Features (WHO, 2005, Mental Health Foundation, 2007)	Prevalence in Europe
Psychosis (e.g., schizophrenia)	Behavioural problems, abnormal thinking and distorted perception such as strong false beliefs (delusions) and hallucinations, and inappropriate emotions. Puerperal psychosis affects women in the year after giving birth.	Schizophrenia: 0.5% per year Puerperal psychosis: 1-2 per 1,000 births (Mental Health Foundation, 2007).
Obsessive compulsive disorder	A form of anxiety with distressing, repetitive thoughts that cannot be ignored (obsessions) and ritual actions carried out to relieve anxiety or stop obsessive thoughts.	2-3% lifetime risk (Mental Health Foundation, 2007)
Eating disorders	Anorexia nervosa: severely reduced eating with fear of weight gain and distorted body image. Bulimia: preoccupation with food, episodes of binge eating and periods of starvation or self-induced vomiting or purging.	Anorexia: 2% Bulimia: 0.5 to 1% (Mental Health Foundation, 2007)
Personality disorders	Difficulty coping with life, behaviour persistently causing distress to themselves or others, long-lasting, rigid patterns of thought and behaviour.	4 to 5% (Mental Health Foundation, 2007)
Stress	Reaction to not coping that can cause anxiety, depression, poor concentration, increased alcohol use, high blood pressure, headaches, and distress.	20% to 30% (European Agency for Health and Safety at work, 2009)
Burnout	Intense fatigue, sense of isolation and loss of control, feeling of accomplishing nothing at work, insomnia, headaches, gastrointestinal symptoms, muscular and joint pains, and lapses in memory.	13% (Norlund et al., 2010)

Prevalence of sickness absence, early retirement, disability pensions due to mental disorders

The most common reason for sickness absence is short-term minor illnesses such as coughs and colds. A survey of UK employees in October to December 2010 found that more than 35% of workers reported some time off work for minor illness during that period (ONS 2012).

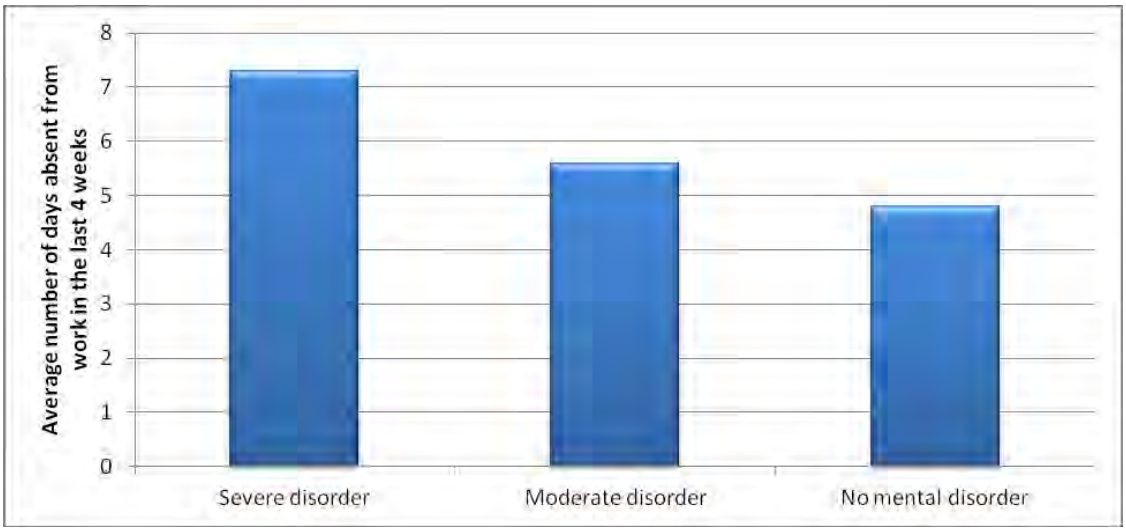
However, such absences are short and so their collective impact on the economy is generally small compared with other chronic diseases that cause long-term and recurrent absences. Of these chronic conditions, musculoskeletal problems affect the most number of people across Europe, but mental health problems are a significant cause of absence (Eurostat, 2011; ONS, 2012). In addition, the duration of absence from work due to mental health problems is longer than for other disorders, so they account for a substantial proportion of the total number of days of sickness absence and total sickness certificates issued (Roelen et al., 2009; Wynne-Jones et al., 2009; Hussey et al., 2008)

Figure 5: Percentage of all employees absent from work due to sickness or injury, UK Oct-Dec 2010 (ONS, 2012)



People with mental disorders are more likely to take time off work than people with no such disorder, as shown in Figure 6, with a longer duration of absence incurred by people with more severe illness (OECD, 2010). In the EU27 it was found that people who were taking antidepressants, on average, were absent from work for 3.2 days in one month compared to an average of 1 day for those not on antidepressants (European Commission, 2010). A study of Dutch workers between 2001-2007 found that almost 20% had more than one episode of absence for mental health problems, with 90% of recurrences happening within 3 years of the initial episode. Risks of recurrence were similar in men and women, but younger women were particularly likely to have multiple absences (Koopmans et al., 2010).

Figure 6: Average number of days of sickness in last 4 weeks, OECD countries (OECD, 2011)



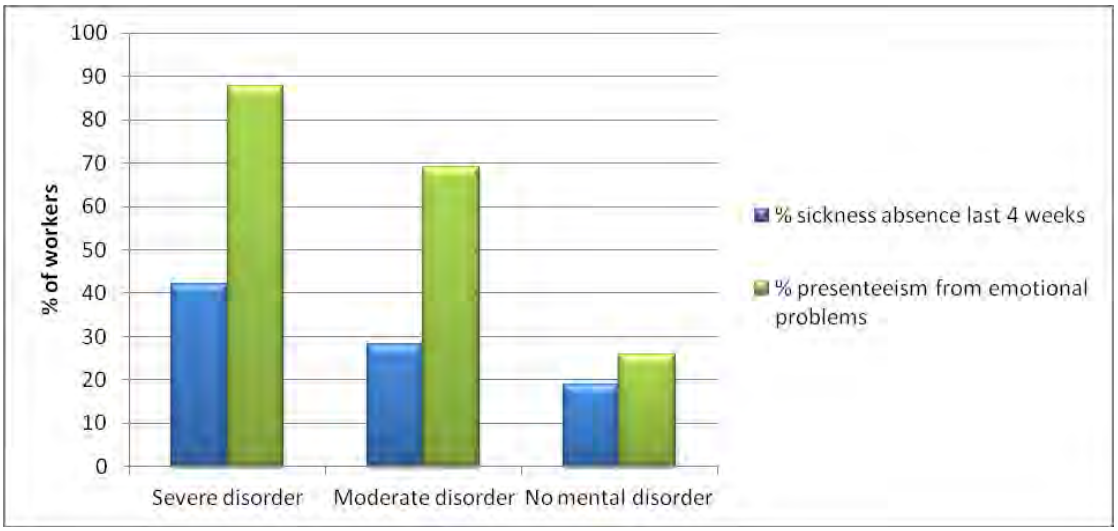
Risk factors for taking time off work because of mental health problems include:

- Female gender (Gjesdal et al., 2008).
- Shorter duration of employment (Roelen et al., 2010).
- Lower pay (Roelen et al., 2010).

Not every worker with a mental disorder takes sickness absence. A study of French gas and electricity workers with depression in 1990 found that 22% took no sickness absence, 32% had 1-30 days and 46% had more than 30 days absence (Vahtera et al., 2010). Other studies estimated that approximately 35-50% of employees with depression will take short-term disability leave at some point during their job tenure (McIntyre et al., 2011; Roelen et al., 2009).

However, even though a worker with mental health problems is at work, he or she may not be as productive as a completely well person. For example, 88% of all workers with a severe mental disorder reported reduced productivity at work in the previous four weeks in one study, compared with 26% for workers without a mental disorder (OECD, 2011). This impaired performance, called “presenteeism”, is more common than sickness absence and has a substantial impact on overall economic productivity, as shown in Figure 7.

Figure 7: Absenteeism and presenteeism in OECD countries (OECD, 2011)



Workers who have prolonged sickness absence may eventually be awarded a disability pension, reducing employment productivity and increasing costs in the long-term and adding to the social welfare burden. In one study in Norway, 22-24% of workers on long-term sick leave were awarded a disability pension over a 5-year period (Gjesdal et al., 2004).

Risk factors for being awarded a disability pension for mental health problems include:

- Older age (Cornelius et al., 2011; Gjesdal et al., 2004).
- Male gender (Cornelius et al., 2011; Gjesdal et al., 2004).

- Previous episodes or longer duration of sickness absence (Lagerveld et al., 2010; Cornelius et al., 2011; Brouwers et al., 2009).
- Lower pay (Gjesdal et al., 2004).

4.2 Economic impact of mental disorders

Several studies have attempted to estimate the economic impact of mental health disorders. In this section we present estimates identified through the literature reviews as well as estimates generated by the economic model developed by Matrix. The methodological complexities of this exercise cannot be overstated. Inevitably, our estimates – as well as those generated by other authors – are for a certain scope and conditional to numerous assumptions (these are summarised in Section 3.3). As a result, comparability across estimates is not guaranteed. Despite this, the general message emerging from the estimates is that the costs to society of mental disorders are substantial thus making the case for actions to promote mental health.

The next sections present estimates of the impact of mental disorders to healthcare systems, to employment and productivity levels, to social welfare systems, and to society as a whole.

Impact on healthcare systems

Across the European Union, 5% of the national health budget is allocated to mental health. There are 44 staff working in mental health services per 100,000 population, and annual expenditure on medicines for mental and behavioural disorders is €2,190,367 per 100,000 population. These figures are higher than for any other WHO region. Of the medication cost, 2% is spent on mood stabilisers, 41% on antipsychotics, 12% on drugs for anxiety and 31% on antidepressants (WHO, 2011). As expected, however, there is wide variation across countries.

The direct costs of depression across the EU have been estimated to be €42 billion, comprised of outpatient care (€ 22 billion), pharmaceuticals (€9 billion) and hospitalisation (€10 billion) (OECD, 2008).

Impact on employment and productivity

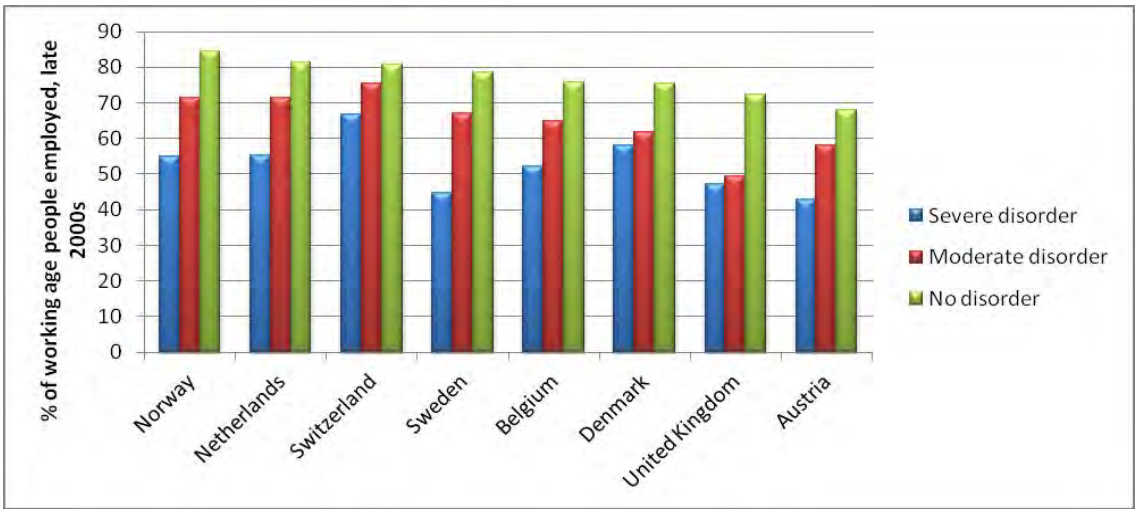
The main costs of mental health problems are those of reduced productivity and employment costs. These include costs of poor work performance, reduced morale, high staff turnover, early retirement, work complaints and litigation (WHO, 2005). In Europe, the total cost of anxiety disorders (including general anxiety, obsessive compulsive and post traumatic stress disorders) was found to be approximately €66 billion, and mood disorders (major depression and bipolar disease) were found to cost around €113 billion[3] (Gustavsson et al, 2011).

In the EU the indirect costs of depression associated with sick leave and productivity losses have been estimated to be €76 billion (OECD, 2008).

[3] The costs included were direct healthcare costs and worker productivity losses.

Figure 8 shows employment rates for different classifications of mental disorder in a number of selected European countries. Employment rates in people with common mental disorders are 60-70%, compared with 45-55% for those with severe mental disorders but more than 70% for people with no mental health problem (OECD, 2011). Data suggests that people with mental health problems can find jobs as easily as the general population, but are only half as likely to keep their jobs. Of those people with mental health problems who have lost their jobs, 55% make unsuccessful attempts to return to work, and, of those who do return, 68% have less responsibility, work fewer hours and are paid less than before (OECD, 2011; Mental Health Foundation, 2007). This means that the annual income of individuals affected by depression is reduced by approximately 10% compared with unaffected employees (McIntyre et al., 2011; OECD, 2011).

Figure 8: Proportion of working age adults employed by severity of mental disorder, mid 2000s, selected European countries (OECD, 2011)



Impact on social welfare systems

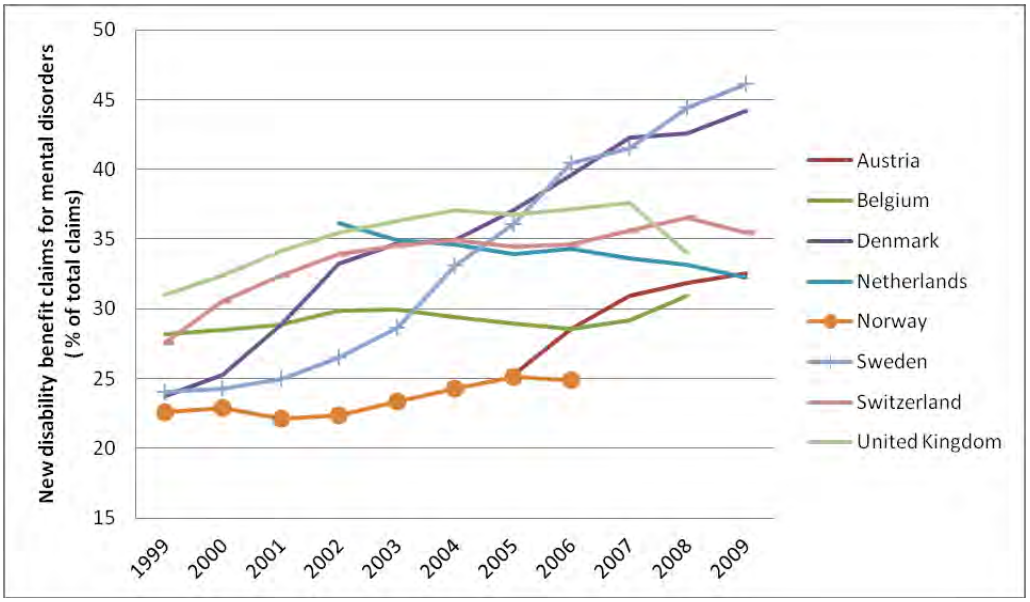
The impact of mental health disorders on social welfare systems can be seen in disability benefits and pensions, as well as additional benefits to people in poverty from reduced earnings and early retirement.

Mental health problems now account for one-third of all new disability benefit claims in OECD countries, and this proportion has been increasing in recent years (OECD, 2008; OECD, 2009; Mental Health Foundation, 2007).

There is evidence that some employers have reduced their employment costs by transferring unwanted staff who are on long-term sick leave onto disability benefit, often as a form of early retirement (OECD, 2009). However Figure 9 shows that the percentage of new disability claims

due to mental disorders has increased significantly since 1999, Sweden and Denmark seeing the most drastic increases in new claims over the 10 year period (OECD, 2011).[4]

Figure 9: Percentage of new disability benefit claims per year for mental disorders for selected European countries (OECD, 2011)



With the overall trend in disability claims increasing, emphasis is being placed on the available healthy workforce to replace those who have left. However as more people leave work due to mental health problems coupled with an ageing population in a lot of EU countries, the number of people available to work is shrinking. Currently in the EU there is a potential pension crisis looming, therefore companies, with the encouragement of government bodies, need to prioritize mental health in the workplace in order to keep employees healthy, productive and in work longer. This preventative action could reduce the number of medically related early retirements and also maintain the supply of healthy labour.

Overall impact

Matrix estimated the costs of depression across four perspectives:

- Healthcare system
- Social welfare system
- Employers
- Economy

The total working population for the EU27 was divided into the following groups: employed, unemployed and inactive.

[4] For example, in the Netherlands, a change to legislation in 2004 so that employers were liable for the first two years of sickness absence pay instead of just the first year was followed by a substantial fall in new claims (Roelen et al., 2009).

Table 5 presents the distribution of the population across these three groups.

Table 5: Distribution of working age population in the EU27

Working age population	Percent
Employed	61%
Unemployed	10%
Inactive	29%
Total	**100%**

The employed population was further subdivided into three groups: no symptoms, stress and mental health disorder. For each risk group, Table 6 presents estimates of the percentage of the population who currently or in the future will suffer from depression if no further actions to prevent or reduce the condition are undertaken. For example, it is estimated that among employed individuals who suffer from stress, 14% will go on to develop depression. In addition, among those who are unemployed, the rate of depression is estimated at 16%.

Table 6: Depression rates by risk group for employed population in the EU27

Risk group	Rate of depression
Employed	
No symptoms	7%
Stress	14%
Mental health disorder	100%
Unemployed	
Mental health disorder	16%

Table 7 presents estimates of the cost of depression in the EU27. These were estimated for a period of one year. A breakdown of these costs can be found in Appendix 7.3, Table A1.5 (reference CQ-CW). The results indicate that:

- The total costs of depression to the EU27 are estimated to be €617 billion.
- The major impact is on employers. The impact on employers is estimated to be €272 billion. This cost relates to the impact of depression on absenteeism and presenteeism.
- In second place, the cost to the economy in terms of lost employment, and hence lost output, has been estimated to be €242 billion across the EU27.
- The total cost of health care treatment for those who currently or in the future will suffer from depression in the EU27 is estimated to be €63 billion.
- The cost to the social welfare systems in the EU27 is €39 billion. This cost relates to disability benefits that would be claimed by people who are unable to work due their mental health condition.

Table 7: Cost of depression in the EU27 by sector (in €2011) for one year

Sector	Costs
Health system	€63bn
Social welfare system	€39bn
Economy	€242bn
Employers	€272bn
Total	**€617bn**

Note: Any differences in calculation are due to figures being rounded to the nearest €billion.

4.3 Workplace mental health promotion and mental disorder programmes

In this section we present the analysis of workplace mental health promotion and mental disorder programmes resulting from the literature review and case studies. These were designed to provide answer to the following three questions:

- What type of workplace mental health promotion and mental disorder programmes are currently available?
- What impact do they have on the health and social welfare systems, employment and productivity?
- What is their economic return on investment?

Types of workplace mental health promotion and mental disorder programmes available

Workplace mental health promotion and mental disorder programmes may be categorised into three groups by the type of population the programmes are aimed at:

- **Universal programmes**: these are programmes which are available to all employees regardless of whether they have a pre-existing mental health disorder or at risk of developing a mental health disorder.
- **Targeted programmes**: these are programmes aimed at employees who have been identified as being at risk of developing a mental health disorder
- **Treatment programmes**: these programmes are given to employees who are suffering from a mental health disorder.

It is also possible to group programmes depending on the type of approach applied. We found programmes centred in the following approaches:

- **Cognitive behavioural therapy (CBT)**
- **Other psychotherapeutic approach**
- **Stress management**
- **Problem-solving**

- **Workplace improvement**
- **Employment training**
- **Exercise-based**

Table 8 outlines the number of studies and case studies by intended population and type of approach. This demonstrates that the majority of the available evidence refers to treatment interventions, especially CBT and employment training.

Table 8: Type of workplace programmes available by intended population and type of approach

Intervention	Universal	Targeted	Treatment
Cognitive behavioural therapy	2 studies	2 studies	5 studies
Other psychotherapy	-	-	2 studies
Stress management	3 studies 1 case study	2 studies 1 case study	3 studies
Problem solving		2 studies	1 studies
Workplace improvement	2 studies	1 case study	-
Employment training	1 studies	-	4 studies 1 case study
Exercise	-	-	1 studies

Impact of workplace mental health promotion and mental disorder programmes on the health and social welfare systems, employment and productivity

Workplace mental health programmes can be designed to impact on numerous outcomes not just mental health outcomes, but also employment related outcomes. In Tables 9, 10 and 11 below we present the impact of the programmes identified through the literature reviews. For each programme we present the targeted population (if any), a brief description of the programme, and the range of outcomes measured by the study. Those outcomes for which the study showed a statistically significant and positive effect as a result of the programme are highlighted in green. Each study is described in more detail in Section 8.1 of Appendix 2

The results suggest that several studies found **improved mental health scores or improved employment outcomes as a result of the programmes**. However, it is also worth mentioning some limitations:

- The range of programmes and the different methodologies applied for each approach studied means that no consistent evidence was found to support any one particular type

of programme or approach. Instead, a basket of effective options are available from which companies can choose the most appropriate method to suit their needs.

- Although these results were generated by high-quality studies, many of them were based on small sample sizes and delivered at a small scale. Therefore, caution should be taken when the generalising these results.
- Several studies showed no statistically significant and positive effect as a result of the programme. This may be related to the fact that some programmes were compared to a scenario of 'usual care' rather than 'do nothing'.

Table 9 presents a summary of the studies that provide evidence on the effectiveness of **universal/preventive programmes**.

Table 9: Summary of outcomes with universal programmes

Study[5]	Programme[6]	Effectiveness evidence
Martin 2009 [++]	CBT, SM: Health promotion interventions in workplace vs control	**Depression and anxiety decreased**
Limm 2011 [+]	CBT: Psychodynamic, conflict and emotion-focused principles plus cognitive behavioural techniques vs control	**Stress reduced** Anxiety/depression no significant difference
Vuori 2012 [-]	EMP: Career management workshops vs printed information	**Depression reduced** **Intention to retire early reduced**
Bond 2000 [+]	3 groups - PSY: Acceptance and Commitment Therapy vs PSY: Innovation Promotion Programme vs control (waiting list)	**Depression reduced with ACT and IPP** **GHQ scores reduced with ACT but not with IPP**
Abbott 2009 [+]	SM: Online resilience training programme vs waiting list control	Depression, anxiety, stress, QoL no significant difference Work performance no significant difference
Tsutsumi 2009 [++]	WI: Participatory workplace improvement intervention vs control	**GHQ scores improved** Work performance no significant difference
Aust 2010 [+]	WI: Psychosocial organisational programme vs control	Mental health no significant difference

[5] Quality scores are: [++]= high quality study; [+]=mid quality; [-]=low quality

[6] CBT= cognitive behavioural therapy approach; SM= stress management approach; WI = workplace improvement approach; PS = problem-solving approach; EMP = employment training approach; Psy: psychotherapeutic approach; EX = exercise-based approach.

Table 10 presents a summary of the studies that provide evidence on the effectiveness of **targeted programmes**.

Table 10: Summary of outcomes with targeted programmes

Study[7]	Population	Programme[8]	Effectiveness evidence
Stenlund 2009 [++]	Patients on long term sick leave because of burnout	CBT: CBT+ qigong vs qigong	Depression, anxiety, OCD, stress, fatigue no significant difference Sick leave no significant difference
Ruwaard 2007 [++]	Patients with work-related stress	CBT: Emailed CBT vs waiting list control	**Depression, stress, exhaustion reduced** **Anxiety short-term reduction only**
Duijts 2008 [++]	Employees at risk for sickness absence	PS: Preventive coaching vs usual care	**Depression decreased** Anxiety, fatigue no significant difference Sickness absence no significant difference
Van Oostrom 2010 [+]	Employees with distress and who were sick-listed for 2-8 weeks	PS: Social worker problem solving vs usual care	Sick leave no significant difference QALY no significant difference (Please refer to Table 12 for cost effectiveness).
Edwards 2003 [+]	Mental health nurses	SM: Stress management interventions vs control	**Reduced stress and burnout**
Mino 2006 [++]	Workers at a highly stressful workplace	SM: Stress management programme vs control	**Depression decreased** GHQ, stress scores no significant difference

[7] Quality scores are: [++]= high quality study; [+]=mid quality; [-]=low quality

[8] CBT= cognitive behavioural therapy approach; SM= stress management approach; WI = workplace improvement approach; PS = problem-solving approach; EMP = employment training approach; Psy: psychotherapeutic approach; EX = exercise-based approach.

Table 11 presents a summary of the studies that provide evidence on the effectiveness of **treatment programmes**.

Table 11: Summary of outcomes with treatment programmes

Study[9]	Population	Programme[10]	Effectiveness evidence
Blonk 2006 [+]	People on sick leave owing to work-related psychological complaints	CBT: CBT vs combined work and individual-focused psychoeducation vs control	**Return to work faster with combined intervention** Return to work no significant difference for CBT vs control Depression, anxiety, stress no significant difference
Rebergen 2009 a and b [+]	Police workers on sick leave due to mental health problems	CBT: Guideline based CBT counselling vs usual care	Return to work and productivity no significant difference (Please refer to Table 12 for cost effectiveness).
Glover 2010 [-]	Patients with mental health problems	CBT: Improving Access to Psychological Therapies (IAPT) vs counselling (non-randomised comparative study)	Depression: similar % recovered with CBT vs counselling vs both **Anxiety: higher % recovered with CBT than counselling or both but unclear if significant** Overall: similar % recovered with CBT vs counselling vs both
Lexis 2011 [++]	Employees on sick leave due to mental health complaints	CBT: Psychotherapy and CBT problem solving vs control	**Depression decreased** Sick leave no significant difference
Gold 2005 [+]	Severe mental illness	EMP: Assertive Community Treatment + integrated vocational rehabilitation (ACT) or individual placement and support (IPS) vs employment model	**Employment in competitive job increased** **Time to employment shorter** Other employment outcomes no significant difference
Burns 2008 [+]	Workers with psychotic illness	EMP: Individual placement and support (IPS) vs train and place vocational rehab	**Employment increased** **Days worked increased** **Hospitalisations decreased**
Morgenstern 2009 [+]	Substance dependent patients	EMP: Intensive case management vs usual care	**Abstinence increased** **Full time employment increased** Any employment no significant difference

[9] Quality scores are: [++]= high quality study; [+]=mid quality; [-]=low quality

[10] CBT= cognitive behavioural therapy approach; SM= stress management approach; WI = workplace improvement approach; PS = problem-solving approach; EMP = employment training approach; Psy: psychotherapeutic approach; EX = exercise-based approach.

Study[9]	Population	Programme[10]	Effectiveness evidence
Penk 2010 [+]	Veterans with psychiatric disorders	EMP: transitional work experience services (TWE) vs job placement	Employment no significant difference
De Zeeuw 2010 [+]	White-collar employees with minimal symptoms of depression	EX: Exercise programme vs control	**Depression borderline reduction** Sickness absence no significant difference
Brouwers 2006 a and b [++]	Patients absent from work owing to emotional distress or minor mental disorders	PS: Graded activity + problem solving by social workers vs GP usual care	Employment no significant difference Sick leave duration no significant difference Depression, anxiety, distress, somatisation no significant difference (Please refer to Table 12 for cost effectiveness).
Knekt 2008 [+]	Outpatients with depressive or anxiety disorder	PSY: Long-term psychodynamic psychotherapy vs short-term PP vs solution-focused therapy	Employment rates no significant difference Sickness absence no significant difference **Psychological functioning improved with long-term PP**
Wang 2007 [++]	Depressed workers	PSY: telephone outreach, care management and psychotherapy programme vs usual care	**Depression reduced** Treatment contacts increased Employment largely no significant difference
Bakker 2007 & Uegaki 2010 [++]	Patients with stress-related mental disorders	SM: minimal intervention for stress-related mental disorders with sick leave (MISS) vs usual care	Sickness absence no significant difference Depression, anxiety, distress, somatisation no significant difference. (Please refer to Table 12 for cost effectiveness).
Schene 2007 [-]	Adults with depression and absenteeism	SM: Occupational therapy (problem solving and stress management) vs usual care	**Return to work faster** **More days worked** Depression no significant difference **Greater mean net benefit with intervention**

Lessons learned from the workplace case studies

We carried out case studies in five selected workplaces that are currently undertaking health promotion and prevention programmes. Below we describe their characteristics as well as the impacts that they have had in employees and, where available, the return on investment for the companies. Full details are provided in Section 0 of Appendix 2.

BT Group in the **UK** is renowned for having a good practice mental health promotion initiative, called the "BT mental health toolkit", which is an example of a universal stress management programme. The toolkit is range of comprehensive resources aimed at promoting, supporting and managing employees' mental health. The framework is aimed at all employees, with specific elements targeted toward those employees who are at risk of developing poor mental health and employees who have existing mental health disorders. Resources include literature on promoting positive mental health and managing stress, training, stress assessments, self help books and an employee assistance programme. The toolkit was introduced in 2001 and since its introduction sickness absence rate has reduced over time[11], currently at 2.1% and of that 0.5% is attributable to mental health disorders. As a result of the reduced absence, productivity rates have improved. Retirement due to mental health disorders has reduced by 93% from 2001 up to August 2012. Due to the size of the business (BT has a presence in over 170 countries), it has its own occupational health, safety and wellbeing department specifically tasked with measures to improve health, as such little additional funding has been required to develop and implement the toolkit. Feedback from employees has been positive, with many feeling valued by the employer.

In **Hungary, MOL Hungarian Oil & Gas Company** adopted a targeted, workplace improvement intervention. This is specifically aimed at identifying groups of employees with a high workplace risk category. The project titled COHESIO (Compliance with Occupational Health of Ergonomics and Stress Identification Optimum) was started in 2010.

The aims of the project are to:

- prevent the workplace stress situations and related illnesses and work related incident/injuries and occupational diseases.
- minimize risk of injuries while optimizing productivity and wellbeing
- maintain and improve the employee's capabilities to work
- find professional ways for the elimination and reduction of the ergonomic risk and workplace stress while reducing the absence rate and increase the work ability of the employees.

The different risk assessment methods within MOL provide a complete map of workplace psychological risks within the company. Since the introduction of the initiative in 2010, absenteeism has reduced from 4% to 1.8%. The project, in conjunction with other workplace health promotion activities has also successfully increased the percentage of people returning to work from sick leave. Both of these impacts have helped to increase productivity within the company. The company does not receive any government support and has invested approximately €100k per year on implementing the initiative. Feedback from employees has been positive; especially for the stress reduction training that is part of the initiative.

[11] Baseline information was not provided by the representative for BT.

Lessons learned from the workplace case studies (cont.)

Another company which has adopted a targeted intervention is **Agis Zorgverzekeringen** in the **Netherlands**. They implemented an initiative known as "the healthy behaviour model", which is a stress management style intervention. The model identifies those employees who are at risk of suffering from poor mental health are categorised into subgroups depending on the reasons for their poor mental health (personal issues, mild psychological problems, stress related symptoms and burnout). For each of those categories, specific resources are offered to the employee to help improve mental health and prevent the severity increasing further. Resources available include meetings with company welfare officers, exercise programmes & lifestyle advice and group & individual stress coaching. Between 2007 and 2011, the company has seen a significant reduction on both short and long term absenteeism rates and an increase in productivity as a result of the healthy behaviour model. The company estimated that absenteeism cost the company €4.42m in 2007, which reduced to €2.29m in 2010. Between these years €1.23million was invested by the company in health management, and estimates that the return on their investment was €896,192. Feedback has been encouraging, with employees feeling valued by the company and grateful for the infrastructure in place to support them. The company believes the initiative has helped to strengthen the employer-employee relationship.

In **Spain, Corporació Sanitària Parc Taulí** – a 3,500 employee public health hospital serving the population in the Catalonia Region – introduced its mental health program in 1996. This started as a counselling service offered to employees experiencing mental health programs. Gradually the program has incorporated other services, including: prevention through psychological test assessing levels of stress; monitoring (phone calls) for those who are on sick leave and may require psychological help; leadership to help managers identify and deal with mental problems of their employees; anti-bullying and conflict resolution; and rotation of employees whose current position is affecting their levels of stress and mental health. The program is run by one full time and three part time employees and costs approximately €60,000 per year. Recent figures show that through its counselling services, the program helped about 90% of employees on sick-leave return to work. Positive feedback from users, management and the trade union is a reflection of the contribution of the program to reducing stress at work and improving the working conditions.

A different aspect of workplace mental health promotion, aimed at treating poor mental health has been implemented in **Austria** by women's charity **Fairwurzelt**. The charity runs an employment project funded by the local government that prepares women, who suffer from mental health disorders, for returning to the labour market. The women are employed by Fairwurzelt for 1 year to work in the plant nursery, as gardening has a positive impact on psychological wellbeing and also allows the women to gain valuable labour skills which they can then use to get a job after the project finishes. The charity also conducts weekly "sensitivities rounds" where problems can be discussed and experts are often invited to participate. Mandatory workshops and training are also organised for participants. The project's main outcome is to reintegrate women who are unemployed due to mental health disorders return back to the labour market, and due the funding structure from the government, needs to meet a minimum target of 50% of participants securing employment. The project has been running for 15 years, and has managed to achieve this target every year. €800k per year has been invested in the employment programme, of which 86% is funded by the local job market service, local state government and European Social Fund (ESF). The remaining 14% is funded by profits from the nursery. The feedback about the project has been positive, especially with regards to the mental health training and one to one sessions.

Economic return on investment of workplace mental health promotion and mental disorder programmes

As with many other subject areas, although there is quite extensive evidence on the effectiveness of mental health programmes, the economic evidence is rather limited. From the literature review, only five studies that applied some type of economic analysis were found. These applied one of three types of economic analyses most commonly used to determine whether an intervention is worth the investment – i.e. cost-effectiveness, cost-utility or cost-benefit analysis. To complement the evidence, we drew data from a study that looked at the economic case for a variety of mental health promotion and prevention programmes, including two programmes delivered in the workplace (Knapp et al, 2011).[12]

[12] Knapp et al (2011) was not identified by the literature review as this focused on programmes in a workplace setting. See search strategy in Section 7.1 of Appendix 1.

Table 12 presents a summary of the above studies. As most of them showed no significant effects on mental health and employment outcomes, the economic analyses generally concluded that the programmes were not worth the investment. However, Knapp et al (2011) focused on programmes where there was strong evidence for their effectiveness in improving mental health outcomes and arrived at much more encouraging results in terms of economic impacts. More specifically:

- A workplace mental health promotion programme showed a return on investment of £9.69 for every £1 expenditure on the programme.
- An early diagnosis and treatment of depression programme in the workplace showed a return on investment of £5.03 for every £1 expenditure on the programme.
- In general, out of the 15 mental health programmes evaluated only three of them did not represent value for money whilst for the remaining 12 programmes the return on investment ranged from £1.75 (for an early programme for medically unexplained symptoms) to £83.73 (for a prevention of conduct disorder through a social and emotional learning programme).

The economic evidence thus suggests that mental health programmes have a great potential to generate economic returns. Caution however should be taken when interpreting these results given that, as indicated in Section 3.3, these estimates are subject to a number of limitations.

Table 12: Summary of economic outcomes of programme

Study[13]	Approach	Population	Programme[14]	Effectiveness evidence	Economic evidence
Van Oostrom 2010 [+]	Targeted	Employees with distress and who were sick-listed for 2-8 weeks	PS: Social worker problem solving vs usual care	Sick leave no significant difference QALY no significant difference.	Workplace intervention was not cost effective according to CEA, CUA and CBA.[15]
Rebergen 2009 a and b [+]	Treatment	Police workers on sick leave due to mental health problems	CBT: Guideline based CBT counselling vs usual care	Return to work and productivity no significant difference.	Difference in costs between intervention and usual care = -€520, however no significant outcome effects. Probability that the intervention was cost effective was less than 50%.
Brouwers 2006 a and b [++]	Treatment	Patients absent from work owing to emotional distress or minor mental disorders	PS: Graded activity + problem solving by social workers vs GP usual care	Employment no significant difference. Sick leave duration no significant difference. Depression, anxiety, distress, somatisation no significant difference.	No significant cost differences between intervention and usual care. Not cost effective compared to control treatment.
Uegaki 2010 [++]	Treatment	Patients with stress-related mental disorders	SM: minimal intervention for stress-related mental disorders with sick leave (MISS) vs usual care	Sickness absence no significant difference. Depression, anxiety, distress, somatisation no significant difference.	Incremental cost per QALY = -€7356, probability of being cost effective was between 0.58 and 0.90. No significant differences in costs or QALYs. Not recommended for widespread implementation.

[13] Quality scores are: [++]= high quality study; [+]=mid quality; [-]=low quality

[14] CBT= cognitive behavioural therapy approach; SM= stress management approach; WI = workplace improvement approach; PS = problem-solving approach; EMP = employment training approach; Psy: psychotherapeutic approach; EX = exercise-based approach.

[15] CEA = Cost effectiveness analysis; CUA = Cost utility analysis; CBA = Cost benefit analysis

Study[13]	Approach	Population	Programme[14]	Effectiveness evidence	Economic evidence
Knapp (2011)	Universal	Hypothetical population of 500 employees in a white collar enterprise	Multi component health promotion intervention (including personalised health and wellbeing information, health risk appraisal questionnaire, seminars and workshops).	**Reduction in absenteeism and presenteeism.** No depression outcomes.	**Cost of intervention = £40,000 Total cost savings: Absenteeism = £110,527 Presenteeism= £277,195 Health & social care system = £10,522**
Knapp (2011)	Targeted	Hypothetical population of 500 employees in a white collar enterprise	CBT: Screening followed by CBT for those suffering from or at risk of depression	**Reduction in absenteeism and presenteeism.** No depression outcomes.	**Cost of intervention = £20,676 Total cost savings: Absenteeism = £17,506 Presenteeism= £22,868 Health & social care system = £10,522**

4.4 Role of health and social welfare systems

The role of the health and social welfare systems in relation to mental health in the workplace was analysed through case studies in four Member State. These investigated the national context and measures that countries have put in place to encourage or enforce workplace mental health promotion and mental disorder programmes. In this section we summarised the findings from the case studies. Additional details are reported in Section 0 of Appendix 2.

Lessons learned from the member state case studies
Overall the country case studies indicate that mental health disorders are one of the leading causes for absenteeism. The costs of providing sickness benefits are borne by the employer and the social welfare systems to different extents. The measures put in place to combat the impact of mental health disorders in the labour market do not fall under one specific public department; rather they are a collaborative effort between government departments and agencies specialising in mental health issues working together with employers, trade unions and social welfare providers. In Germany, the social health insurance funds have played a significant role in improving the mental health of the workforce by solely implementing a national framework for workplace mental health promotion and prevention. In Italy, the financial burden of employees out of work due to mental health disorders fell on to the social welfare system. As such a law was passed to introduce mandatory workplace mental health risks assessments. The role of the social welfare system in this context is small; the benefits generated by the introduction of the law will have a direct positive impact for this stakeholder. However in Sweden a different approach was adopted by the introduction of a specialist government agency to implement initiatives to improve mental health within the Swedish population. Poland relies on local governments to implement schemes to improve mental health in the workplace, which complement the national framework aimed at mental health in the entire population. The national framework is supported by a collaboration of efforts from the central government, local government and NGO's. It can also be observed that increasing emphasis is being placed on the impacts of mental health disorders in the workforce and the potential benefits that can be generated by tackling them. In addition, it seems generally that one system does not bear the burden of improving mental health in the work. There is room for specialist agencies to be created which combine the expertise from interested stakeholders such as the health, social welfare and labour departments of a country to achieve improvements in mental health.

In **Germany** mental health related disorders were accounting for 8-12% of total absenteeism as well as being the leading reason for health related early retirement. The cost of long-term sick-leave falls mainly on the employers, as they contribute to sickness fund, which cover long-term sick-leave payments. The social insurance health funds introduced a national workplace health promotion and prevention framework to try to reduce these impacts. The framework helps companies to involve their own employees to check and suggest improvements to the quality of critical working conditions in relation to their own health. This approach is general, and is applicable to stress related aspects of the working environment, such as job tasks, working conditions and performance management procedures. In addition to this framework, there is a legal framework for reintegration of employees who have been absent from work for more than six weeks, either in one period, or a series of absences in a year. Employers are legally obliged to offer the programme to the employee, although employee participation is voluntary.

This framework attempts to prevent mental health disorders in the working population by addressing stress, as a precursor to impaired mental health. The framework outlined is targeted at the entire working population and employers, with elements specifically aimed at those at risk and who have already been diagnosed with a mental health disorder. The framework set out by the social health insurance funds is voluntary for companies, however financial incentives are

offered to companies in order to boost compliance. On average €36 million are invested by the funds on workplace health promotion and prevention framework.

In **Italy**, there is an emerging trend of patients with mental health disorders being unable to work and companies have identified that mental health disorders are a leading cause for absenteeism. The financial burden of long-term sick-leave payments and sickness benefits is covered by the Italian National Institute for Social Security. In order to reduce the impacts of mental health disorders in the workforce, a law has been introduced requiring companies to evaluate the risks of poor mental health, in particular stress, in the work environment. Outcomes of evaluations must be reported and stored by companies. If risks have been identified through the evaluations, the necessary corrective measures should be put in place. If these measures are ineffective, the company must conduct an in-depth evaluation with groups of representative employees or in large organisations, all employees, to assess perceptions of employees of the problems, and direct involvement of employees to find solutions. This may involve the use of questionnaires, focus groups, and meetings.

This law is applicable to any company with more than 10 employees. The law came into effect in 2011 and is currently being reviewed to include specific methodologies for companies to use in order to conduct assessments.

In **Poland**, mental health disorders have been stated as the second leading cause for absenteeism and it has been estimated that 5million Polish Zloty are spent on sickness allowances related to mental health disorders per year. In 2011, the National Mental Health Protection Programme was developed to help try and tackle the impacts of mental health problems. Generally the programme is aimed at limiting the potential risks to mental health. Part of the programme focuses on professional activation of unemployed people with mental health disorders into the labour force. This is achieved through schemes set up by Voivodeship local governments that increase accessibility to professional rehabilitation, job counselling and training. The local governments are also involved with initiating and conducting information campaigns addressed at employers to promote the recruitment of people with mental health disorders.

Compliance is not compulsory, but training courses are available to companies if they wish to participate and attendance is monitored. Approximately 100 million Polish Zloty are spent by various organisations (local and national governments, NGOs, etc.) to support mental health related issues in the labour force.

In **Sweden**, mental health disorders account for 20% of short-term (less than 1 month) absenteeism and are the most common reason for leave. In terms of long-term absenteeism, it is the second most common reason and accounts for 30 – 35% of absences. Employers have an obligation to pay full sickness benefits for the first two weeks of absence and a proportion (15%) thereafter unless the employee receives rehabilitation or continues working part-time. To help reduce the burden of mental health disorders in society, Handisam – the Swedish agency for disability policy coordination – developed a three-year national initiative focusing on changing attitudes towards people with mental health disorders. Attitude ambassadors are

employed to work with people with mental health disorders to help them reintegrate into the labour market. Handisam have also work with trade unions, employers associations and larger companies to raise awareness of the mental health related issues that may affect the workforce. A handbook has been developed aimed at managers with advice on how to cope with and support employees with a mental health disorder. For most companies, the issue of mental health disorders in the labour force is not the number one focus, although in larger companies the issue is starting to be addressed as it is seen as a costly problem. Handisam tend to approach companies to raise awareness of the issue and how companies can address it and feedback tends to be very positive and welcome. As the initiative is only in its first year of implementation, no information is available on the level of company compliance with the initiative, as well as costs of implementation of the initiative.

4.5 Economic contribution of mainstreamed programmes

In order to estimate the potential economic contribution of mainstreamed mental health programmes we undertook a simulation exercise. This exercise consisted of selecting a number of mental health programmes that generate a reduction in the rate of depression among the population targeted by the programme, and estimating the associated economic benefits across the EU27.

Table 13 presents the interventions selected for the economic model.

Table 13: Selected interventions for the economic model

Intervention	Description	Effect on depression rate
Universal		
Workplace Improvement programme (WI) Author and year: Tsutsumi (2009)	Engages employees and supervisors to assess the work environment for potential risk factors which could cause poor mental health. Composed of a training workshop for facilitators co-ordinating the intervention, supervisor education workshop and three workshops assessing the work environment and implementing the necessary changes	-34%
Acceptance and commitment therapy (ACT) Author and year: Bond (2000)	Three group education sessions with a therapist teaching how participants to experience or accept undesirable thoughts, feelings and physical sensations without trying to change, avoid or otherwise control them	-80%
Targeted		
Email cognitive behavioural therapy (ECBT) Author and year: Ruwaard (2007)	Intervention consisted of seven phases of CBT delivered entirely through email communication by a therapist. Each phase took participants one week to complete, with 10 feedback emails from the therapist per participant.	-25%

Intervention	Description	Effect on depression rate
Stress management programme (SM) Author and year: Mino (2006)	Participants attended one group stress management session and one muscle relaxation session, each lasting two hours. Following these sessions, participants had access to a therapist via work email for individual counselling.	-45%
Treatment		
Exercise programme (EX) Author and year: de Zeeuw (2010)	Participants were given two 50 minute personalised exercise sessions per week for 10 weeks.	-72%
Problem solving therapy with Cognitive behavioural therapy (PST) Author and year: Lexis (2011)	Seven sessions 45 minutes sessions of therapy based on the principles of PST and CBT	-43%

The following sections present the results of the simulation exercise. For each programme the results for one year were generated as follows:

- The estimates of the costs of depression in the EU27 generated through the economic model were taken as the 'without programme' scenario.
- The 'programme' scenario was generated by changing the rate of depression in the targeted population and estimating the resulting costs of depression in the EU27.
- The difference between the 'without programme' and the 'with programme' scenarios represents the potential economic contribution of the programme.

In addition to one year estimates, we ran the model assuming the benefits of avoided cases of depression could accrue for up to 5 years. In this scenario we allowed the benefits of the intervention in terms of reduced disability benefits and output loss to be maintained for 5 years. The estimates for each intervention are presented in Appendix 8.5.

Universal programmes

The results for the **Workplace improvement (WI)** programme are as follows:

- The cost of implementing the programme has been estimated as €16 per person.
- The total cost of delivering the programme to163 million eligible people is estimated as €3 billion with an opportunity cost of €28 billion for employees attending the programme instead of working.
- The programme was estimated to reduce rates of depression by 34% in the "no symptoms" population of the model.
- The programme was estimated to reduce total absenteeism by 110 million working days.

- The total cost savings associated with a reduction in depression rates is estimated to be €58 billion.

Table 14: Cost and benefits associated with Workplace improvement (€ and €billion) over a period of up to five years

	Without WI	With WI	Benefits (Cost savings)
Costs			
Programme	-	€3bn	-€3bn
Opportunity cost of recipients' time	-	€28bn	-€28bn
Impacts			
Healthcare system	€63bn	€56bn	€8bn
Social welfare system	€39bn	€38bn	€1bn
Economy	€242bn	€229bn	€13bn
Employers	€272bn	€235bn	€36bn
Total	**€617bn**	**€558bn**	**€58bn**
Net benefit			**€28bn**
Net benefit per person			**€ 171**

Note: Any differences in calculation are due to figures being rounded to the nearest €billion.

- The net benefit, calculated as the difference between the total benefits (cost savings) and the cost of delivering the programme including the opportunity cost of recipients' time, is €28 billion.
- The net benefit per person is €171.
- The benefit cost ratio indicates that for every €1 invested the programme generates €11.79 in return, which shows the programme is value for money.
- For each sector (except for the social welfare system), the benefit-cost ratio is greater than 1. This indicates that even if the full cost of the programme was funded by a specific sector, the economic benefits would outweigh the programme costs. For the social welfare system, the programme costs exceed their benefits and therefore funding the programme in isolation would not represent a good use of resources.

Table 15: Net benefits and benefit cost ratios associated with Workplace improvement by sector (€ and €billion) for one year

Sector	Net benefit	Benefit-cost ratio
Healthcare system	€5bn	2.94
Social welfare system	-€1bn	0.47
Economy	€10bn	5.03
Employers	€6bn	3.36
Total	**€28bn**	**11.79**

Note: in the net benefit and benefit-cost ratio calculations, the opportunity cost of recipients' time is included only for Employers and in the Total estimates.

The results for the **Acceptance and commitment therapy (ACT)** programme are as follows:

- The cost of implementing the programme has been estimated as €68 per person.
- The total cost of delivering the programme to 163 million eligible people is estimated as €11 billion, with an opportunity cost of €22 billion for employees attending the programme instead of working.
- The programme was estimated to reduce rates of depression by 80% in the "no symptoms" population of the model.
- The programme was estimated to reduce absenteeism by 259 million days
- The total cost savings associated with a reduction in depression rates is estimated to be €136 billion.

Table 16: Cost and benefits associated with Acceptance and commitment therapy (€ and €billion) for one year

	Without ACT	With ACT	Benefits (Cost savings)
Costs			
Programme	-	€11bn	-€11bn
Opportunity cost of recipients' time	-	€22bn	-€22bn
Impacts			
Healthcare system	€63bn	€46bn	€18bn
Social welfare system	€39bn	€36bn	€3bn
Economy	€242bn	€212bn	€30bn
Employers	€272bn	€186bn	€85bn
Total	€617bn	€480bn	€136bn
Net benefit			**€103bn**
Net benefit per person			**€ 631**

Note: Any differences in calculation are due to figures being rounded to the nearest €billion.

- The net benefit, calculated as the difference between the total benefits (cost savings) and the cost of delivering the programme including the opportunity cost of recipients' time, is €103 billion.
- The net benefit per person is €631.
- The benefit cost ratio indicates that for every €1 invested the programme generates €10.25 in return, which shows the programme is value for money.
- For each sector (except for the social welfare system), the benefit-cost ratio is greater than 1. This indicates that even if the full cost of the programme was funded by a specific sector, the economic benefits would outweigh the programme costs. For the social welfare system, the programme costs exceed their benefits, therefore funding the programme in isolation would not represent a good use of resources

Table 17: Net benefits and benefit cost ratios associated with Acceptance and commitment therapy by sector (€ and €billion) for one year

Sector	Net benefit	Benefit-cost ratio
Healthcare system	€7bn	1.60
Social welfare system	-€8bn	0.26
Economy	€19bn	2.73
Employers	€52bn	5.66
Total	**€103bn**	**10.25**

Note: in the net benefit and benefit-cost ratio calculations, the opportunity cost of recipients' time is included only for Employers and in the Total estimates.

Out of the two programmes, the Acceptance and commitment therapy has the largest effectiveness, estimated at 80% reduction in depression rates for this population group. It is more expensive than workplace improvement, as the group sessions need to be carried out by psychotherapists, whereas with workplace improvement people from within the company are trained to implement the programme. Even though it is more costly, the net benefits generated exceed that of workplace improvement, at €103 billion. However the value for money of Acceptance and commitment therapy is lower than that of the workplace improvement programme at €10.25 compared with €11.79 In addition, the workplace improvement programme would be easier for companies to implement.

For Workplace Improvement, the sector which is estimated to benefit the most from investing in the interventions is the economy, which could generate large returns for every €1 invested. For Acceptance and commitment, the employers are the stakeholders which would benefit the most from investment. However the social welfare system for both programmes does not generate a worthwhile return on investment, with the benefit cost ratio being less than one. As such, shared investment between stakeholders would be beneficial to achieve cost savings.

Targeted programmes

The results for the **Stress management (SM)** programme are as follows:

- The cost of implementing the programme has been estimated as €488 per person.
- The total cost of delivering the programme to 29 million eligible people is estimated as €14 billion, with an opportunity cost of €4 billion for employees attending the programme instead of working.
- The programme was estimated to reduce rates of depression by 45% in the "stress" population of the model.
- The programme was estimated to reduce absenteeism by48 million days.
- The total cost savings associated with a reduction in depression rates is estimated to be €23 billion.

Table 18: Cost and benefits associated with Stress management (€ and €billion) for one year

	Without SM	With SM	Benefits (Cost savings)
Costs			
Programme	-	€14bn	-€14bn
Opportunity cost of recipients' time	-	€4bn	-€4bn
Impacts			
Healthcare system	€63bn	€61bn	€3bn
Social welfare system	€39bn	€39bn	€0bn
Economy	€242bn	€237bn	€5bn
Employers	€272bn	€257bn	€15bn
Total	€617bn	€593bn	€23bn
Net benefit			**€6bn**
Net benefit per person			**€ 202**

Note: Any differences in calculation are due to figures being rounded to the nearest €billion.

- The net benefit, calculated as the difference between the total benefits (cost savings) and the cost of delivering the programme including the opportunity cost of recipients' time, is €6 billion.
- The net benefit per person is €202.
- The benefit cost ratio indicates that for every €1 invested the programme generates €1.41 in return, which shows the programme is value for money.
- For each stakeholder, the benefit-cost ratios at sector level are less than 1, indicating that the programme costs exceed their benefits. Therefore for each of the sectors in isolation, investment in the programme would not represent a good use of resources but instead shared investment amongst the stakeholders would result in a worthwhile return on investment.

Table 19: Net benefits and benefit cost ratios associated with Stress management by sector (€ and €billion) for one year

Sector	Net benefit	Benefit-cost ratio
Healthcare system	-€11bn	0.20
Social welfare system	-€14bn	0.03
Economy	-€9bn	0.37
Employers	-€3bn	0.81
Total	**€6bn**	**1.41**

Note: in the net benefit and benefit-cost ratio calculations, the opportunity cost of recipients' time is included only for Employers and in the Total estimates.

The results for the **Electronic CBT (ECBT)** programme are as follows:

- The cost of implementing the programme has been estimated as €478 per person.
- The total cost of delivering the programme to 29 million eligible people is estimated as €14 billion, with an opportunity cost of €2 billion for employees attending the programme instead of working.
- The programme was estimated to reduce rates of depression by 25% in the "stress" population of the model.
- The programme was estimated to reduce absenteeism by 27 million days.
- The total cost savings associated with a reduction in depression rates is estimated to be €13 billion.

Table 20: Cost and benefits associated with Electronic CBT (€ and €billion) for one year

	Without ECBT	With ECBT	Benefits (Cost savings)
Costs			
Programme	-	€14bn	-€14bn
Opportunity cost of recipients' time	-	€2bn	-€2bn
Impacts			
Healthcare system	€63bn	€62bn	€2bn
Social welfare system	€39bn	€39bn	€0bn
Economy	€242bn	€239bn	€3bn
Employers	€272bn	€263bn	€8bn
Total	€617bn	€603bn	€13bn
Net benefit			**-€3bn**
Net benefit per person			**-€ 90**

Note: Any differences in calculation are due to figures being rounded to the nearest €billion.

- The net benefit, calculated as the difference between the total benefits (cost savings) and the cost of delivering the programme including the opportunity cost of recipients' time, is -€3 billion.
- The net benefit per person is -€90.
- The benefit cost ratio indicates that for every €1 invested the programme generates €0.81 in return which shows the programme does not provide a good return on investment.
- The benefit-cost ratios at sector level are less than 1. This indicates that for the healthcare systems, the social welfare systems and the employers, the programme costs exceed their benefits Moreover, even including all sectors, the program would not represent good use of resources.

Table 21: Net benefits and benefit cost ratios associated with Electronic CBT by sector (€ and €billion) for one year

Sector	Net benefit	Benefit-cost ratio
Healthcare system	-€12bn	0.11
Social welfare system	-€13bn	0.02
Economy	-€11bn	0.21
Employers	-€7bn	0.47
Total	**-€3bn**	**0.81**

Note: in the net benefit and benefit-cost ratio calculations, the opportunity cost of recipients' time is included only for Employers and in the Total estimates.

The population eligible for the targeted programmes are those which have been identified as at risk of suffering from depression. They are a smaller population group at 29 million people, compared to 163 million people for the universal programmes, and require a more intensive intervention. As such the costs of the programmes increase significantly, with SM costing €488 per person and ECBT costing €478 per person. SM is the more effective programme, reducing depression rates by 45%, compared with 25% for ECBT, and generates a positive net benefit. SM represents good value for money compared to ECBT. The benefit-cost ratio of stress management is €1.41 for every €1 invested, compared with €0.81 for ECBT.

No one sector alone would be able to solely support the cost of the SM programme, the cost would have to be shared; otherwise the return on investment for any one sector would be small. For ECBT, it is the same; however a longer term vision would need to be employed by investors to see the full potential of the benefits that could be generated by investment in the programme.

Although the results for ECBT indicate that the net benefit is negative, is important to remember that these estimates are conservative as they only account for one year of benefits. Table 22 shows what happens to the benefit cost ratio for ECBT if effect or cost changes in value. From this it can be seen, that at the current effectiveness of 25% improvement in mental health scores, in order to have positive return on investment, the cost of the intervention with need to be reduced by 50% to €239 per person. This could be achieved by negotiating competitive rates for therapists providing the ECBT. However when looking at a 5 year period, ECBT is estimated to have a benefit cost ratio of 1.56, providing good value for money in the longer term (see Appendix 1.1 for 5 year estimates).

Table 22: Sensitivity analysis for ECBT

Sensitivity analysis of B:C ratio to effect and cost of intervention					
Effect / Cost	€ 119.50	€ 239.00	€ 477.99	€ 597.49	€ 716.99
-6%	0.37	0.19	0.09	0.07	0.06
-13%	1.33	0.67	0.33	0.27	0.22
-25%	3.26	1.63	0.81	0.65	0.54
-32%	4.22	2.11	1.06	0.84	0.70
-38%	5.19	2.59	1.30	1.04	0.86

Treatment programmes

The results for the **Exercise programme (EX)** programme are as follows:

- The cost of implementing the programme has been estimated as €723 per person.
- The total cost of delivering the programme to 15 million eligible people is estimated as €11 billion, with an opportunity cost of €4 billion for employees attending the programme instead of working.
- The programme was estimated to reduce rates of depression by 72% in the "mental health disorder" population of the model.
- The programme was estimated to reduce absenteeism by 286 million days.
- The total cost savings associated with a reduction in depression rates is estimated to be €150 billion.

Table 23: Cost and benefits associated with Exercise programme (€ and €billion) for one year

	Without EX	With EX	Benefits (Cost savings)
Costs			
Programme	-	€11bn	-€11bn
Opportunity cost of recipients' time	-	€4bn	-€4bn
Impacts			
Healthcare system	€63bn	€44bn	€19bn
Social welfare system	€39bn	€36bn	€3bn
Economy	€242bn	€209bn	€33bn
Employers	€272bn	€178bn	€94bn
Total	€617bn	€467bn	€150bn
Net benefit			**€135bn**
Net benefit per person			**€ 9,125**

Note: Any differences in calculation are due to figures being rounded to the nearest €billion.

- The net benefit, calculated as the difference between the total benefits (cost savings) and the cost of delivering the programme including the opportunity cost of recipients' time, is €135 billion.
- The net benefit per person is €9,125.
- The benefit cost ratio indicates that for every €1 invested the programme generates €13.62 in return, which shows the programme is value for money.
- For each sector (except the social welfare system, the benefit-cost ratio is greater than 1. This indicates that even if the full cost of the programme was funded by a specific sector, the economic benefits would outweigh the programme costs..For the social welfare system, the benefit cost ratio is less than one, indicating that funding the programme on its own would not generate a positive return on investment, however if the investment was shared by the other stakeholders, it would represent good value for money.

Table 24: Net benefits and benefit cost ratios associated with Exercise programme by sector (€ and €billion) for one year

Sector	Net benefit	Benefit-cost ratio
Healthcare system	€9bn	1.80
Social welfare system	-€8bn	0.29
Economy	€23bn	3.12
Employers	€79bn	8.42
Total	**€135bn**	**13.62**

Note: in the net benefit and benefit-cost ratio calculations, the opportunity cost of recipients' time is included only for Employers and in the Total estimates.

The results for the **Problem solving therapy (PST)** programme are as follows:

- The cost of implementing the programme has been estimated as €1,205 per person.
- The total cost of delivering the programme to 15 million eligible people is estimated as €18 billion, with an opportunity cost of €2 billion for employees attending the programme instead of working.
- The programme was estimated to reduce rates of depression by 43% in the "mental health disorder" population of the model.
- The programme was estimated to reduced absenteeism reduced by 171 million days
- The total cost savings associated with a reduction in depression rates is estimated to be €89 billion.

Table 25: Cost and benefits associated with Problem solving therapy (€ and €billion) one year

	Without PST	With PST	Benefits (Cost savings)
Costs			
Programme	-	€18bn	-€18bn
Opportunity costs of recipients' time	-	€2bn	-€2bn
Impacts			
Healthcare system	€63bn	€52bn	€11bn
Social welfare system	€39bn	€37bn	€2bn
Economy	€242bn	€222bn	€20bn
Employers	€272bn	€215bn	€56bn
Total	€617bn	€527bn	€89bn
Net benefit			**€70bn**
Net benefit per person			**€ 4,708**

Note: Any differences in calculation are due to figures being rounded to the nearest €billion.

- The net benefit, calculated as the difference between the total benefits (cost savings) and the cost of delivering the programme including the opportunity cost of recipients' time, is €70 billion.
- The net benefit per person is €4,708.

- The benefit cost ratio indicates that for every €1 invested the programme generates €4.91 in return, which shows the programme is value for money.
- At sector level, except for healthcare and social welfare system, the benefit-cost ratios are lower than 1. This indicates that if the full cost of the programme was funded by a specific sector, the programme would only represent value for money for the employers and the economy.

Table 26: Net benefits and benefit cost ratios associated with Problem solving therapy by sector (€ and €billion) for one year

Sector	Net benefit	Benefit-cost ratio
Healthcare system	-€6bn	0.64
Social welfare system	-€16bn	0.10
Economy	€2bn	1.12
Employers	€36bn	3.04
Total	**€70bn**	**4.91**

Note: in the net benefit and benefit-cost ratio calculations, the opportunity cost of recipients' time is included only for Employers and in the Total estimates.

The eligible population in the EU-27 for the treatment programmes equates to around 15 million people. However it is this population which incur a significantly larger proportion of costs to each sector compared with those eligible for targeted and universal programmes. Therefore the benefits associated with a reduction in depression rates are estimated to be quite large. Out of the two programmes, the exercise programme has been estimated to reduce depression rates by 72% compared with 43% for problem solving therapy and results in a net benefit which is over €65 billion larger. The benefit-cost ratio for the exercise program is more than double that of problem solving therapy and could be a more generalisable programme to implement within companies as larger companies tend to have either their own exercise facilities or have corporate links with gyms.

For both programmes, there are incentives for employers and the economy to individually bear the total cost of the intervention, as all the benefit-cost ratios are greater than 1.

Summary of results and sensitivity analysis

In total six programmes were modelled to estimate the potential contribution of mainstreamed actions. Table 27 summarises the effects, costs and return on investment metrics for each programme. The results show that the net economic benefits generated by these programme range between €0.81 to €13.62 for every €1 of expenditure in the programme. These values fall within those estimated by other authors for similar types of programmes (Knapp et al 2011). In absolute terms the net economic benefits (reduced costs and lost output) generated by these programmes range from -€3 billion to €135 billion.

To test the sensitivity of the results to variation in the cost and effect of the programmes, we run sensitivity analysis around these two parameters. The results (presented in Section 8.3 of Appendix 2) show that the conclusion of the analysis – i.e. that all programmes except ECBT

represent a good investment from an economic point of view – generally remains, even when the cost of the programmes is increased and the effect of the programmes is reduced. For ECBT, if the cost of the intervention is reduced, with the same effectiveness the programme is cost effective. However it may be more appropriate to adopt a longer term view when considering this programme for investment. The results of the sensitivity analysis can also be used as an indication of the minimum effect a programme must generate for a given cost (or the maximum cost a programme can bear for a given effect) for it to be worth investing.

Table 27: Summary of benefits and costs of mainstreamed programmes by sector (€ and €billion) for a one year period

	Without programme	Universal		Targeted		Treatment	
		Workplace Improvement (WI)	Acceptance & commitment therapy (ACT)	Stress Management (SM)	Email CBT (ECBT)	Exercise (Ex)	CBT
Effects							
Effect on depression rate	-	-34%	-80%	-45%	-25%	-72%	-43%
Programme costs							
Cost of programme per person	-	€ 15.8	€ 68.2	€ 487.8	€ 478.0	€ 722.8	€ 1,204.9
Cost of programme	-	€3bn	€11bn	€14bn	€14bn	€11bn	€18bn
Opportunity cost of recipients' time	-	€28bn	€22bn	€4bn	€2bn	€4bn	€2bn
Costs by sector							
Healthcare system	€63bn	€56bn	€46bn	€61bn	€62bn	€44bn	€52bn
Social welfare system	€39bn	€38bn	€36bn	€39bn	€39bn	€36bn	€37bn
Economy	€242bn	€229bn	€212bn	€237bn	€239bn	€209bn	€222bn
Employers	€272bn	€235bn	€186bn	€257bn	€263bn	€178bn	€215bn
Total costs	**€617bn**	**€558bn**	**€480bn**	**€593bn**	**€603bn**	**€467bn**	**€527bn**
Benefits							
Net benefit	**-**	**€28bn**	**€103bn**	**€6bn**	**-€3bn**	**€135bn**	**€70bn**
Net benefit per person	**-**	**€ 171**	**€ 631**	**€ 202**	**-€ 90**	**€ 9,125**	**€ 4,708**
Benefit-cost ratio by sector							
Healthcare system	-	€ 2.94	€ 1.60	€ 0.20	€ 0.11	€ 1.80	€ 0.64
Social welfare system	-	€ 0.47	€ 0.26	€ 0.03	€ 0.02	€ 0.29	€ 0.10
Economy	-	€ 5.03	€ 2.73	€ 0.37	€ 0.21	€ 3.12	€ 1.12
Employers	-	€ 3.36	€ 5.66	€ 0.81	€ 0.47	€ 8.42	€ 3.04
Overall benefit-cost ratio	**-**	**€ 11.79**	**€ 10.25**	**€ 1.41**	**€ 0.81**	**€ 13.62**	**€ 4.91**

5.0 Conclusions and recommendations for future research

The objective of this study was to provide an economic analysis of mental health promotion and mental disorder prevention programmes at workplaces. Specifically, the study included a review of the existing scientific literature, case studies with Member States and workplaces, and an economic model. In combination, these methods were designed to provide answers to five specific research questions in relation to: trends in public and workforce mental health and illness in the EU27; the economic impact of mental health disorders, the economic return on investment of mental health promotion and mental disorder programmes; the role of the health and social welfare systems; and the contribution of mainstreamed workplace mental health programmes.

The results from the study suggest that:

- Workplace mental disorders today account for a significant share of the health problems affecting workers and generating substantial economic costs. Projections show that under current treatment and care arrangement these costs will continue to grow at a significant pace.
- National measures put in place to combat the impact of mental health disorders in the labour market do not fall under one specific public department; rather they are a collaborative effort between government departments, agencies and social welfare providers addressing mental health issues and working together with employers and trade unions.
- Companies who are currently employing mental health promotion and prevention programmes have found that the impacts on improving productivity and absenteeism have been positive and significant. The improvements in both of these indicators have led to cost savings for these companies and employee feedback has been positive and encouraging.
- The total costs of work-related depression in the EU27 are estimated to be nearly €620 billion over a one year period. The major impact is suffered by employers in terms of absenteeism and presenteeism (€270 billion), followed by the economy due to lost output (€240 billion), , the healthcare systems due to treatment costs (€60 billion), and the social welfare systems due to disability benefit payments (€40 billion).
- As with any economic model our estimates are for a certain scope and conditional to numerous assumptions. They should therefore be treated as indicative of the large size of the problem, more than as an actual fact.
- Workplace mental health promotion and mental disorder programmes may be categorised into three groups by the type of population the programmes are aimed at: universal, targeted and treatment programmes. These programmes adopt a range of approaches including Cognitive Behavioral Therapy (CBT) other psychotherapeutic approaches, stress management, problem-solving, workplace improvement, employment training, and exercise-based.
- Improved mental health scores and improved employment outcomes may be generated as a result of the programmes. However, the range of programmes studied means that no consistently positive evidence was found to support any one particular type of

programme. Therefore, caution should be exercised when making investment decisions on individual programmes.

- For a selected number of programmes showing positive effects in depression rates among their targeted population, we estimated their potential contribution to reducing pressures on healthcare systems, social welfare systems, employers, and the economy as a whole. Our results suggest that the net economic benefits generated by these programmes can range between €0.81 to €13.62 for every €1 of expenditure in the programme. These values fall within those estimated by other authors for similar types of programmes (Knapp et al 2011). The net economic benefits (reduced costs and lost output) generated by these programmes range from -€3 billion to €135 billion.

Drawing from this research, the choice of which intervention to implement would need to be decided based on the specific objectives of the different stakeholders, taking into account whether the programmes are value for money to the society as a whole and the budgetary implications for each of the stakeholders. From the perspective of employers, some of the interventions do not generate sufficient benefits to outweigh the costs. Therefore, in case of encouraging companies to implement workplace mental health promotion and mental disorder prevention programmes, mechanisms for shared funding may need to be implemented.

The ageing EU population will have a significant impact on the available workers in the labour market. This means that the economic case for the protection of the mental health of the workforce will become even stronger, for the economy as a whole but also for employers.

It should also be mentioned that these programmes are likely to be contextually dependent – not only on a positive engagement between employers and employees – but also in terms of the wider societal view of mental health. These contextual factors mean that the effectiveness of the programmes derived from the academic literature may not be replicated when programmes are implemented as mainstreamed EU initiatives. Our sensitivity analysis, however, provides some comfort in that the conclusion of the analysis – i.e. that these programmes represent a good investment from an economic point of view – generally remains, even when the effect of the programmes is reduced by 50%-75%.

Despite the growing body of evidence in this area, some major data gaps remain. The lack of data means that the findings from this study are subject to limitations on a number of areas:

- **Programmes covered**. Due to a lack of effective programmes for people with depression who are outside employment, we were unable to estimate the costs and benefits of actions aimed at this population group. It is an area of interest and one where large benefits could be generated. Reducing the rate of depression and getting people back into the labour market could produce significant cost savings for all four sectors (the health system, social welfare system, economy and employers) through reduced healthcare costs and disability benefits as well as increased productivity.
- **Mental health conditions covered**. Depression is only one, although probably the most prevalent, of the mental health disorders. Shortages of data meant that the

analysis could only be carried out for depression thus ignoring the economic impacts of other mental health disorders in the workplace.

- **Reliability of results**. Our estimates rely on several assumptions for example in relation to the prevalence of depression in different risk groups, the epidemiology of the disease, and the duration of its impacts on productivity.

Future research efforts should try to fill in some of these gaps, in particular the employment dynamics of people with mental health disorders and the effect of programmes targeting individuals outside employment.

6.0 References

Prevalence, trends and impact

Brouwers EP, Terluin B, Tiemens BG, Verhaak PF. Predicting return to work in employees sick-listed due to minor mental disorders. J Occup Rehabil. 2009 Dec;19(4):323-32.

Cornelius LR, van der Klink JJ, Groothoff JW, Brouwer S. Prognostic factors of long term disability due to mental disorders: A systematic review. J Occup Rehabil. 2011 Jun;21(2):259-74. doi: 10.1007/s10926-010-9261-5.

De Lange AH, Taris TW, Kompier MAJ, Houtman ILD, & Bongers PM. The relationships between work characteristics and mental health: examining normal, reversed and reciprocal relationships in a 4-wave study. Work & Stress, 2004 Apr-Jun; 18 (2): 149-66.

European Foundation for the Improvement of Living and Working Conditions, 2007. *Work-related stress.* Available at www.eurofound.europa.eu, last accessed 21 May 2012.

European Agency for Safety and Health at Work, 2009. *Stress at work – facts and figures*. Available at: http://osha.europa.eu/en/publications/reports/TE-81-08-478-EN-C_OSH_in_figures_stress_at_work , last accessed 21 May 2012.

European Commission Directorate General for Health and Consumers, 2008. *Mental health in the EU – key facts, figures and activities. A background paper. Available at: http://ec.europa.eu/health/archive/ph_determinants/life_style/mental/docs/background_paper_en.pdf ,* last accessed 21 May 2012.

European Commission Directorate General for Health and Consumers, 2010. Eurobarometer 73.2 Mental health. *Available at:*

http://ec.europa.eu/health/mental_health/docs/ebs_345_en.pdf. Last accessed 26 November 2012

Eurostat 2011. *Europe in figures. Chapter 3 Health*. Available at http://epp.eurostat.ec.europa.eu/cache/ITY_OFFPUB/CH_03_2011/EN/CH_03_2011-EN.PDF, last accessed 21 May 2012.

Gjesdal S, Ringdal PR, Haug K, Maeland JG. Long-term sickness absence and disability pension with psychiatric diagnoses: a population-based cohort study. Nord J Psychiatry. 2008;62(4):294-301.

Gustavsson A, Svensson M, Jacobi F, Allgulander C, Alonso J, Beghi E, EDodel R, Ekman M, Faravelli C, Fratiglioni L, Gannon B, Hilton Jones D, Jennum P, Jordanova A, Jönsson L, Karampampa K, Knapp M, Kobelt G, Kurth T, Lieb R, Linde M, Ljungcrantz C, Maercker A, Melin B, Moscarelli M, Musayev A, Norwood F, Preisig M, Pugliatti M, Rehm J, Salvador-Carulla L, Schlehofer B, Simon R, Steinhausen H.C, Jacob Stovner L, Vallat J.M, Van den Bergh P, van Os J, Vos P, Xu W, Wittchen H.U, Jönsson B, Olesen J. Costs of disorders of the brain in Europe 2010. European Neuropsychopharmacology 2011 Aug 21, 718–779

Hussey L, Turner S, Thorley K, McNamee R, Agius R. Work-related sickness absence as reported by UK general practitioners. Occup Med (Lond). 2012 Mar;62(2):105-11. Epub 2012 Jan 10.

Koopmans PC, Roelen CA, Bültmann U, Hoedeman R, van der Klink JJ, Groothoff JW.. Gender and age differences in the recurrence of sickness absence due to common mental disorders: a longitudinal study. BMC Public Health. 2010 Jul 20;10:426.

Lagerveld SE, Bültmann U, Franche RL, van Dijk FJ, Vlasveld MC, van der Feltz-Cornelis CM Factors associated with work participation and work functioning in depressed workers: A systematic review. J Occup Rehabil. 2010 Sep;20(3):275-92.

Lerner D, Henke RM. What does research tell us about depression, job performance, and work productivity? J Occup Environ Med. 2008 Apr;50(4):401-10.

McCrone P., Dhanasiri S., Patel A., Knapp M., Lawton-Smith S. 2008 Paying the price. The cost of mental health care in England to 2026. King's fund. Available at: http://www.kingsfund.org.uk/publications/paying_the_price.html, last accessed 21 May 2012.

McDaid D. 2008 Mental health in workplace settings. Available at:

http://ec.europa.eu/health/ph_determinants/life_style/mental/docs/consensus_workplace_en.pdf , last accessed 17 May 2013

McIntyre RS, Liauw S, Taylor VH. Depression in the workforce: The intermediary effect of medical comorbidity. J Affect Disord. 2011 Jan;128 Suppl 1:S29-36.

Mental Health Foundation, 2007. The fundamental facts. Available at: http://www.mentalhealth.org.uk/content/assets/PDF/publications/fundamental_facts_2007.pdf?view=Standard, last accessed 21 May 2012.

Mladovsky P., Allin S., Masseria C., Hernadnez-Quevedo C., McDaid D., Mossialos E., 2009 . Health in the European Union. European Observatory on Health Systems and Policies, Observatory Studies Series No. 19. Available at: **ec**.europa.**eu**/social/BlobServlet?docId=4742&langId=en, last accessed 21 May 2012.

Norlund S, Reuterwall C, Höög J, Lindahl B, Janlert U, Birgander LS. Burnout, working conditions and gender--results from the northern Sweden MONICA Study. BMC Public Health. 2010 Jun 9;10:326.

OECD 2008. Mental health in OECD countries. Available at: http://www.oecd.org/dataoecd/6/48/41686440.pdf, last accessed 21 May 2012.

OECD 2009. Sickness, disability and work. Keeping on track in the economic downturn. Available at: http://www.oecd.org/dataoecd/42/15/42699911.pdf, last accessed 21 May 2012.

OECD 2011 Sick on the job? Myths and realities about mental health and work. Available at: http://www.oecd.org/dataoecd/18/1/49227343.pdf, last accessed 21 May 2012.

Office for National Statistics, 2012. Sickness absence in the labour market – 2012. Available at: http://www.ons.gov.uk/ons/rel/lmac/sickness-absence-in-the-labour-market/2012/rpt-sickness-absence-in-the-labour-market---2012.html , last accessed 21 May 2012.

Rai D, Skapinakis P, Wiles N, Lewis G, Araya R. Common mental disorders, subthreshold symptoms and disability: longitudinal study. Br J Psychiatry. 2010 Nov;197(5):411-2.

Rice NE, Lang IA, Henley W, Melzer D Common health predictors of early retirement: findings from the English Longitudinal Study of Ageing. Age Ageing. 2011 Jan;40(1):54-61.

Richmond Foundation, 2011. *Impact assessment of mental health on employment for policy development.* Available at http://www.richmond.org.mt/documents, last accessed 21 May 2012.

Roelen CA, Koopmans PC, Hoedeman R, Bültmann U, Groothoff JW, van der Klink JJ. Trends in the incidence of sickness absence due to common mental disorders between 2001 and 2007 in the Netherlands. Eur J Public Health. 2009 Dec;19(6):625-30. Epub 2009 Jul 6.

Rugulies R, Bültmann U, Aust B, Burr H. Psychosocial work environment and incidence of severe depressive symptoms: prospective findings from a 5-year follow-up of the Danish work environment cohort study. American Journal of Epidemiology, 2006 May 15; Vol. 163 (10), pp. 877-87.

Søgaard HJ, Bech P. Psychiatric disorders in long-term sickness absence -- a population-based cross-sectional study. Scand J Public Health. 2009 Sep;37(7):682-9. Epub 2009 Aug 21.

Stansfeld SA, Rasul FR, Head J, Singleton N. Occupation and mental health in a national UK survey. Soc Psychiatry Psychiatr Epidemiol. 2011 Feb;46(2):101-10. Epub 2009 Dec 24.

Vahtera J, Westerlund H, Ferrie JE, Head J, Melchior M, Singh-Manoux A, Zins M, Goldberg M, Alexanderson K, Kivimäki M. All-cause and diagnosis-specific sickness absence as a predictor of sustained suboptimal health: A 14-year follow-up in the GAZEL cohort. J Epidemiol Community Health. 2010 Apr;64(4):311-7. Epub 2009 Aug 13.

Veronese A, Ayuso-Mateos JL, Cabello M, Chatterji S, Nuevo R. Work disability and depressive disorders: impact on the European population. American Journal Of Physical Medicine & Rehabilitation / Association Of Academic Physiatrists, 2012 Feb; Vol. 91 (13 Suppl 1), pp. S62-8.

WHO 2005. Mental health policies and programmes in the workplace. Available at: http://www.who.int/mental_health/policy/services/essentialpackage1v13/en/index.html, last accessed 21 May 2012.

WHO 2011. Mental Health Atlas 2011. Available at: http://whqlibdoc.who.int/publications/2011/9799241564359_eng.pdf, last accessed 21 May 2012.

WHO, 2003. Investing in mental health. Available at: http://www.who.int/mental_health/en/investing_in_mnh_final.pdf, last accessed 21 May 2012.

Wittchen HU, Jacobi F, Rehm J, Gustavsson A, Svensson M, Jönsson B, The size and burden of mental disorders and other disorders of the brain in Europe 2010. Eur Neuropsychopharmacol. 2011 Sep;21(9):655-79.

Wynne-Jones G, Mallen CD, Mottram S, Main CJ, Dunn KM. Identification of UK sickness certification rates, standardised for age and sex. Br J Gen Pract. 2009 Jul;59(564):510-6.

Effectiveness and cost-effectiveness of interventions

Abbott JA, Klein B, Hamilton C, Rosenthal AJ. The impact of online resilience training for sales managers on wellbeing and performance. Electronic Journal of Applied Psychology: General Articles. 5(1): 89-95 (2009)

Aust B, Rugulies R, Finken A, Jensen C. When workplace interventions lead to negative effects: learning from failures. Scand J Public Health. 2010 Feb;38(3 Suppl):106-19.

Bakker IM, Terluin B, van Marwijk HW, van der Windt DA, Rijmen F, van Mechelen W, Stalman WA. A cluster-randomised trial evaluating an intervention for patients with stress-related mental disorders and sick leave in primary care. PLoS Clin Trials. 2007 Jun 1;2(6):e26.

Blonk, R; Brenninkmeijer, V; Lagerveld, S; Houtman, I. Return to work: A comparison of two cognitive behavioural interventions in cases of work-related psychological complaints among the self-employed. Work & Stress, Volume 20, Number 2, April-June 2006 , pp. 129-144(16)

Bond FW, Bunce D. Mediators of change in emotion-focused and problem-focused worksite stress management interventions. J Occup Health Psychol. 2000 Jan;5(1):156-63.

Brouwers EP, de Bruijne MC, Terluin B, Tiemens BG, Verhaak PF. Cost-effectiveness of an activating intervention by social workers for patients with minor mental disorders on sick leave: a randomized controlled trial. Eur J Public Health. 2007 Apr;17(2):214-20. Epub 2006 Jul 12. (2006b)

Brouwers EP, Tiemens BG, Terluin B, Verhaak PF. Effectiveness of an intervention to reduce sickness absence in patients with emotional distress or minor mental disorders: a randomized controlled effectiveness trial. Gen Hosp Psychiatry. 2006 May-Jun;28(3):223-9.(2006a)

Burns T, Catty J; EQOLISE Group. IPS in Europe: The EQOLISE trial. Psychiatr Rehabil J. 2008 Spring;31(4):313-7.

de Zeeuw ELEJ, Tak ECPM, Dusseldorp E, Hendriksen IJM. Workplace exercise intervention to prevent depression: A pilot randomized controlled trial. Mental Health and Physical Activity Volume 3, Issue 2, December 2010, Pages 72–77

Duijts SF, Kant I, van den Brandt PA, Swaen GM. Effectiveness of a preventive coaching intervention for employees at risk for sickness absence due to psychosocial health complaints: Results of a randomized controlled trial. J Occup Environ Med. 2008 Jul;50(7):765-76.

Edwards D, Burnard P. A systematic review of stress and stress management interventions for mental health nurses. J Adv Nurs. 2003 Apr;42(2):169-200.

Glover G., Webb M., Evison F. (2010). Improving access to psychological therapies: A review of the progress made by sites in the first roll-out year. North East Public Health Observatory.

Gold PB, Meisler N, Santos AB, Carnemolla MA, Williams OH, Keleher J. Randomized trial of supported employment integrated with assertive community treatment for rural adults with severe mental illness. Schizophr Bull. 2006 Apr;32(2):378-95. Epub 2005 Sep 21.

Knapp M, McDaid D, Parsonage, (2011). Mental health promotion and mental illness prevention: The economic case. Centre for Mental Health, LSE PSSRU.

Knekt P, Lindfors O, Laaksonen MA, Raitasalo R, Haaramo P, Järvikoski A; Helsinki Psychotherapy Study Group. Effectiveness of short-term and long-term psychotherapy on work ability and functional capacity--A randomized clinical trial on depressive and anxiety disorders. J Affect Disord. 2008 Apr;107(1-3):95-106. Epub 2007 Sep 5.

Lexis MA, Jansen NW, Huibers MJ, van Amelsvoort LG, Berkouwer A, Tjin A Ton G, van den Brandt PA, Kant I. Prevention of long-term sickness absence and major depression in high-risk employees: a randomised controlled trial. Occup Environ Med. 2011 Jun;68(6):400-7. Epub 2010 Oct 5.

Limm H, Gündel H, Heinmüller M, Marten-Mittag B, Nater UM, Siegrist J, Angerer P. Stress management interventions in the workplace improve stress reactivity: a randomised controlled trial. Occup Environ Med. 2011 Feb;68(2):126-33. Epub 2010 Sep 10.

Martin A, Sanderson K, Cocker F. Meta-analysis of the effects of health promotion intervention in the workplace on depression and anxiety symptoms. Scand J Work Environ Health. 2009 Jan;35(1):7-18. Epub 2008 Dec 9.

Mino Y, Babazono A, Tsuda T, Yasuda N. Can stress management at the workplace prevent depression? A randomized controlled trial. Psychother Psychosom. 2006;75(3):177-82.

Morgenstern J, Neighbors CJ, Kuerbis A, Riordan A, Blanchard KA, McVeigh KH, Morgan TJ, McCrady B. Improving 24-month abstinence and employment outcomes for substance-dependent women receiving temporary assistance for needy families with intensive case management. Am J Public Health. 2009 Feb;99(2):328-33. Epub 2008 Dec 4.

Penk W, Drebing CE, Rosenheck RA, Krebs C, Van Ormer A, Mueller L. Veterans Health Administration Transitional work experience vs. job placement in veterans with co-morbid substance use and non-psychotic psychiatric disorders. Psychiatr Rehabil J. 2010 Spring;33(4):297-307.

Rebergen DS, Bruinvels DJ, Bezemer PD, van der Beek AJ, van Mechelen W. Guideline-based care of common mental disorders by occupational physicians (CO-OP study): a randomized controlled trial. J Occup Environ Med. 2009 Mar;51(3):305-12.(2009a)

Rebergen DS, Bruinvels DJ, van Tulder MW, van der Beek AJ, van Mechelen W. Cost-effectiveness of guideline-based care for workers with mental health problems. J Occup Environ Med. 2009 Mar;51(3):313-22. (2009b)

Ruwaard J, Lange A, Bouwman M, Broeksteeg J, Schrieken B. E-mailed standardized cognitive behavioural treatment of work-related stress: A randomized controlled trial. Cogn Behav Ther. 2007;36(3):179-92.

Schene AH, Koeter MW, Kikkert MJ, Swinkels JA, McCrone P. Adjuvant occupational therapy for work-related major depression works: Randomized trial including economic evaluation. Psychol Med. 2007 Mar;37(3):351-62. Epub 2006 Nov 20.

Stenlund T, Ahlgren C, Lindahl B, Burell G, Steinholtz K, Edlund C, Nilsson L, Knutsson A, Birgander LS. Cognitively oriented behavioral rehabilitation in combination with Qigong for patients on long-term sick leave because of burnout: REST - A randomized clinical trial. Int J Behav Med. 2009;16(3):294-303. Epub 2009 Jan 16.

Tsutsumi A, Nagami M, Yoshikawa T, Kawakami N. Participatory intervention for workplace improvements on mental health and job performance among blue-collar workers: A cluster randomized controlled study. Journal Of Occupational And Environmental Medicine / American College Of Occupational And Environmental Medicine, 2009 May; Vol. 51 (5), pp. 554-63.

Uegaki K, Bakker I, de Bruijne M, van der Beerk, A, Terluin B, van Marwijk, Heymans M, Stalman W, van Machelen. Cost-effectiveness of a minimal intervention for stress-related sick leave in general practice: Results on a economic evaluation alongside a pragmatic randomised control trial. Journal of Affective Disorders 120 (2010) 177-187y

van Oostrom SH, Heymans MW, de Vet HC, van Tulder MW, van Mechelen W, Anema JR. Economic evaluation of a workplace intervention for sick-listed employees with distress. Occup Environ Med. 2010 Sep;67(9):603-10.

Vuori J, Toppinen-Tanner S, Mutanen P. Effects of resource-building group intervention on career management and mental health in work organizations: Randomized controlled field trial. J Appl Psychol. 2012 Mar;97(2):273-86. Epub 2011 Sep 26.

Model parameters

Artazcoz L, Benach J, Borrell C, Cortès I, Unemployment and mental health: Understanding the interactions among gender, family roles and social class. American Journal of Public Health. 2004 Jan; 94(1):357-76.

Andlin-Sobocki, P, Jönsson, B, Wittchen, HU, Olesen, J, Cost of disorders of the brain in Europe, European Journal of Neurology 2005 12(S1):1-27

Directgov 2012. Employment and Support Allowance – rates. Available at: http://www.direct.gov.uk/en/MoneyTaxAndBenefits/BenefitsTaxCreditsAndOtherSupport/Illorinjured/DG_171896, last accessed: 10 October 2012

Department for work and pensions, 2011. Health at work – an independent review of sickness absence. Available at: http://www.dwp.gov.uk/docs/health-at-work.pdf

Eurofound 2011. Working Time Developments 2010. Available at: http://www.eurofound.europa.eu/eiro/studies/tn1106010s/tn1106010s.htm, last accessed 10 October 2012

Health and Safety Executive 2012. Working Days Lost. Available at: http://www.hse.gov.uk/statistics/dayslost.htm, last accessed 10 October 2012

Knapp, Martin and McDaid, David and Parsonage, Michael, Mental health promotion and mental illness prevention: the economic case. 15972. 2011 Department of Health, London, UK.

NHS Choices 2007. Stress at work is a risk factor for depression. Available at: http://www.nhs.uk/news/2007/August/Pages/Stressatworkisariskfactorfordepression.aspx, last accessed 10 October 2012

Wittchen HU, Jacobi F, Size and burden of mental disorders – a critical review and appraisal of 27 studies. Eur Neuropsychopharmacol. 2005 Aug;15(4):82-88.

The Government Office for Science 2008, Foresight Mental Capital and Wellbeing Report: Final Project Report. Available at: http://www.bis.gov.uk/assets/biscore/corporate/migratedD/ec_group/113-08-FO_b, last accessed: 10 October 2012

7.0 Appendix 1: Methodology

7.1 Literature reviews

Search strategy

We conducted a comprehensive search using the following electronic databases:

- **CINAHL:** includes relevant studies from the fields of nursing and allied health.
- **EconLit**: hosts economic research in all fields of economics, including capital markets, country studies, econometrics, economic forecasting, government regulations, labour economics and urban economics.
- **MEDLINE**: includes medical information on medicine, nursing, the health care system and pre-clinical sciences.
- **PsycINFO**: includes relevant studies in behavioural science and mental health and contains information on the psychological aspects of related fields such as medicine, psychiatry, nursing, sociology, education and business.

We ran two separate searches, the first to identify studies on **prevalence, incidence and trends in mental health disorders** using the following search strategy:

[Terms for mental health]: mental health OR depression OR anxiety OR mental disorder* OR severe mental illness.
AND
[Terms for outcomes]: sickness rates OR work disabilit* OR early retirement OR employ* OR work* OR costs OR diagnos*
AND
[Terms for trends]: trends

Limits: 2000+ AND adults

The second search, to identify studies on the **effectiveness of interventions delivered in or outside** the workplace, used the following search strategy:

[Terms for setting]: work* OR occupation* OR labour OR employ* OR organisation* OR industr*
AND
[Terms for mental health]: mental health OR depression OR anxiety OR mental disorder* OR severe mental illness.
AND
[Terms for interventions]: intervention OR prevention OR psychosocial OR treatment
AND
[Terms for outcomes]: productivity OR staff retention OR costs OR benefits OR presenteeism OR absenteeism OR stress OR health

Limits: 2000+ AND adults

We also searched other sources for relevant data to identify relevant government reports that may not be published in academic journals. The following websites were searched:

- EUROFOUND (http://www.eurofound.europa.eu)
- European agency for safety and health at work (http://osha.europa.eu)
- EUROSTAT (http://epp.eurostat.ec.europa.eu)
- Mental Health Foundation (http://www.mentalhealth.org.uk)
- OECD (http://www.oecd.org)
- Office for National Statistics (http://www.ons.gov.uk)
- The European Commission (http://ec.europa.eu)
- The King's Fund (http://www.kingsfund.org.uk)
- WHO (http://www.who.int)
- Working for wellness (http://www.workingforwellness.org.uk)

Screening

We included studies that provided any data on the following outcomes:

- Prevalence of trends in the diagnoses of mental disorders.
- Sickness rates, number of work disabilities, early retirement.
- Work related and other determinants influencing mental health at the workplace.
- Costs that mental disorders cause for health systems.
- Costs that mental disorders cause for social welfare systems.
- Impact of mental disorders on the employability of workers, work disability and labour markets.
- Impact of mental disorders on the productivity and the economy.

Selection of best evidence

Studies were selected to address the research questions, and prioritised according to the following criteria:

Prevalence, trends and impact of mental health problems in the workplace:

- The study is focused on the workforce (compared with a community-based study).
- The study looks at prevalence, trends or impact across the EU (compared with national or sub-national).
- The study assesses the wider workforce, not just one occupational group.
- The paper is retrievable.

Effectiveness and cost-effectiveness of interventions:

- The study is a comparative study or systematic review of comparative studies.
- The study assesses an intervention aimed at the workforce.

- The study assesses an intervention aimed at people with, or at particular risk of, mental health problems.
- The study did not include people with co-morbid physical problems (this was outside the scope of the review).
- The study assessed a psychosocial intervention (with or without pharmacological treatment).
- The study reported outcomes relevant to mental health or employment.
- The paper is retrievable.

In each case, studies that met all the criteria were included.

Data extraction

Relevant data from the studies on the effectiveness of interventions were extracted from each study into an agreed evidence table template that included the study methods, and brief details of the setting, population, and outcomes of the study.

Quality assessment

All studies on the effectiveness of interventions were assessed for their quality using four domains. Studies were scored high, mid or low for: (i) their reporting transparency (how clearly and thoroughly the methodology and data was reported), (ii) the appropriateness of the study design to answer the stated aims of the study, (iii) the quality of execution of the study by the researchers, and (iv) the relevance of the study for the research questions of our review. Each study was then given an overall quality score that was equal to the lowest score for any one of the four domains. Studies that scored high for all four domains were said to be high quality [++]. Those that scored high or mid for all domains were said to be mid quality overall [+]. Studies with one or more low scores were said to be low quality [-].

Data synthesis

Data was synthesised narratively to provide an overview on the trends and causes related to mental health problems and workforce outcomes; and the impact of health and illness on costs.

7.2 Case studies

Selection of member state case studies

The main criteria for the selection of the Member State case studies were as follows:

- Availability and quality of evidence on examples of good practice at national level.
- A geographical balance across the EU27.
- A number of indicators, which are summarised in Table A1.1.

Table A1.1: Potential criteria for selecting member state case studies

Criteria	Description	Year	Unit	Source
Prevalence	Percentage of EU 27 respondents from each country "seeking help" for a psychological or emotional problem in the last 12 months	2010	Percentage	Special EU barometer 345 "Mental Health"
Percentage GDP spent on Healthcare	Total expenditure on health as a percentage of gross domestic product	2009	Percentage	WHO Data repository
Perception of MH Problems	Percentage of EU 27 respondents from each country that "would find it difficult talking to someone with significant mental health problems"	2010	Percentage	Special EU barometer 345 "Mental Health"
Government Funding provided explicitly for WHP or OHS	Does the government provide any funding for Workplace Health Promotion (WHP) or for Occupational Health and Safety (OHS)?	2011	Two-part (coded) Yes/No WHP(OHS)	Background Document for EU Thematic Conference "Promotion of Mental Health and Well-being in workplaces"
National Policy on WHP	Is there a national Policy on WHP and does it include Mental Health?	2011	Yes/No (Coded)	Background Document for EU Thematic Conference "Promotion of Mental Health and Well-being in workplaces"
State of Workplace well-being policy	Describes the developmental state in which a formal policy for employee mental health is in	2010	National & Company Level, National Only, Emergence, Slow-Emergence, Limited-Emergence, Not on Agenda	European Foundation for the Improvement of Living and Working Conditions

Data were gathered based on the criteria outlined in the above table. Member States were selected if they had:

- A national policy on workplace mental health promotion
- A workplace wellbeing policy on their agenda

Remaining Member States were then sorted from lowest to highest value for three indicators presented in Table A1.2 and then categorised into low, medium and high values for these criteria.[16] Table A1.2 also presents the range of values for those criteria.

Table A1.2: Range of values for selected criteria

Criteria	Minimum value	Maximum value
Prevalence of mental health disorders	9%	35%
Percentage of GDP spent on healthcare	5%	11%
Perception of people with mental health disorders	14%	52%

The final choice of Member States was based on the requirement of one member state being from the EU12, and the remaining three members states being geographically representative of the EU.

Selection of workplace case studies

The main criteria for the selection of the workplace case studies were as follows:

- One public employer and one small and medium enterprise (SME).
- One of each of three interventions types: universal, targeted, and treatment.
- Where possible, programmes that are still running.

Research was conducted into companies with good practice workplace mental health policies using the European Network for Workplace Health Promotion (ENWHP). Companies listed in the ENWHP as models of good practice were included for further review and were sorted based on the criteria outlined above.

[16] The values of each criterion were sorted from low to high value and then the quartiles (Q) were calculated. Low = MS falling in Q1 Medium = Q2 to Q3 High = Q4

Questionnaire for Member State case study

Thank you for agreeing to this interview.

Matrix Knowledge Group Ltd, a European Public Policy Consultancy based in London, has been tasked by the Executive Agency for Health and Consumers (EAHC) to carry out an economic analysis of workplace mental health promotion and mental disorder prevention programmes and their potential contribution to EU health social and economic policy objectives. As part of this project, Matrix is collecting evidence on existing workplace mental health policies, in addition to the costs and outcomes of implementing such policies.

Interviews with country representatives of the policy are integral to this study to help us identify and describe examples of good practice at workplace level and the role of the health and welfare systems with regards to the policy/ initiative.

Opinions collected will remain anonymous and they would feed directly into the preparatory work for EU level legislative action.

This questionnaire contains 21 open questions. Questions are grouped under five main headings:

- **Scope of mental health disorders within the country:** interviewees are asked to provide a quick overview the types of mental health disorders in the workplace, prevalence and effects of disorders.
- **Description of mental health policy:** interviewees are asked to describe the measures put in place to tackle/ prevent the disorders associated with poor mental health in the workplace at the national and company level
- **Outcomes of mental health policy/ initiative:** interviewees are asked to describe the outcomes of policy/ initiative on workplace mental health
- **Cost of mental health policy/ initiative:** interviewees are asked to describe the costs associated with the implementation of the mental health policy/ initiative
- **Lessons learned**

Scope of mental health disorders within the workplace

1. **What is the prevalence of mental health related disorders in the workplace**

Prompt: percentage/ number of people at risk/ affected/ diagnosed with mental health related disorders

2. **Do you think mental health related disorders on have an impact on labour absenteeism/ productivity?**

Prompt: percentage of sick leave/ absence due to mental health related disorders; work days lost due to mental health related disorders; reduction in productivity due to mental health related disorders.

3. **Do you think mental health related disorders have an impact on labour turnover?**

Prompt: percentage/ number of people who leave work due to mental health related disorders

4. **In your country, are the impacts of mental health measured in any other way?**

Description of mental health policy/ initiative

5. **Please describe the best practice mental health policy/ initiative in place at the national level?**

Prompt: outline of measures put in place to tackle workplace mental health disorders

6. **Do companies have to comply with this policy/ initiative? If not, what is the level of adherence, in your opinion?**

Please provide data on compliance if available

7. **How does the policy/ initiative deal with mental health related disorders?**

8. **Who is it aimed at?**

Prompt: target population, eligible people, type of policy, universal, targeted, treatment, people with anxiety, depression, etc

9. **In your opinion, who are the relevant stakeholders with regards to the policy/ initiative?**

Prompt: which groups of people are directly affected by policy, ie doctors, patients, trade unions, departments within the government, etc

10. **What were the drivers behind the introduction of the policy/ initiative?**

Prompt: motivations/ drivers for policy initiative

11. **Is the policy/ initiative reviewed/ updated regularly to meet changing needs?**

Outcomes of mental health policy/ initiative

12. **How many people have benefited from the policy/ initiative?**

Prompt: percentage/ number of people using the policy/ initiative since introduction/ per year

13. **Do you think the policy/ initiative has had an impact on labour absenteeism/ productivity?**

Prompt: percentage/ number of people going back to work from sick leave, increase in productivity

14. **Do you think the policy/ initiative has had an impact on labour turnover?**

Prompt: percentage/ number of people staying in work, reduction in people leaving work

15. **Do you think the policy/ initiative has had an impact on return to employment for people with mental health related disorders?**

Prompt: percentage/ number of people with mental health related disorders going back to work

16. **Do you think the policy/ initiative had an impact on the number of people suffering from poor mental health?**

Prompt: percentage/ number of people that have benefited from policy/ initiative

Costs of mental health policy/ initiative

17. **What is the estimated cost to the economy of having employees out of work/ less productive due to mental health related disorders?**

18. **How much has been invested at the national level in supporting/ mental health related issues in the labour force for the country?**

Lessons learned

19. **What feedback has been given by people about the policy/ initiative?**

20. **What improvements can be made?**

21. **Are there any changes due to be implemented in the near future?**

Questionnaire for workplace case studies

Thank you for agreeing to this interview.

Matrix Knowledge, a European Public Policy Consultancy based in London, has been tasked by the Executive Agency for Health and Consumers (EAHC) to carry out an economic analysis of workplace mental health promotion and mental disorders prevention programmes and their potential contribution to EU health social and economic policy objectives. As part of this project, Matrix is collecting evidence on good practice workplace mental health policies, in addition to the costs and outcomes of implementing such policies.

Interviews with company representatives of the policy are integral to this study to help us identify and describe examples of good practice at workplace level

Opinions collected will remain anonymous and they would feed directly into the preparatory work for EU level legislative action.

This questionnaire contains 26 open questions. Questions are grouped under six main headings:

- **Brief company overview**: interviewees are asked to provide key information (e.g. industry, size, etc) on their company;
- **Scope of mental health disorders within the company:** interviewees are asked to provide a quick overview of the types of mental health disorders (such as anxiety, depression, etc) in the company, prevalence and consequences of disorders.
- **Description of mental health policy:** interviewees are asked to describe the measures put in place to tackle/ prevent disorders associated with poor mental health
- **Outcomes of mental health policy/ initiative:** interviewees are asked to describe the impacts of policy/ initiative on workplace mental health
- **Cost of mental health policy/ initiative:** interviewees are asked to describe the costs associated with the implementation of the mental health policy/ initiative
- **Lessons learned**

Brief overview of company

1. **Can you please provide some basic information on your company?**

Prompt: industry, size (number of employees, turnover), location (national or multi-national)

Scope of mental health disorders within the company

2. **What mental health related disorders affect your workforce?**

Prompt: anxiety, depression, stress

3. **Is prevalence of mental health related disorders measured in the company?**

4. **If so, how is prevalence measured and what is the prevalence of mental health related disorders in the company?**

Prompt: percentage/ number of employees are affected by mental health related disorders

5. **Of those that are affected by mental health disorders, how many are clinically diagnosed with a disorder?**

6. **What is the effect of mental health related disorders on employee absenteeism/ productivity?**

Prompt: percentage of sick leave/ absence due to mental health related disorders; work days lost due to mental health related disorders; reduction in productivity due to mental health related disorders.

7. **Do you think mental health related disorders have an impact on staff turnover?**

Prompt: percentage/ number of staff leave due to mental health related disorders

8. **Are the impacts of mental health disorders measured in any other way?**

Description of mental health policy/ initiative

9. **Can you describe the policy/ initiative that has been implemented?**

Prompt: outline of measures put in place to tackle workplace mental health disorders

10. **How does the policy/ initiative deal with mental health related disorders?**

11. **Who is it aimed at?**

Prompt: target population, eligible people, type of policy, universal, targeted, treatment, people with anxiety, depression, etc

12. **Is the policy/ initiative a one-off or is it on-going/ continuous?**

13. **Is the policy/ initiative reviewed/ updated regularly to meet changing needs?**

Outcomes of mental health policy/ initiative

14. **How many eligible employees have made use of the policy/ initiative?**

Prompt: number of employees using the policy/ initiative since introduction/ per year

15. **What effect/ impact has the policy/ initiative had on absenteeism/ productivity?**

Prompt: percentage/ number of employees going back to work from sick leave or increase in productivity. Alternatively: 1 being least effective, 10 being most effective.

16. **What effect/ impact has the policy/ initiative had on staff turnover?**

Prompt: percentage/ number of people staying in work or reduction in people leaving work. Alternatively: 1 being least effective, 10 being most effective

17. **Has the policy/ initiative reduced/ prevented the number of employees suffering from poor mental health?**

Prompt: percentage/ number of people that have benefited from policy/ initiative. Alternatively: 1 being least effective, 10 being most effective

Costs of mental health policy/ initiative

18. **How much does the policy/ initiative cost to the company?**

Prompt: cost of implementing the policy/ initiative

19. **Does the company receive any government support to implement the policy/ initiative?**

Prompt: subsidies, financial support, advice

20. **Does the government help employees with mental health related disorders in terms of benefits/ subsidies (e.g. paying for sick leave)?**

21. **What is the estimated cost of having employees out of work/ less productive due to mental health related disorders?**

Prompt: losses in terms of productivity, disruption, hiring temporary staff, et.c

Lessons learned

22. **What feedback has been given by the employees about the policy/ initiative?**

23. **What improvements can be made?**

24. **Are there any changes due to be implemented in the near future?**

25. **How would you rate the importance of good mental health in the workplace for the success of the company?**

Prompt: 1 being not very important, 10 being extremely important.

26. **How would you describe/ rate the success of the company's policy/ initiative?**

Prompt: 1 being very unsuccessful, 10 being extremely successful.

7.3 Economic model

Tables A1.3 to A1.5 present detailed descriptions of the parameters used to populate the economic model and estimate the costs associated with depression at EU27 level.

Table A1.3: Population distribution

Reference	Description	Value	Calculation and sources
A	Working age population (15-64 years old)	336,134,329	Eurostat[17]
B	Unemployment rate	9.7%	Eurostat[18]
C	Inactivity rate	28.8%	Eurostat[19]
D	Employment rate	61.5%	Employment rate = 100 – (B + C) =100 – (9.7+28.8) =61.5
E	Unemployed population	32,605,030	Unemployed population = A * B =336,134,329 * 9.7% = 32,605,030
F	Inactive population	96,806,687	Inactive population = A * C =336,134,329 * 28.8% =96,806,687
G	Employed population	206,722,612	Employed population = A * F =336,134,329 * 61.5% =206,722,612
H	Prevalence of depression (12 month)	0.083	Wittchen and Jacobi (2005). Also cited in Euro Observer (2009, p. 2).
I	Relative risk of depression (unemployed vs employed)	2.245	Artazcoz (2009). NB: Relative risk is for poor mental health, not specifically depression.
J	Relative risk of depression (stress vs no stress)	2	NHS choices (2007)

[17] Data taken from Labour force statistics module for population. Accessed from: http://epp.eurostat.ec.europa.eu/portal/page/portal/employment_unemployment_lfs/data/database
[18] Data taken from Labour force statistics module for unemployment rates. Accessed from: http://epp.eurostat.ec.europa.eu/portal/page/portal/employment_unemployment_lfs/data/database
[19] Data taken from Labour force statistics module for inactivity rates. Accessed from: http://epp.eurostat.ec.europa.eu/portal/page/portal/employment_unemployment_lfs/data/database

Reference	Description	Value	Calculation and sources
K	Percentage employed	86%	Employed = G/(E+G)*100 =206,722,612/(32,605,030 + 206,722,612)*100 =86%
L	Percentage employed → no symptoms	76%	Percentage employed → no symptoms = Q/ (P+Q)*100 =0.71/ (0.22+0.71)*100 =76%
M	Percentage employed → stress	24%	Percentage employed → stress = P/ (P+Q)*100 =0.22/ (0.22+0.71)*100 =24%
N	Percentage Unemployed	14%	Unemployed = E/(E+G)*100 =32,605,030/(32,605,030 + 206,722,612)*100 =14%
O	P (employed →mental health disorder)	0.07	P (employed →mental health disorder) = H/(K+L *I) =0.083/(86%+14%*2.245) =0.07
P	P(employed→stress)	0.22	OSHA (2005)
Q	P(employed →no symptoms)	0.71	P(employed →no symptoms)= 1-(O+P) =1-(0.07+0.22) =0.71

Table A1.4:Baseline probabilities

Reference	Description	Value	Calculation and sources
R	P(No symptoms → mental health disorder)	0.067	P(No symptoms → mental health disorder) = H/(L+M*J) =0.083/ (76%+24%*2) =0.067
S	P(No symptoms → no mental health disorder)	0.93	P(No symptoms → no mental health disorder) = 1-R =0.93
T	P(Stress → mental health disorder)	0.13	P(Stress → mental health disorder) = R*J =0.067*2 =0.13

Reference	Description	Value	Calculation and sources
U	P(Stress → no mental health disorder)	0.87	P(Stress → no mental health disorder) = 1-T =1-0.13 =0.87
V	P(Mental health disorder)	1	Assumption: if a person receives no intervention, than the probability of being employed and having a mental disorder doesn't change.
W	P(No mental health disorder)	0	P(No mental health disorder)= 1-V =1-1 =0

Table A1.5: Cost savings calculations

Reference	Description	Value	Calculation and sources
CAi	P(Leaving employment due to mental health disorder	0.10	Matrix calculation based on DWP (2011) NB: Same probability used for no symptoms, stress and mental health disorder
CAii	P(Receiving benefits due to MH disorder)	0.45	Matrix calculation based on DWP (2011) NB: Same probability used for no symptoms, stress and mental health disorder
CB	Average wage per hour	€12.13	Eurostat[20]
CC	Average number of working days lost due to stress, depression or anxiety per year	27	Health and Safety Executive (2012)
CD	Average working weekly hours (2010)	38	Eurofound (2010)
CE	Average annual hours	1,714.9	Eurofound (2010)
CF	Percentage of time lost to presenteeism	28.4%	Wang (2010)
CG	Total hours lost to presenteeism per year	487	Total hours lost to presenteeism per year = CE*CF =1714*28.4% =487

[20] Data taken from Labour force statistics module for earnings. Accessed from: http://epp.eurostat.ec.europa.eu/portal/page/portal/labour_market/earnings/database

Reference	Description	Value	Calculation and sources
CH	Total hours lost due to absenteeism per year	205.2	Total hours lost due to absenteeism per year = CC*(CD/5) =27*(38/5) =205.2 Assumption: 5 days per working week
CI	Cost per case of depression	€3,999.3	Andlin-Sobocki (2005) NB: Average of all countries inflated using 2005 GDP deflator (Source: IMF[21])
CJ	Healthcare costs of depression	€5,305.21	Andlin-Sobocki (2005) NB: Average of all countries inflated using 2005 GDP deflator (Source: IMF[22])
CK	Total costs of depression	€15,073.29	Andlin-Sobocki (2005) NB: Average of all countries inflated using 2005 GDP deflator (Source: IMF[23])
CL	Cost of healthcare treatment for MH disorder	€1,407.6	Cost of healthcare treatment for MH disorder =(CJ/CK)*CI =(5305.21/15073.29)*3999.3 =1407.6
CMi	Cost per case of lost employment	€28,002	Matrix calculations based on average annual salary. Eurostat[24]
CMii	Cost per case of lost employment	€120,192.52	Matrix calculations based on average annual salary. Eurostat[25]
CN	Cost of presenteeism	€5,908	Cost of presenteeism = CG*CB =487*12.13 =5908
CO	Cost of absenteeism	€2,489	Cost of absenteeism = CH*CB =205.2*12.13 =2489

[21] Accessed from: http://imfstatext.imf.org/WBOS-query/Index.aspx?QueryId=6312
[22] Accessed from: http://imfstatext.imf.org/WBOS-query/Index.aspx?QueryId=6312
[23] Accessed from: http://imfstatext.imf.org/WBOS-query/Index.aspx?QueryId=6312
[24] Data taken from Labour force statistics module for earnings. Accessed from: http://epp.eurostat.ec.europa.eu/portal/page/portal/labour_market/earnings/database
[25] Data taken from Labour force statistics module for earnings. Accessed from: http://epp.eurostat.ec.europa.eu/portal/page/portal/labour_market/earnings/database

Reference	Description	Value	Calculation and sources
CP	Cost to society per case of unemployment	€25,436	Matrix calculations based on average duration and distribution of people claiming disability benefits (Source: DirectGov 2012). Assumption: 50% of people have successful claim.
CQ	Employed →Cost to health system	€1407.6	Cost to health system = CL Assumption: All people with a mental health disorder will seek medical help.
CR	Employed →Cost to social welfare system	€12,440	Cost to social welfare system = (CAi*CAii)*CMii =(0.1*0.45)*120,192.52 =12,440
CS	Employed →Cost to economy	€10,877	Cost to economy = CA*CMi
CT	Employed →Cost to employers	€8,396	Cost to employers = CN+CO =5908+2489 =8396
CU	Unemployed →Cost to health system	€1,408	Unemployed →Cost to health system =CL
CV	Unemployed →Cost to social welfare system	€25,436	Unemployed →Cost to social welfare system = CP
CW	Unemployed →Cost to economy	€120,193	Unemployed →Cost to economy = CMii

The selection of interventions was made in collaboration with EAHC/SANCO. The following criteria was used to select interventions:

- **Approach** (universal, targeted, and treatment). At least one intervention representative of each approach was modelled.
- **Quality of the study**. Selected interventions should have been published from studies quality graded at least as [+] or [++].
- **Effect**. Only interventions reporting statistical significant outcomes will be considered.
- **Population and condition**. The intervention should refer to a population group and mental health condition that is of relevance to EAHC/SANCO.
- **Comparator**. The study should refer to an intervention for which the non-intervention group is representative, at least to some extent, of the current situation in the EU27 Member States.

- **Suitable for modelling**. Only interventions suitable for modelling will be considered. This means that the study should provide: (a) enough detail describing the intervention such that the cost of the intervention can be estimated, and (b) outcomes for depression must be reported quantitatively.

Tables A1.6 and A1.7 present detailed descriptions of the parameters used to populate the economic model and estimate the return on investment of workplace interventions.

Table A1.6: Cost of interventions

Reference	Description	Value	Calculation and sources
IA	Universal -WI	€15.81	Matrix calculation (Source: Tsutsumi, 2009) NB: does not include materials used for intervention only the cost of professional resource use.
IB	Universal - ACT	€68.20	Matrix calculation (Source: Bond, 2000) NB: does not include materials used for intervention only the cost of professional resource use.
IC	Targeted - SM	€487.82	Matrix calculation (Source: Mino, 2006) NB: does not include materials used for intervention only the cost of professional resource use.
ID	Targeted - ECBT	€477.99	Matrix calculation (Source: Ruwaard, 2007) NB: does not include materials used for intervention only the cost of professional resource use.
IE	Targeted - Ex	€722.82	Matrix calculation (Source: de Zeeuw, 2010) NB: does not include materials used for intervention only the cost of professional resource use.
IF	Targeted - PST	€1204.89	Matrix calculation (Source: Lexis, 2010) NB: does not include materials used for intervention only the cost of professional resource use.

Table A1.7: Intervention probabilities

Reference	Description	Value	Calculation and sources
Universal – Workplace Improvement (WI)			
WI.1	P(No symptoms → mental health disorder)	0.04	Matrix calculation (Source: Tsutsumi, 2009)
WI.2	P(No symptoms → no mental health disorder)	0.96	P(No symptoms → no mental health disorder) = 1-WI.1 =1-0.04 =0.96
Universal – Acceptance and commitment therapy (ACT)			
ACT.1	P(No symptoms → mental health disorder)	0.05	Matrix calculation (Bond, 2000)
ACT.2	P(No symptoms → no mental health disorder)	0.95	P(No symptoms → no mental health disorder) = 1-ACT.1 =1-0.04 =0.96
Targeted – Stress Management			
SM.1	P(Stress → mental health disorder)	0.1	Matrix calculation (Source: Mino, 2006)
SM.2	P(Stress → no mental health disorder)	0.9	P(Stress → no mental health disorder) = 1-SM.1 =1-0.1 =0.9
Targeted – Email CBT (ECBT)			
ECBT.1	P(Stress → mental health disorder)	0.1	Matrix calculation (Source: Ruwaard, 2007)
ECBT.2	P(Stress → no mental health disorder)	0.9	P(Stress → no mental health disorder) = 1-ECBT.1 =1-0.1 =0.9
Treatment – Exercise (EX)			
EX.1	P(Mental health disorder)	0.59	Matrix calculation (Source: de Zeeuw, 2010)
EX.2	P(No mental health disorder)	0.41	P(No mental health disorder) = 1-EX.1 =1-0.59 =0.41
Treatment – Problem solving therapy (PST)			
PST.1	P(Mental health disorder)	0.68	Matrix calculation (Source: Lexis, 2010)
PST.2	P(No mental health disorder)	0.32	P(No mental health disorder) = 1-PST.1 =1-0.68 =0.32

8.0 Appendix 2: Results

8.1 Literature review

This section presents detailed descriptions of the mental health interventions identified in the literature review. The review identified 30 studies that met the full inclusion criteria outlined in Section 7.1 in Appendix 1. Of these, 7 assessed the effectiveness of universal or preventive interventions in the general workforce, 6 assessed interventions that were targeted at people at higher risk of work-related mental health problems, and 17 evaluated interventions aimed at treating people who already had mental health problems causing sickness absence or impaired work function. The grey literature search also identified one study that was a non-randomised comparative study evaluating the impact of the Improving Access to Psychological Therapies (IAPT) programme in the UK (Glover et al., 2010).

Universal/preventive interventions: Cognitive behavioural therapy (CBT)-based interventions

Two studies found that a CBT approach to universal or preventive interventions reduced depression and anxiety (Martin et al., 2009) or stress scores (Limm et al., 2011) in employees.

Limm et al. (2011) [+] compared a stress management intervention on individual work stress situations in 174 lower or middle management employees in Germany. The intervention sessions involved psychodynamic, conflict and emotion-focused principles plus cognitive behavioural techniques to foster an awareness of and insight into stress situations at work and to provide tools to help workers deal with these stresses. It involved a 2-day course of group sessions followed by 2 additional days of 4, 45-minute sessions over 8 months. A control group were on a waiting list for the intervention. The study aimed to improve perceived stress reactivity in employees but also assessed depression scores. The intervention group showed a significantly greater decrease in overall stress reactivity scale scores from baseline than the control group, and a greater reduction in the individual component scales of perceived work overload, social conflicts, social evaluation, failure at work, pre-stress and post-stress scores than the control group after 1 year's follow-up. There were no significant differences in HADS anxiety or depression scores between the groups or over time.

Martin et al, (2009) [++] carried out a systematic review of studies evaluating health promotion interventions delivered in the workplace aimed at reducing risk factors for anxiety or depression, such as smoking, obesity, inactivity, chronic disease, substance abuse or a poor psychosocial work environment. The results from the fixed-effect meta-analysis models (of 17 studies) indicated small but positive overall effects from the interventions on symptoms of depression (standardised mean difference [SMD] 0.28, 95% confidence interval [CI] 0.12 to 0.44) and anxiety (SMD 0.29, 95% CI 0.06 to 0.53), but no effect on composite mental health measures that provided a combined assessment of depression and anxiety symptoms (SMD 0.05, CI -0.03 to 0.13). A small number of individual studies showed a significant difference in favour of the intervention: work-related stress management interventions reduced GHQ12 scores at the end of treatment and composite mental health scores at 3 years; the "beating the blues" CBT

programme reduced depression and anxiety scores at 1 month; emotion refocusing with physiological feedback reduced anxiety scores at the end of treatment, and transcendental meditation reduced depression and anxiety scores after 3 years.

Universal/preventive interventions: Employment training

One study found that career management workshops reduced depression scores and reduced the number of workers who intended to take early retirement (Vuori et al., 2012).

Vuori et al. (2012) [-] compared the effect of group intervention workshops to enhance career management, mental health and job retention in 718 employees at 17 Finnish organisations representing different private and public sectors, with a control intervention of printed information about career and health-related issues. The intervention was delivered at an organisation level by 2 trainers in workshops run over 4 days. After 7 months' follow-up, there were significantly lower depression scores and intentions to retire in the intervention group compared with the control group ($p<0.05$), but no significant improvement in exhaustion scores or work engagement. Participants who had higher depression or exhaustion scores at baseline benefited more from the intervention than those with lower baseline scores.

Universal/preventive interventions: Psychotherapy

One study found that Acceptance and Commitment Therapy reduced depression and General Health Questionnaire mental health scores, and an Innovation Promotion Programme also reduced depression scores (Bond et al., 2000).

Bond et al. (2000) [+] randomised 90 employee volunteers from a media organisation in the UK to either Acceptance and Commitment Therapy (ACT), aimed at enhancing the ability to cope with work-related strain, an Innovation Promotion Programme (IPP), or a waiting list control. The ACT and IPP psychotherapy interventions involved three half-day sessions of group discussions, didactic teaching and experience-orientated exercises with homework assignments, over 3 months. ACT tried to help people cope emotionally with workplace stressors, while IPP encouraged workers to modify the stressors. General Health Questionnaire scores fell significantly in the ACT group only, with a significant decrease from baseline to the 27-week follow-up and significantly lower scores compared with the IPP group at the end of follow-up. Depression scores decreased in both the ACT and the IPP groups from baseline to the end of the 3-month intervention. Depression scores were not compared statistically between the two intervention groups. Neither group showed a difference in job satisfaction or motivation scores.

Universal/preventive interventions: Stress management

One study found no improvement in mental health or work performance outcomes with an online resilience training programme (Abbott et al., 2009).

Abbott et al. (2009) [+] assessed the impact of an online resilience training programme in 53 sales managers from an Australian industrial organisation compared with a waiting list control.

The intervention aimed to enhance resilience by teaching seven core skills: emotion regulation, impulse control, optimism, causal analysis, empathy, self-efficacy and reaching out. The programme lasted 10 weeks and participants were offered a group conference call half way through and an individual call with a trainer at the end of the intervention, plus email encouragement during the programme. Only 46% of the intervention group completed the self-assessment questionnaire at the end of the programme, compared with 70% of the control group. There were no significant differences in depression, anxiety, stress, quality of life or work performance scores between the two groups at the end of the programme. Both groups reported greater happiness scores at the end of the programme, but there were no significant differences between groups.

Universal/preventive interventions: Work improvement

Two studies found contradictory evidence about the benefits of programmes aimed at improving the psychosocial environment of the workplace. One study found that General Health Questionnaire measures of mental health improved with a participatory workplace improvement intervention, but workplace performance was not improved compared with a control group (Tsutsumi et al., 2009). A second study found that a psychosocial organisational programme did not improve mental health outcomes compared with controls (Aust et al., 2010).

Tsutsumi et al. (2009) [++] compared a participatory intervention for workplace improvement among 97 blue-collar workers on assembly lines at a factory in Japan with workers on other assembly lines not offered the intervention. The employees in the intervention group identified and prioritised their specific needs and developed action plans to improve their work environment. During the 9-month follow-up period, General Health Questionnaire scores significantly fell (improved) in the intervention group ($p=0.022$) but increased in the control group ($p=0.035$), with a significant interaction effect. Work Performance Questionnaire (HPQ) scores were not significantly different from baseline in either group, and there were no significant differences in HPQ scores between the two groups.

Aust et al. (2010) [+] assessed the effects of a psychosocial organisational programme aimed at improving the psychosocial working conditions of 399 hospital staff in Denmark, compared with staff at comparable reference units selected after the start of the study. The intervention included discussion days for all staff, employee working groups, leader coaching and activities to improve communication and cooperation between staff. After 16 months, the mean mental health score from the Copenhagen Psychosocial Questionnaire was not significantly different from baseline in either of the two groups. After adjustment for covariates, there was no significant difference in the change of mental health scores for the two groups.

Targeted interventions: CBT

One study found that e-mailed CBT improved depression, stress, exhaustion and anxiety scores compared with a waiting list control (Ruwaard et al., 2007). A second study found that adding CBT to qigong, a Chinese health and wellness practice, did not further improve mental health or sickness absence (Stenlund et al., 2009).

Ruwaard et al. (2007) [++] evaluated the effectiveness of e-mailed cognitive behavioural therapy in 239 responders to a newspaper appeal for volunteers, all of whom scored above a threshold for work-related stress, compared with a waiting list control. The intervention comprised seven phases, each taking 1 week to complete, that focused on increasing awareness of stress, relaxation, challenging dysfunctional thoughts, positive self-verbalisation, positive assertiveness and social skills training, time management and relapse prevention. Participants communicated by email with doctoral students in clinical psychology who provided feedback over a total of 5 hours. Both the CBT and the control groups showed significantly reduced stress scores from baseline, but there was a significantly greater improvement in the CBT group than the controls immediately after treatment for stress, depression, anxiety and exhaustion scores. Significantly more of the intervention group showed clinical improvement or recovery of stress, depression and exhaustion, but there was no significant difference in recovery or clinically improvement for anxiety. After 3 years, participants who had completed CBT had even lower scores for stress, depression, anxiety and emotional exhaustion, showing a persisting effect from the therapy.

Stenlund et al. (2009) [++] compared a rehabilitation programme offering 30, 3-hour long cognitively orientated behavioural rehabilitation sessions plus 1 hour of qigong each week for 1 year, with 1 hour of qigong per week for 1 year alone, to sales managers on long term sick leave for burnout in Sweden. Qigong is self-initiated health and wellness practice consisting of a combination of movement, self-massage, meditation, and breathing26. There were no significant differences in burnout scores, self-related stress behaviour scores, fatigue, depression, anxiety, or obsessive-compulsive symptom scores at 6 to 12 month follow-up, with both groups showing improvements over time in these scores. Sick leave rates also decreased in both groups over time, but were not significantly different between groups. At baseline, 70-74% of participants had 100% sick leave. This had fallen to 59-61% after 1 year rehabilitation and to 37-39% after 12 months' follow-up.

Targeted interventions: Problem solving

One study found that a problem-solving approach from preventive coaching reduced depression scores but did not improve other mental health or sickness absence outcomes compared with usual care (Duijts et al., 2008). A second study found that a social worker-delivered problem solving intervention did not reduce sickness absence or improve quality of life compared with usual care (van Oostrom et al., 2010). However, in both cases, usual care may have provided effective support.

Duijts et al. (2008) [++] compared a preventive coaching programme with treatment as usual in employees screened to be at risk of sickness absence for psychosocial reasons in the education and healthcare sectors in the Netherlands. Of 8,603 employees sent the screening instrument, 3617 responded, of whom 335 (9% of respondents) scored above the threshold for being at risk. The intervention comprised 7 to 9 one-hour sessions of preventive coaching over 6 months, to identify the problems and produce a plan to address the problems with the employee and their supervisor and to initiate behavioural changes. After 12 months, there were

[26] http://www.qigonginstitute.org/html/qigonghealth.php

no significant differences in self-reported sickness absence due to psychosocial problems. The intervention group had significantly fewer days of sickness absence than the control group over a year's follow-up on intention to treat, but not on per protocol analysis. The intervention group reported significantly higher self-rated health scores and lower depression and burnout scores than the control group after 12 months, on intention to treat and per protocol analysis, but there were no significant differences in anxiety, fatigue, or other health complaints.

Van Oostrom et al. (2010) [+] evaluated the impact of a workplace intervention to formulate a plan for return to work among sick-listed employees with distress from three large Dutch organisations – a university, a university medical centre and a steel company – compared with usual care. The intervention group received guideline-based care from their occupational physician and were referred to a company social worker to identify and solve obstacles to their return to work from the perspectives of the employee and the supervisor. A consensus plan was developed between the coordinator, employee and supervisor. The intervention took 7 hours per employee. Total cost per employee for the intervention was €763; however the total healthcare costs were used to calculate the ICER. This equated to £3,201 for the intervention and £2,758 for usual care. The mean duration of sick leave until lasting return to work was not significantly different for the intervention and control groups, at 133-134 days. There were also no significant differences in quality-adjusted life years between the two groups after 12 months. The intervention was found to be more costly, but slightly more effective, with an ICER of €763. However the authors state the estimate is not robust as regardless of the level of willingness to pay per day of sick leave, the probability of the intervention being cost effective did not exceed 50%. The workplace intervention had no economic benefit compared with usual care, with no difference in return to work, QALYs or productivity, but was associated with increased intervention costs.

Targeted interventions: Stress management

One study found that a stress management intervention reduced depression but not stress scores (Mino et al., 2006) while a second study found that stress management reduced stress and burnout scores (Edwards & Burnard, 2003) compared with a control group.

Mino et al. (2006) [++] compared the effects of a stress management programme with a control group of employees of a manufacturing company in Japan with high stress levels. The intervention involved lectures on stress perception and measures to cope with stress, stress-management recording sheets and e-mail counselling, based on a cognitive behavioural approach. After 3 months' follow-up, there was a significant decrease in depression scores in the intervention group (13.5 +/- 8.6 at baseline, 10.4 +/- 6.9 after 3 months, p=0.003) but not in the control group (13.3 +/- 8.7 at baseline, 13.1 +/- 8.7 after 3 months, p=0.87). Multiple regression confirmed that there was a significant reduction in depression scores associated with the intervention. There were no significant differences in General Health Questionnaire scores, Uehata stress scores or reward scores from baseline in either group.

Edwards & Burnard (2003) [+] carried out a systematic review of stress and stress management interventions in mental health nurses. They concluded that training in behavioural techniques could reduce job strain; personal stress management relaxation techniques could improve the

ability to cope with stress, stress management workshops could reduce burnout levels, therapeutic skills training could reduce psychological distress and burnout, and training in psychosocial interventions could reduce burnout, but social support was no more effective than feedback. Improving clinical supervision was effective at increasing job satisfaction and tedium, with inconsistent effects on burnout.

Treatment interventions: CBT

Five studies assessed the impact of a CBT approach as treatment of people with existing mental health disorders that were adversely affecting their work performance (Blonk et al., 2006; Rebergen et al., 2009a and 2009b; Glover et al., 2010; Lexis et al., 2011). Only one of the studies found that CBT improved depression scores (Lexis et al., 2011), and one non-randomised evaluation suggested that CBT may be more effective at reducing anxiety scores than counselling (Glover et al., 2010). None of the studies found a significant reduction in sickness absence outcomes compared with control groups or with usual care.

Lexis et al. (2011) [++] evaluated an early intervention aimed at preventing long-term sickness absence and major depression in 139 office employees with relatively mild depression and at high risk of future sickness absence in the Netherlands. The intervention offered an individual orientated approach to enhance problem solving skills using psychotherapy and cognitive behavioural methods, with seven 45-minute sessions of CBT with a psychologist followed by up to five more sessions for employees who had not recovered. After 18 months, there were no significant differences in intention to treat analysis in the proportion with at least one sickness absence, duration or frequency of sickness absences, or time to onset of first absence between the intervention group and a control group. Depression scores were significantly lower after 6 and 12 months' follow-up in the intervention group than the control group, measured by Beck Depression Inventory (BDI) and Hospital Anxiety and Depression scale (HAD). Depression scores fell in the intervention group during follow-up but increased in the control group.

An evaluation of the first year of Improving Access to Psychological Therapies (IAPT) in the UK found that recovery rates were similar for people receiving CBT or counselling, although treatment allocation was not randomised which makes it difficult to interpret the results. Data were reported from 32 sites in the first year of the programme, with 79,310 participants having at least an initial assessment. Of these, 95% were of working age, 64% female and 87% white British. GPs referred 83.6% of all participants and 8.6% were self-referred. Depression was the commonest reason for referral (29%), then generalised anxiety disorder (18%), recurrent depression (7%), and obsessive compulsive disorder, post-traumatic stress disorder and family loss for 2% each. Of the 41,724 patients who received treatment, 61% had low intensity treatment, 46% high intensity treatment and 19% both. Thirty eight percent of patients completed the scheduled treatment, 22% dropped out, 9% declined treatment, 12% were judged unsuitable and 20% had no data on treatment completion. Outcomes were better for participants who completed treatment (56% of cases recovering, with a net 44% reduction in prevalence of case-level symptoms), with an overall 29% reduction in symptom prevalence with treatment (Glover et al., 2010) [-].

Rebergen et al. 2009a [+] evaluated the effect of guideline-based care with counselling by an occupational physician in achieving a return to work for 240 police workers on sick leave for mental health problems in the Netherlands, compared with usual care, which involved minimal occupational physician input and access to a psychologist. The intervention was delivered by occupational physicians who had received a 3-day training course, and focused on an activating approach, time-contingent process evaluation and cognitive behavioural principles, aimed at graded activity and enhanced problem-solving. After 1 year, significantly more participants in the intervention group had partially returned to work before full return to work (69% compared with 54% in the usual care group, p=0.01) but more of the usual care had an immediate return to work (46%, compared with 31% of the intervention group). There were no significant differences in duration of partial return to work, recurrences or duration of recurrences between the two groups, and no overall difference in productivity loss. The ICER generated was -€736, however regardless of the level of willingness to pay for a 1 day reduction in sick leave; the probability of cost effectiveness did not exceed 50%.

A second publication from this study found that the total healthcare costs were significantly higher with the usual care group than the intervention group, caused by a greater need for psychologist input. A cost-benefit analysis calculated that the net monetary benefit of the intervention in reduced productivity loss costs was €3,582 assuming a mean daily salary of €125. However, as productivity loss costs were between 6 and 9 times higher than total healthcare costs, the probability that the intervention was cost-effective was never higher than 50% (Rebergen et al., 2009b [+]).

Blonk et al. (2006) [+] evaluated CBT, a combined workplace and individual-focused intervention and a control group in 163 self-employed adults on sick leave in the Netherlands for work-related psychosocial complaints. The CBT intervention consisted of 11 two-weekly sessions of 45 minutes with a psychologist following a structured protocol to identify and challenge negative automatic thoughts and further cognitive restructuring. The combined intervention consisted of 5 to 6 sessions lasting 1 hour, twice a week, held at the employee's home or workplace by a labour expert who offered psycho-education on work stress management and how to reduce workload and job demands, based on a protocol. The control group had two sessions with a GP to check eligibility for work-disability benefit. After 10 months' follow-up, the combined intervention group had significantly shorter partial and full return to work times than the CBT or the control group, which were not significantly different from each other. Partial return to work was 17 days earlier for the combined intervention than the CBT group and 30 days shorter than the control group ($p<0.05$), and full return to work was 200 days shorter than CBT or control groups ($p<0.01$). The increased full return to work rates remained significant after adjusting for age, gender, education and number of employees. Psychological complaints of depression, anxiety and stress significantly decreased in each of the three groups from baseline to the end of the 4-month intervention, and the reduction persisted for the full 10 months' follow-up, without declining further. There were no significant differences in reduction of psychological symptoms between the groups.

Treatment interventions: Employment training

Four studies evaluated interventions to train and support workers with mental health problems to function better in the workplace. Three of the four found the intervention significantly improved the likelihood of employment, shortened the time to getting a job, or increased the total number of hours worked compared with other employment support (Gold et al., 2005; Burns & Catty., 2008; Morgenstern et al., 2009) but a fourth study found no significant difference compared with traditional job placement activities (Penk et al., 2010).

Gold et al. (2005) [+] compared Assertive Community Treatment plus Integrated Vocational Rehabilitation (ACT-IVR) or an Individual Placement and Support (IPS) with a traditional supported employment model in adults with severe mental illness in the US. The IPS arm was closed down after 2 months because of a lack of trained staff. ACT-IVR involved combining vocational and mental health services within a self-contained provider team. IPS provides vocational services within another agency's mental health services. After 24 months, people who received ACT or IPS were significantly more likely to have found a competitive job, defined as a post that offered more than minimum wage and was available for either disabled and non-disabled workers (64%, compared with 26% of supported employment group, $p<0.001$). The intervention group had a significantly shorter time to finding employment (19 weeks compared with 46 weeks) and had higher mean incomes. However, there were no significant differences in other similar employment outcomes, and mean time to employment was significantly longer for the intervention group than the control group when all jobs were taken into account.

Burns & Catty (2008) [+] evaluated an Individual Placement and Support (IPS) programme with high quality train-and-place vocational rehabilitation in 312 adults with psychotic illnesses who had been unemployed for at least 1 year and who had been in contact with specialist mental health services for at least 6 months across the UK, Germany, Italy, Switzerland, the Netherlands and Bulgaria. The IPS intervention was integrated into mental health services. It involved a rapid job search and ongoing support to the patient and employer from an employment specialist. Standard place and train interventions were based on traditional rehabilitation and provided training for skills needed in the workplace. After 18 months, significantly more participants of IPS had worked for at least one day (54.5% compared with 27.6% in the control group), and worked more days in total (130 compared with 30 in control group), and were less likely to have dropped out from the service or to be hospitalised (20% compared with 31% in the control group), with less time spent in hospital (4.6% of the time compared with 8.9%).

Morgenstern et al. (2009) [+] compared intensive case management (ICM) with usual care in 302 substance-dependent women receiving Temporary Assistance for Needy Families (TANF) benefits in the US, and in comparison with 150 non-substance-dependent women receiving TANF. ICM was based on a manual to identify barriers to treatment, co-ordinate service provision, and provide voucher incentives to attend treatment for substance abuse, and lasted 24 months. Usual care involved a session with a clinical care coordinator who referred participants for substance abuse treatment and provided limited follow-up for non-attenders. The ICM group had higher abstinence rates after 24 months (odds ratio 2.11, 95% confidence interval 1.36 to 3.29). There were no significant differences in the proportion of the groups with

any employment after 24 months (27% of the usual care group compared with 30% of the ICM group) or in average number of days worked, but significantly more of the ICM group were employed full time after 24 months (22% of ICM group compared with 9% of usual care, OR 3.24, 95%CI 1.52 to 6.91). Both groups of substance abusers had lower employment rates than the control group of non-substance using women on TANF benefits at baseline (50% in any employment and 34% in full time employment after 24 months).

Penk et al. (2010) [+] compared the Veterans' health Administration's transitional work experience services (TWE) with a standard job placement service in 89 veterans with co-morbid substance abuse and psychiatric disorders in the US. The TWE intervention involved placing the patient immediately in a structured work setting for which they are paid weekly, with programme staff providing on-site and off-site coaching and assistance in finding competitive employment. Standard job placements involved an initial session with a vocational rehabilitation specialist who reviewed employment goals and resources available, with follow-up sessions as appropriate. Sixty percent of participants in the TWE programme obtained competitive employment during the following year, with a mean of 30.2 weeks worked and a mean 36.9 hours per week worked. However, 80% of these felt that TWE had not helped them find their job. Seventy seven percent of participants in the standard job placement scheme found competitive work during the following year, with a mean of 23.5 weeks worked. Of these, 87% said that the job placement programme had not helped them find their job. There was no significant difference in overall likelihood of paid employment or of finding a competitive job, in total income earned or in job tenure between the two groups. The authors concluded that neither TEW nor standard job placement programmes had been helpful for the majority of participants.

Treatment interventions: Exercise-based intervention

One study found that a workplace-based exercise programme reduced depression (with borderline statistical significance), but did not reduce sickness absence compared with no intervention (de Zeeuw et al., 2010).

De Zeeuw et al. (2010) [+] compared the impact of an exercise programme with usual behaviour for 31 employees of a large insurance company in the Netherlands who had sub-threshold depression, based on a Patient Health Questionnaire score of between 5 and 9. The intervention was a twice-weekly supervised training session taking place during office hours for 10 weeks. After 10 weeks, the effect size for the intervention was large (-0.9) for reduction in depression scores, although the difference was of borderline significance only (p=0.07 for completers, p=0.06 for intention to treat analysis). After the intervention, 3 of the 15 participants in the intervention group still had PHQ scores above 5, compared with 11 out of 15 in the control group (p=0.003). There was no significant difference in sickness absence between the two groups.

Treatment interventions: Problem solving

One study, reported in two papers, found that a graded activity plus problem solving programme run by social workers was no more effective than usual care from the GP at improving mental

health or employment outcomes, and was not a cost-effective intervention (Brouwers et al., 2006a and 2006b).

Brouwers et al. (2006a) [++] evaluated an experimental intervention delivered by social workers with usual care delivered by GPs to 194 patients on or about to go on sick leave for emotional distress or minor mental disorders in the Netherlands. The experimental intervention comprised 5 50-minute sessions over 10 weeks with trained social workers delivering care according to a treatment manual, based on a graded activity approach and a three-stage model of acknowledging the problem and taking responsibility for its resolution, development of problem-solving strategies, and implementing these strategies. GPs offered guidance, counselling, medication and referral to mental health services as usual. After 6 months, 58.2% of the intervention group and 62.4% of the control group had fully resumed work, and after 18 months 85.1% of the intervention and 77.6% of the control groups had fully resumed work (not significantly different). There were also no significant differences in mean duration of sick leave, depression scores on the Hospital Anxiety and Depression Scale (HADS), in depression, anxiety, distress and somatisation scores from the four-Dimensional Symptom Questionnaire (4DSQ), or functional status measured by the SF-36 questionnaire. In both groups, these scores improved from baseline, with the greatest improvement occurring between 3 and 6 months from baseline.

A cost-benefit analysis of this study found that sick leave costs were not significantly different for the two groups, at €13,721 for the intervention group and €13,935 for the control group. There were also no significant differences in healthcare costs, €636 for the intervention group and €547 in the control group. The social worker intervention was not considered to be cost-effective compared with routine GP care (Brouwers et al., 2006b). The ICER generated was -€4,179. The authors concluded that the intervention was not cost effective compared to the control treatment.

Treatment interventions: Psychotherapeutic interventions

Two studies found evidence that long-term psychodynamic psychotherapy (Knekt et al., 2008) or a telephone-based psychotherapy outreach programme (Wang et al., 2007) improved mental health outcomes, although employment rates and sickness absence were not significantly improved compared with short-term psychotherapy, solution-focused therapy or usual care.

Knekt et al. (2008) [+] assessed the effectiveness of long-term psychodynamic psychotherapy versus short-term psychodynamic psychotherapy or solution-focused therapy in 326 outpatients in Finland aged 20-45 years with impaired work ability because of depression or anxiety. Solution-focused therapy involved up to 12 sessions every 2 to 3 weeks over 8 months, to help clients change by constructing solutions. Short-term psychodynamic psychotherapy helped patients work through specific intrapsychic and interpersonal conflicts by exploring a specific focus over 20 weekly treatments over 5-6 months. Long-term psychodynamic psychotherapy had a broader range than short-term therapy and was provided 2 to 3 times a week for up to 3 years. After 3 years, long-term psychodynamic psychotherapy was significantly more effective than short-term therapy at improving work ability index scores, psychological functioning and

the Social Adjustment Scale work score. After 3 years, there were no significant differences across groups for the proportion currently employed or studying (76% for long-term therapy and solution-focused therapy, 80% for short-term therapy), the number of sick-leave days in the previous 3 months, or the proportion with more than 7 sick-leave days in the previous 3 months (long-term therapy group had a mean 2.44 sick leave days in the previous 3 months, compared with 4.81 days for short-term therapy and 5.42 days for solution-focused therapy, p=0.85 for comparison across groups).

Wang et al. (2007) [++] compared a telephone outreach, care management and psychotherapy programme with usual care in 604 depressed workers aged 18 and older enrolled in a large managed health care company in the US. The intervention involved an initial telephone assessment of symptoms and motivation for treatment by trained care managers. In-person psychotherapy was offered to all depressed participants, with medication as appropriate, and care workers provided a brief motivational intervention for people refusing psychotherapy. Follow-up telephone contacts with the care worker included structured assessments of symptoms and treatment. Workers refusing to participate were offered eight cognitive behavioural therapy sessions. After 12 months, there were significantly reduced depression scores in the intervention group compared with the usual care group, and significantly more participants had substantial improvement (30.9% compared with 21.6% with usual care, p=0.01) or recovery (26.2%, compared with 17.7% with usual care, p=0.01). Participants in the intervention group worked significantly more hours per week on average at 12 months (29.5, compared with 26 with usual care, p=0.008) but there were no significant differences in job retention rates at 12 months (92.6% with the intervention vs 88% with usual care, p=0.07), actual weekly hours worked among those employed (42.3, vs 39.5 with usual care, p=0.09), on the job performance, or on critical workplace incidents. Participants in the intervention group had significantly more treatment contacts than the usual care group (96, compared with 59.9 for the usual care group, p<0.001).

Treatment interventions: Stress management

Two studies, reported in three papers, reported stress management approaches to treatment. A problem-solving and stress management occupational therapy intervention shortened the time to return to work, increased the mean number of days worked, and had a greater mean net benefit compared with usual care (Schene et al., 2007). However, a minimal intervention for stress-related mental disorders for sick leave (MISS) was not found to improve employment outcomes compared with usual care (Bakker et al., 2007) and was not considered to be cost-effective (Uegaki et al., 2010). Neither intervention improved mental health outcomes.

Schene et al. (2007) [-] compared occupational therapy with treatment as usual in 62 adults with sickness absence or at least 50% work reduction due to work-related major depression in the Netherlands. Usual treatment included clinical management with antidepressants if indicated, with assessment, psycho-education, support and cognitive behavioural therapy from a senior psychiatrist. The occupational therapy group also received sessions with occupational therapists focused on diagnosing the underlying problems during five contacts over 4 weeks, 24 weekly group sessions aimed at reintegration into the workplace and dealing with stress at

work, and three visits over a 20-week follow-up period. There was a significant decrease in depression scores in both groups over time but with no additional benefit from the addition of occupational therapy, and no difference in work stress levels between groups. However, the addition of occupational therapy led to a significant shortening in the time to return to work (from 299 days with usual care to 207 days with occupational therapy, $p=0.01$) and a significant increase in number of days worked over the first 18 months ($p<0.05$). This meant that the addition of occupational therapy had a 75% probability of being cost-effective, with a mean net benefit of US$14,850 compared with US$10,898 with usual care.

Bakker et al. (2007) [++] compared a minimal intervention for stress-related mental disorders with sick leave (MISS) with usual care in 433 patients consulting a GP in the Netherlands for stress-related mental disorders causing them up to 3 months of sick leave. The GPs were trained to diagnose the problem and deliver the MISS, which involved giving information about stress-related mental health problems and advice on functional rehabilitation, monitor the patients to see if they have developed a solution to the problem, and referral to specialist care when appropriate. After 1 year, there were no significant differences in the median number of sick days (96 with MISS, compared with 102 in the usual care group). Distress, depression, anxiety and somatisation scores all fell significantly compared with baseline over the 1-year follow-up, but there were no significant differences between the MISS and the usual care groups at 2 months, 6 months or 12 months.

A cost-effectiveness analysis of this study found very few significant differences between the two groups in healthcare resource use, with higher medication use in the MISS group and higher number of visits to an alternative provider in the usual care group. Both groups had a mean baseline utility score of 0.68, and at 12 month follow-up the MISS group saw a slightly bigger improvement compared to the usual care group (0.83 vs 0.81). In both groups, mean productivity loss costs accounted for more than 80% of total costs. The authors concluded that the MISS option was less costly than usual care and slightly more effective, with a mean ICER of -€7,357. The maximum willingness to pay (WTP) for an additional QALY was estimated at €25,600, which the ICER value falls well below, indicating that this is cost effective. In addition at this threshold, the probability of the intervention being cost effective was 80%. However this was dependent largely on the stress-related mental disorder subgroup (Uegaki et al., 2010 [++]).

8.2 Case studies

This section presents the results from the Member State and workplace case studies, organised as follows:

- Germany
- Italy
- Poland
- Sweden

- Fairwurzelt (Austria)
- MOL Hungarian Oil & Gas Company (Hungary)
- Agis Zorgverzekeringen (Netherlands)
- Corporació Sanitària Parc Taulí (Spain)
- BT Group (UK)

Germany

SCOPE OF MENTAL HEALTH PROBLEMS IN THE COUNTRY
Working age population size (15-64 years of age)
53,966,108[27]
Prevalence of mental health disorders
12%[28]
Percentage of total healthcare budget spent on mental health disorders
10%[29]
Impacts of mental health disorders in the labour force
Mental health related disorders are estimated to be responsible for 8-12%[30] of total absenteeism in Germany[31]. It has been noted that over the last twenty years, there has been a relative increase in the percentage of absenteeism that is related to mental health disorders. The rate of absenteeism can be used as an indicator for the impact of mental health disorders on productivity, as employers would need to use existing staff or hire interim staff to cover the absent individuals, lowering the productivity rate and also increasing the costs incurred by the employer. The impacts on labour turnover are more difficult to estimate, as the reasons for an employee leaving a job are only known by the employer and are not publicly available; however it is believed that mental health disorders do play a role. **Mental health disorders were the leading cause of health related causes of early retirement**. In 2007 it was estimated that a third of new pensions issued for people with a diminished capacity to work were due to a mental health related problem[32] although these findings are debatable by employer associations. Impacts on presenteeism are not measured at the national level; however some companies have invested in researching this metric. One example is Unilever, who conducted a survey among the workforce to find out more about presenteeism in their company. The results showed that mental health disorders accounted for the majority of cases of employees going to work despite being ill.
Mental health best practice policies/ Initiatives in place
Description of best practice mental health policies/ initiatives in place
Workplace health promotion and prevention framework provided by social health insurance funds Comprehensive workplace health promotion offers a framework that companies can use to involve their own employees to check the quality of critical working conditions in relation to their own health. This can be done through surveys or site visits by a group of employees. Based on the analysis of the workplace review, the group of employees can develop suggestions for improvement. This approach is general, and is applicable to stress related aspects of the working environment, such as job tasks, working conditions and performance management procedures. Stress management interventions are offered to the entire workforce, as well as healthy leadership interventions

[27] Source: Population database, Eurostat 2011.

[28] Source: Special EU barometer 345 "Mental Health", European commission 2010. http://ec.europa.eu/health/mental_health/docs/ebs_345_en.pdf

[29] Source: Annex XII – Paper B - Financing in Mental Health in Western Europe, European commission http://ec.europa.eu/health/ph_projects/2002/promotion/fp_promotion_2002_a12_frep_07_en.pdf

[30] Source: Federal Ministry of Labour and Social Affairs 2011: Occupational Medicine. Mental health at work. Recommendation Commission on Occupational Medicine (Afamed), BKK Health Report 2011: The future of work, Ed. BKK Federal Association.

[31] Taken from personal communication with Dr Gregor Breucker

[32] Source: iga.Fakten 1, page 3, 2009, ed. BKK BV, DGUV, AOK-BV, vdek.,

(training program for managers on how to integrate health aspects in their daily managerial tasks). These interventions are offered by private consultancies that are registered with and certified for quality by the social health insurance funds. The interventions are appr. 80% co-financed by the social health insurance funds, and the remaining 20% is funded by the insured party.

In addition to this framework, there is a legal framework for reintegration for employees who have been absent from work for more than 6 weeks, either in one period, or a series of absences in a year. Employers are legally obligated to offer the programme to the employee, although employee participation is voluntary. If an employee chooses to participate in the program, they will have to disclose the medical reasons for the absence. In terms of employees suffering from a mental health disorder, there may be stigma attached to admitting this to an employer, as questions of capability to perform job function may arise.

The national framework attempts to prevent mental health disorders in the working population by addressing stress, as a precursor to impaired mental health. The framework outlined is targeted at the entire working population and employers, with elements specifically aimed at those at risk and who have already been diagnosed with a mental health disorder.

What is the level of compliance of companies with the best practice policies/ initiatives?

The framework set out by the social health insurance funds is voluntary. However there are incentives for companies to use the framework, such tax breaks.

What are the main drivers behind the introduction of the best practice policies/ initiatives?

In the early 1970's, occupational health and safety researchers were inspired by the idea that in order to reduce accidents, it was necessary to ask employees what they thought the problems were in the workplace, rather than asking the experts. However absenteeism rates were rising and discussions were held with social partners on how to tackle this issue, and an agreement was reached to introduce voluntary workplace health promotion programmes in companies and monitor the effect it had on absenteeism. Today social health insurance institutions are required to promote good practices in the fields of workplace health promotion and prevention across various settings.
In addition to this are the expected impacts of the demographic change on the current and future labour markets are driving the need for more companies to invest in comprehensive workplace health promotion programmes which also include the promotion of mental health.

Who are the relevant stakeholders?

Social partners (employers and trade unions), social insurance-based stakeholders and government

Are the best practice policies/ initiatives reviewed to meet changing needs?

Data are analysed annually and outcomes evaluated in terms of how many people are reached directly and indirectly by the intervention. A report is then published with recommendations for improvement.

Impacts and costs of best practice policies/ initiatives on mental health disorders in the workplace

Costs of having employees absent from work

Employers pay 70 percent contribution to short-term (4 to 8 days) sickness leave. Employers also contribute to a sickness fund, which covers long term sick leave payments[33].

Number of people benefiting from best practice policies/ initiatives

Workplace health promotion as provided by the statutory health insurance funds, reached 2% of the whole insured population, equating to about 1.44 million people[34].

Impact of best practice policies/ initiatives on absenteeism/ productivity/ labour turnover/ early retirement

Reduced absenteeism rate and raised awareness of the importance of workplace health promotion and prevention

This needs to be considered cautiously. In order to estimate the true impact, the "dosage" of the intervention must have a critical mass level if it is to reduce absenteeism by a significant amount.

[33] Source: Background document for the EU Thematic Conference:"Promotion of Mental Health and Well-being in Workplaces"
http://ec.europa.eu/health/mental_health/docs/ev_20110303_bgdoc_en.pdf

[34] Source: Prevention report 2010 (data refer to 2009): Benefits of the statutory health insurance institutions in the fields of primary prevention and workplace health promotion.

There are no formal estimations of the impact on productivity, labour turnover and early retirement. However what the framework has managed to achieve over the last 40 years is to raise awareness of the importance of workplace health promotion among employers, and has brought about a change to the mindset and attitudes around workplace health promotion and prevention.

There has been no measurable improvement in reintegrating long term sick employees.

The reason for this, as mentioned previously is that employees may be reluctant to take up reintegration programmes offered by employers, due to the stigma attached to disclosing they have a mental health disorder.

How much has been invested in supporting mental health related disorders in labour force in the country?

€36 million spent on workplace health promotion and prevention per annum

It is estimated that in Germany, there are 72 million people who are insured. Overall €3 per insured person per year is allocated to preventions interventions generally for health, and of that, 50 cents is specifically for workplace health promotion and prevention[35].

Lessons learned

What feedback has been given by people about the policy/ initiative?

Most large firms in Germany have introduced a workplace health promotion and prevention programme

There are continuous talks with stakeholders on how to reach more companies. The common theme is that the framework does not reach enough SME's and is not tailored to meet the needs of SME's. However most of the larger companies in Germany have implemented a corporate health management programme and this is seen as a success of the framework.

What improvements can be made?

Developments are being made in terms of utilising the internet to reach a wider audience by intermediary stakeholders. The health insurance funds have a keen interest in this and are working on ways to incorporate this into the framework in order to reach more SME's.

Are there any changes due to be implemented in the near future?

Currently the health insurance funds are free to divide the budget of €3 per insured person as they wish. However the German Government have been considering introducing thresholds expenditure figures for workplace health promotion and prevention, as they feel this area needs strengthening. For instance establishing a threshold of €1 per insured person, rather than 50cents for workplace health promotion and prevention.

[35] Taken from personal communication with Dr Gregor Breucker

Italy

SCOPE OF MENTAL HEALTH PROBLEMS IN THE COUNTRY
Working age population size
60,626,442[36]
Prevalence of mental health disorders
14%[37]
Percentage of total healthcare budget spent on mental health
5%[38]
Impacts of mental health disorders in the labour force
Currently in Italy, there is little formal data collection around the issue of work related mental health disorders. There are plans for local organisations to collaborate with local health authorities to collect data and better understand the existing situation. However through discussions with doctors and psychiatrists there is a trend emerging of patients complaining about inability to work due to mental health disorders, and specifically stress. Within the region of Alto Adige, several companies have identified absenteeism to be largely attributed to poor mental health
Mental health policies/ Initiatives in place
Description of mental health policies/ initiatives in place
In Italy there is a law (article 18, paragraph 1, n.81 of 2008[39]) which came into effect in 2011 requiring companies to evaluate the risks of poor mental health, in particular stress, in the work environment. The outcomes of the evaluation need to be reported and stored by companies. Risk assessments can be conducted using checklists and discussions with groups of representative employees around potential sources of mental health risk such as sick leave, injury rates, turnover, doctor's reports, pace of work, working hours, career development, communications, etc. If risks are identified then the necessary corrective measures should be put in place. If these measures are ineffective, the company must conduct an in depth evaluation with groups of representative employees or in large organisations, all employees, to assess perceptions of employees of the problems, and direct involvement of employees to find solutions. This may involve the use of questionnaires, focus groups, meetings, etc.
What is the level of compliance of companies with the policies/ initiatives?
This law is applicable to any company with more than 10 employees. However there are no mechanisms in place to monitor and enforce its applicability.
What are the main drivers behind the introduction of the policies/ initiatives?
In Italy the promotion of health in the work place is still understood as physical safety, as such this law was developed to minimise the risk of accidents at work.
Who are the relevant stakeholders?
The main stakeholders are the companies and employees
Are the policies/ initiatives reviewed to meet changing needs?

[36] Source: Population database, Eurostat 2011.
[37] Source: Special EU barometer 345 "Mental Health", European commission 2010. http://ec.europa.eu/health/mental_health/docs/ebs_345_en.pdf
[38] Source: Annex XII – Paper B - Financing in Mental Health in Western Europe, European commission http://ec.europa.eu/health/ph_projects/2002/promotion/fp_promotion_2002_a12_frep_07_en.pdf
[39] http://olympus.uniurb.it/index.php?option=com_content&view=article&id=3609:ministero-del-lavoro-circ-18-novembre-2010-approvazione-delle-indicazioni-necessarie-alla-valutazione-del-rischio-da-stress-lavoro-correlato-di-cui-allarticolo-28-comma-1-bis-del-decreto-legislativo-9-aprile-2008-n-81-e-s-m-i-&catid=6:prassi-amministrativa&Itemid=59

This law came into effect in 2011 and currently it is being reviewed to include specific methodologies for companies to use in order to conduct the risk assessments.

Impacts and costs of policies/ initiatives on mental health disorders in the workplace

Costs of having employees absent from work

The Italian National Institute for Social Security provides sickness benefits in case of long term sickness absence or benefits in case of work-related disability[40]

Number of people benefiting from policies/ initiatives

As yet no data are available.

Impact of policies/ initiatives on absenteeism/ productivity/ labour turnover/ early retirement

As there is no control over the implementation of the law, it is not yet known what the impact of it has been for people with work related mental health disorders. However it is believed that the law has raised awareness and sensitivity around the topic of work related mental health disorders.

How much has been invested in supporting mental health related issues in labour force in the country?

No data are available

Lessons learned

What feedback has been given by people about the policy/ initiative?

NGOs which work on this thematic are happy about this law as it has increased sensitivity around the topic. Many managers who were oblivious about work related mental health disorders are now aware of it and are starting to look at ways to deal with the issue.

What improvements can be made?

The following improvements are suggested:

- Controls to make sure that companies actually run risk assessments
- Introducing standards and unified methodologies for conducting risk assessments.
- In Italy health and safety at work is limited to physical safety (for example use of helmets, smoking bans or alcohol policies). However more needs to be done to emphasize the mental health and stress prevention aspect of work health and safety policies.

Are there any changes due to be implemented in the near future?

Changes are due to be implemented at the region level.

[40] Source: Background document for the EU Thematic Conference:"Promotion of Mental Health and Well-being in Workplaces"
http://ec.europa.eu/health/mental_health/docs/ev_20110303_bgdoc_en.pdf

Poland

SCOPE OF MENTAL HEALTH PROBLEMS IN THE COUNTRY
Working age population size
27,256,968 [41]
Prevalence of mental health disorders
9% [42]
Percentage of total healthcare budget spent on mental health disorders
N/A
Impacts of mental health disorders in the labour force
Mental health disorders are the second leading cause of absenteeism in Poland. This is according to data presented by the Polish Social Insurance Institution[43]. Presenteeism is a relatively new metric in Poland and as yet the scale of the issue and the impact that mental health disorders have on it is unknown. In addition there is no official data for the impact of mental health disorders on labour turnover.
Mental health policies/ Initiatives in place
Description of mental health policies/ initiatives in place
In 2011, The National Mental Health Protection Programme was implemented. The programme is aimed generally at limiting the potential risks to mental health. Part of the programme focuses on professional activation of unemployed people with mental health disorders into the labour force. This is achieved through schemes set up by Voivodeship local governments which increase accessibility to professional rehabilitation, job counselling and training. The local governments are also involved with initiating and conducting information campaigns addressed at employers to promote the recruitment of people with mental health disorders.
What is the level of compliance of companies with the policies/ initiatives?
Compliance is not compulsory, but training courses are available to companies if they wish to participate and attendance is monitored.
What are the main drivers behind the introduction of the policies/ initiatives?
Observation of mental health trends in Poland has revealed an increasing rate of the number of mental health disorders that are being diagnosed. Experiences of other countries has shown that in order to achieve a decline in these trends, a long term co-ordinated approach to dealing with the factors that cause poor mental health, as well as appropriate treatment and reintegration into society for people suffering from mental health disorders in required.
Who are the relevant stakeholders?
National Government, Voivodeship, county and local Governments and social organisations.
Are the policies/ initiatives reviewed to meet changing needs?
The programme has only been in place for 1 year and as yet has not been reviewed or updated. However entities involved with delivering the programme are required to submit annual reports.
Impacts and costs of policies/ initiatives on mental health disorders in the workplace

[41] Source: Population database, Eurostat 2011.
[42] Source: Special EU barometer 345 "Mental Health", European commission 2010. http://ec.europa.eu/health/mental_health/docs/ebs_345_en.pdf
[43] http://www.zus.pl/default.asp?p=1&id=1442

Costs of having employees absent from work
Long-term sick leave is covered by the social security system. Employers contribute to social security insurance for long-term sickness payments [44]. It is estimated that 4.55million PLN per year is spent of sickness allowances related to mental health disorders.
Number of people benefiting from policies/ initiatives
N/A
Impact of policies/ initiatives on absenteeism/ productivity/ labour turnover/ early retirement
As the programme is in its early stages, no information is available on the above impacts, however it is anticipated that after four years the impact should be seen.
How much has been invested in supporting mental health related issues in labour force in the country?
Roughly a combined 100 million PLN is spent by various organisations (local & national government, NGOs, etc) to support mental health related issues in the labour force.

Lessons learned
What feedback has been given by people about the policy/ initiative?
It is too early to gather feedback, the annual reports for 2011 are currently being reviewed and once this is complete, the level of adherence and impacts of the programme will be better known.
What improvements can be made?
As above.
Are there any changes due to be implemented in the near future?
Once the review is complete, any changes required that have been identified will be considered for implementation.

[44] Source: Background document for the EU Thematic Conference:"Promotion of Mental Health and Well-being in Workplaces"
http://ec.europa.eu/health/mental_health/docs/ev_20110303_bgdoc_en.pdf

Sweden

SCOPE OF MENTAL HEALTH PROBLEMS IN THE COUNTRY
Working age population size
6,113,365[45]
Prevalence of mental health disorders
17%[46]
Percentage of total healthcare budget spent on mental health disorders
11%[47]
Impacts of mental health disorders in the labour force
Mental health disorders account for 20% of short term absenteeism (less than 1 month) and are the most common reason for leave. In terms of long term absenteeism, it is the second most common reason and accounts for 30 – 35% of leave. The impact of mental health related disorders on labour turnover is negative. People suffering from poor mental health have found it necessary to leave their jobs, work part time or move into low skilled professions, however there is no official data for this.
Mental health policies/ Initiatives in place
Description of mental health policies/ initiatives in place
National 3 year initiative developed by the Swedish government agency, Handisam. It is aimed at 25-45 year olds, focussing on changing attitudes towards people with mental health disorders. Attitude ambassadors are employed to work with people with mental health disorders to help them reintegrate into the labour market. Handisam have also work with trade unions, employers associations and larger companies to raise awareness of the mental health related issues that may affect the workforce. A handbook has been developed aimed at managers with advice on how to cope with and support employees with a mental health disorder. For most companies, the issue of mental health disorders in the labour force is not the number one focus, although in larger companies the issue is starting to be addressed as it is seen as a costly problem. Handisam tend to approach companies to raise awareness of the issue and how companies can address it and feedback tends to be very positive and welcome.
What is the level of compliance of companies with the policies/ initiatives?
As yet there is no data around company adherence as the initiative has only recently started.
What are the main drivers behind the introduction of the policies/ initiatives?
In Sweden attitudes surrounding the issue of mental health related disorders are poor, and so the initiative was set up to change these attitudes.
Who are the relevant stakeholders?
Companies, trade unions, Government and patient organisations
Are the policies/ initiatives reviewed to meet changing needs?
Researchers perform regular evaluations, in addition to an evaluation at the start and end of projects in order to measure the outcomes of the initiative. Outcomes of the initiative are due to be benchmarked against UK data.
Impacts and costs of policies/ initiatives on mental health disorders in the workplace
Costs of having employees absent from work

[45] Source: Population database, Eurostat 2011.
[46] Source: Special EU barometer 345 "Mental Health", European commission 2010. http://ec.europa.eu/health/mental_health/docs/ebs_345_en.pdf
[47] Source: Annex XII – Paper B - Financing in Mental Health in Western Europe, European commission http://ec.europa.eu/health/ph_projects/2002/promotion/fp_promotion_2002_a12_frep_07_en.pdf

Employers have an obligation pay the full sickness benefits for the first two weeks and a proportion (15 percent) thereafter unless the employee receives rehabilitation or continues working part time; government plans to reward employers who achieve fewer sick leaves with lower insurance payments[48].
Number of people benefiting from policies/ initiatives
As the initiative is new, it is too early to know how many people are benefiting, however changes in attitude in the society in general are being seen. Full outcomes will be known when the initiative finishes in 3 years time.
Impact of policies/ initiatives on absenteeism/ productivity/ labour turnover/ early retirement
As above
How much has been invested in supporting mental health related issues in labour force in the country?
In terms of the initiative, Handisam have drawn on their experience and current staff, but have hired one extra person to oversee the implementation of the initiative, however generally there are no official figures on how much is being invested in mental health related issues in the labour force.

Lessons learned
What feedback has been given by people about the policy/ initiative?
So far there has been a large interest in the initiative and feedback from the stakeholders has been very positive
What improvements can be made?
Handisam are in constant contact with the Government regarding the 3 year initiative in terms of what can be improved and as the initiative moves on to the later stages, these will become more apparent.
Are there any changes due to be implemented in the near future?
No

[48] Source: Background document for the EU Thematic Conference:"Promotion of Mental Health and Well-being in Workplaces"
http://ec.europa.eu/health/mental_health/docs/ev_20110303_bgdoc_en.pdf

Fairwurzelt (Austria)

SCOPE OF MENTAL HEALTH PROBLEMS IN THE COUNTRY
Working age Population size
5,689,364[49]
Prevalence of mental health disorders
16%[50]
Percentage of total healthcare budget spent on mental health
N/A
Company Description
Industry
Non- profit/ charity
Number of employees
30
Description
Fairwurzelt is an employment project funded by the local government with the aim to prepare women who suffer from mental disorders for a job in the job market. Project participants are employed by Fairwurzelt to work in their plant nursery for one year. The project is aimed at women who suffer from: depression, stress, burnout, exhaustion, lack of confidence and fear of failure.
Impacts of mental health disorders in the organisation
Due to the nature of the organisation, prevalence of mental health disorders is high, mainly because the participants of the programme are suffering from poor mental health. However the following are the sick leave statistics for the organisation, but no distinction is made for leave due to a mental health disorder. General sick leave statistics: 2009 (13%), 2010 (11%), 2011 (17%) Fluctuation is an inherent part of the concept of Fairwurzelt where 12 permanent members of staff (key personnel) support 18 (this year) women, with the purpose of those women to find a job after completion of the programme
Mental health policies/ Initiatives in the workplace
Description of mental health policies/ initiatives in place
The employment project in place at Fairwurzelt involves giving a select group of women who suffer from mental health disorders a job working in the plant nursery. Gardening has a positive impact on psychological and physical wellbeing; helping the women to regain purpose and confidence. Once a week a “sensitivities round” is carried out for 1 ½ hours where all kinds of problems can be discussed (and experts are invited). Topics include burnout prevention, communication, addiction prevention, mobbing; Fairwurzelt also organises workshops and trainings, which are obligatory for participants. Depending on the feedback from one to one with participants, further support (i.e from doctors/ therapists) can be organised. For permanent staff (key personnel), there are regular team meetings and female employee discussion. During the winter, Nordic walking activities are organised to promote physical and mental wellbeing.

[49] Source: Population database, Eurostat 2011.
[50] Source: Special EU barometer 345 "Mental Health", European commission 2010. http://ec.europa.eu/health/mental_health/docs/ebs_345_en.pdf

The project is ongoing and each year a new concept is submitted to funding authorities, which outlines the annual schedule.

What are the main drivers behind the introduction of the policies/ initiatives?

N/A

Who are the relevant stakeholders?

N/A

Are the policies/ initiatives reviewed to meet changing needs?

Feedback questionnaires and interviews with employees influence the programme. For example, what part of the programme is particularly popular/ useful. There is also a general online test which is carried out once or twice a year to evaluate the workplace.

Costs and Impacts of policies/ initiatives on mental health disorders in the workplace

Costs of having employees absent from work

Long-term sick leave is covered by the social security system. Employers contribute to the social security insurance for sickness payments[51].

Number of people benefiting from policies/ initiatives

Given the nature of the organisation, all employees, including project participants and key personnel benefit from the initiative put in place.

Impact of policies/ initiatives on absenteeism/ productivity/ labour turnover/ early retirement

See below.

Impact of policies on reintegrating long term sick employees

The aim of the project is to get women suffering from poor mental health back into the workforce, and therefore increasing their productivity. Due to the funding structure provided by local government, the organisation needs to ensure that at least 50% of the project participants secure a job after one year working for Fairwurzelt. The employment project has been running for 15 years, and on average, it achieves this 50% objective.

Impact of policies/ initiatives on number of employees suffering from mental health disorders

Due to the nature of project, the physical work in the nursery has helped to promote positive to mental health. Discussions and communication of problems amongst staff lead to an open environment, without the risk of stigma and judgement, all of which helps to reduce risk of poor mental health.

How much has been invested in supporting mental health related issues in the workplace?

€6000 per year is invested by the organisation for the support programmes for project participants. The total cost of the employment project is €800,000 per year and off that 86% is fund by the local job market service, local state government and the European Social Fund (ESF). The remaining 14% is funded by profits from the nursery.

Lessons learned

What feedback has been given by people about the policy/ initiative?

The employment programme has received positive feedback from participants, especially with regards to mental training and one to one talks.

What improvements can be made?

Due to economic pressure for the nursery to make profit (time pressure and stress), it would be desirable for more time to be allocated to taking care of project participants. Also, regular feedback and evaluations should be more systematised.

[51] Source: Background document for the EU Thematic Conference:"Promotion of Mental Health and Well-being in Workplaces"
http://ec.europa.eu/health/mental_health/docs/ev_20110303_bgdoc_en.pdf

Are there any changes due to be implemented in the near future?
Online tests are to be carried out more regularly, as they reveal a lot of important information.

MOL Hungarian Oil & Gas Company (Hungary)

SCOPE OF MENTAL HEALTH PROBLEMS IN THE COUNTRY
Working age Population size
6,857,377[52]
Prevalence of mental health disorders
12%[53]
Percentage of total healthcare budget spent on mental health
N/A
Company Description
Industry
Manufacturing/ Energy
Number of employees
5600
Description
MOL Group is a leading integrated Central and East European oil and gas corporation with an extensive international Upstream portfolio. MOL is committed to maintaining and further improving the efficiency of its current portfolio, exploiting potential in its captive and new markets and to excellence in its social and environmental performance.
Impacts of mental health disorders in the organisation
Absenteeism rate = 4%[54] **Reduced productivity due to mental health related disorders** The main mental health disorders that affect MOL's workforce are anxiety, stress and depression, with stress having the highest incidence. Less than 1% of the workforce has a clinically diagnosed mental health disorder. Workplace stress is measured with a general questionnaire derived from the Copenhagen Psychological Questionnaire (COPSOQ), which is included in the company's workplace risk assessment system. Results of the assessments found that white collar employees have stress levels greater than 50%, however the average level of stress in the workplace is 32%, which is considered low. Staff turnover is considered low in the company, with a rate of 2-4%, however no differentiation is made for staff turnover due to mental health related disorders.
Mental health policies/ Initiatives in the workplace
Description of mental health policies/ initiatives in place
COHESIO After some assessments and studies in 2008-2009, a project with the name of COHESIO (Compliance with Occupational Health of Ergonomics and Stress Identification Optimum) was started in 2010. The aims of the project are:

[52] Source: Population database, Eurostat 2011.
[53] Source: Special EU barometer 345 "Mental Health", European commission 2010. http://ec.europa.eu/health/mental_health/docs/ebs_345_en.pdf
[54] Company figure for 2006

- to prevent the workplace stress situations and related illnesses, work related incident/injuries and occupational diseases.
- to minimize risk of injuries while optimizing productivity and wellbeing
- to maintain and improve the employee's capabilities to work
- to find professional ways for the elimination and reduction of the ergonomic risk and workplace stress while reducing the absence rate and increase the work ability of the employees.

The different risk assessment methods within MOL provide a complete map of workplace psychological risks within the Company and will highlight the groups of employees with a high workplace stress risk category.

What are the main drivers behind the introduction of the policies/ initiatives?

N/A

Who are the relevant stakeholders?

N/A

Are the policies/ initiatives reviewed to meet changing needs?

The initiative is ongoing. Quarterly and end of year steering committee meetings are held to review the initiative against the changing needs of the company.

Costs and Impacts of policies/ initiatives on mental health disorders in the workplace

Costs of having employees absent from work

Long-term sick leave payments are covered by the social security system. Employers contribute to the social security insurance fund for sickness payments[55].

Number of people benefiting from policies/ initiatives

Since the introduction of the initiative in 2010, 1348 employees have made use of the facilities (2010: 535 employees; 2011: 813 employees).

Impact of policies/ initiatives on absenteeism/ productivity/ labour turnover/ early retirement

In 2010 and 2011 absenteeism was 1.8% per year (reduced from 4%).

Project COHESIO in conjunction with other workplace health promotion activities in the company has managed to increase the percentage of employees returning to work from sick leave, and also increase productivity within the company. The policies are assumed to have contributed to the low staff turnover rate of 2-4%, however this has not been specifically measured.

Impact of policies/ initiatives on number of employees suffering from mental health disorders

This metric is currently being collected, and results of the initiatives effect on the mental health of employees, will be available in 2013/2014.

How much has been invested in supporting mental health related issues in the workplace?

€100,000/ year.

MOL does not receive any government support for the implementation of the initiative.

Lessons learned

What feedback has been given by people about the policy/ initiative?

Feedback has been positive with regards to the stress reduction training. The success of the initiative was rated as a 7/8 out of 10.

What improvements can be made?

[55] Source: Background document for the EU Thematic Conference:"Promotion of Mental Health and Well-being in Workplaces"
http://ec.europa.eu/health/mental_health/docs/ev_20110303_bgdoc_en.pdf

Communication of the initiative with employees and management could be improved, as well as being able to access the remote sites more and involving the families with stress reduction training.
Are there any changes due to be implemented in the near future?
As yet, no changes are to be made to the initiative.

Company Profile: Corporació Sanitària Parc Taulí (Spain)

SCOPE OF MENTAL HEALTH PROBLEMS IN THE COUNTRY
Working age Population size
31,310,040[56]
Prevalence of mental health disorders
17%[57]
Percentage of total healthcare budget spent on mental health
4.6-5.3%[58]
Company Description
Industry
Public health & social services
Number of employees
3,500
Description
Corporació Sanitària Parc Taulí is a public hospital located nearby Barcelona and serving population from the Catalonia Region. The hospital comprises acute, primary care, psychiatry, and geriatrics. It is a big hospital with seven building and approximately 3,500 employees. The hospital is funded with public resources from the Catalan National Health Service.
Impacts of mental health disorders in the labour force
Based on their psychological survey (based on the Goldberg mental health questionnaire) it is estimated that about 18% of the employees suffer from psychological discomfort. This survey is run every 2-4 years along with a health check (the frequency of the test depends of the risk of the position). About 60-70 employees receive counselling every year. The mental health problems of these employees are: - Anxiety: 23% - Depression: 24% - Adaptation problems (due to a particular personal or work circumstances): 41% - Psychosis: 5% - Personality disorders: 8%
Mental health policies/ Initiatives in the workplace
Description of mental health policies/ initiatives in place
Comprehensive program including several actions: - Prevention through psychological test to assess levels of stress in different job posts and understand causes.

[56] Source: Population database, Eurostat 2011.

[57] Source: Special EU barometer 345 "Mental Health", European commission 2010. http://ec.europa.eu/health/mental_health/docs/ebs_345_en.pdf

[58] Source: http://ec.europa.eu/health/ph_projects/2002/promotion/fp_promotion_2002_a12_frep_07_en.pdf

- Counselling for those affected by psychological problems.
- Monitoring (phone calls) for those who are on sick leave and may require psychological help.
- Leadership to help managers identify and deal with mental problems of their employees.
- Anti-bullying and conflict resolution.
- Rotation of employees whose current position is affecting their levels of stress and mental health.

What are the main drivers behind the introduction of the policies/ initiatives?

The program was established in 1996 with the aim to provide counselling services to employees suffering from a mental health disorder. Over the years, the program has expanded to provide other services, as described above.

Who are the relevant stakeholders?

All employees and management.

Are the policies/ initiatives reviewed to meet changing needs?

Although the program is run by one employee (specialised in work stress and mental health, other three professionals collaborate narrowly and– continually strive to provide a good service and adapt to the needs of the population. The impact on the professionals of the economic crisis affecting the Spanish healthcare sector over the last years is one of the challenges faced by the program.

The program is run by 11 employees (some of them specialised in mental health) who continually strive to provide a good service and adapt to the needs of the population. The economic crisis affecting Spain over the last year is one of the challenges faced by the program.

Costs and Impacts of policies/ initiatives on mental health disorders in the workplace

Costs of having employees absent from work

Abseenteism due to mental health problems:
- From January 2011 to August 2012: 136 episodes of sick leave. On average employees were absent for 78 days. The total days lost is approximately 8,000 days.
- It has been estimated that the cost of having employees absent from work is about €280,000 per year. This estimate refers to replacement costs associated to employees being absent from work.
- Long-term sick leave is covered by the social security system (85% of salary for 3 months) and the hospital (who contributes with 15% of the salary also for a period of 3 months). Beyond 3 months the benefits are reduced.

Number of people benefiting from policies/ initiatives

All employees (3,500) are surveyed every four years with the aim to identify psychological problems and the psychosocial risk factors of each one of the workplaces.
About 60-70 people receive counselling every year.

All employees (3,500) are surveyed annually with the aim to identify psychological problems.
About 60-70 people receive counselling every year.

Impact of policies/ initiatives on absenteeism/ productivity/ labour turnover/ early retirement

Based on data from January 2011 to August 2012:
- Out of 136 episodes of sick leave due to the mental health, 13 continue to be on sick leave. –i.e. 90% have returned to work.
- Ten employees have been assigned a new post.

How much has been invested in supporting mental health related issues in the workplace?

The cost of the program is approximately €60,000 per year. This includes direct costs of one full time speciallist and three part time employees. The program is entirely funded by the hospital.

Lessons learned

What feedback has been given by people about the policy/ initiative?

Employees show trust in the program, seeking help either directly or indirectly through their manager. The program has received positive feedback from the hospital management and the trade union.

What improvements can be made?

There is space for improvement in the preventive component of the program. The focus is on raising awareness among managers to ensure they support and help employees, and on reducing stress at work and improving the working conditions.

Are there any changes due to be implemented in the near future?
They do not anticipate implementation any significant changes in the near future.

Agis Zorgverzekeringen (Netherlands)

SCOPE OF MENTAL HEALTH PROBLEMS IN THE COUNTRY
Working age Population size
11,153,778
Prevalence of mental health disorders
18%
Percentage of total healthcare budget spent on mental health
8%[59]
Company Description
Industry
Health Insurance
Number of employees
1500
Description
Agis is company with approx 1.23 million customers and 1,500 employees. It is one of the major health insurers in the Netherlands[60]. The company aims to achieve improvements in healthcare in urbanised regions, focusing on customer groups with ties to the city, where access to the best healthcare services for them can be arranged[61].
Impacts of mental health disorders in the organisation
The main mental health disorders that affect the workforce are anxiety, depression and burnout. Prevalence of mental health disorders is measured by the company physicians at the start of sickness related absence. According to the statistics provided by the company for sickness related absence, 67% was due to stress, 5% for overstrain, 11% for burnout, 5% for depression, 4% for anxiety and 8% was due to other reasons. Total cost of absenteeism between 2007 and 2010 has been estimated €12.9million
Mental health policies/ Initiatives in the workplace
Description of mental health policies/ initiatives in place
The healthy behaviour model Employees who have been identified as at risk from suffering from poor mental health are catagorised into subgroups depending on the reasons for their poor mental health (personal issues, mild psychological problems, stress related symptoms and burnout). For each of those categories, specific resources are offered to the employee to help improve mental health and prevent the severity increasing further. Resources available include meetings with company welfare officers, exercise programmes & lifestyle advice and group & individual stress coaching.
What are the main drivers behind the introduction of the policies/ initiatives?
The policy was introduced to tackle the problems of high absenteeism and poor occupational health services within the company.

[59] Source: http://ec.europa.eu/health/ph_projects/2002/promotion/fp_promotion_2002_a12_frep_07_en.pdf
[60] Source: Models of good practice, European Network for workplace health promotion. http://www.enwhp.org/fileadmin/downloads/8th_Initiative/Models_of_good_Practice/Netherlands_Agis.pdf

Who are the relevant stakeholders?
Are the policies/ initiatives reviewed to meet changing needs?
The framework is continuous and reviews regularly to meet changing needs.
Costs and Impacts of policies/ initiatives on mental health disorders in the workplace
Costs of having employees absent from work
Continuation of Wage Payments during Sickness and Gatekeeper Improvement Act require the employer to encourage employees to return to work after illness – if the return is unsuccessful, the employer pays 70 percent of the employee's salary for two years[62].
Number of people benefiting from policies/ initiatives
It is estimated that between 100-200 employees make use of the model.
Impact of policies/ initiatives on absenteeism/ productivity/ labour turnover/ early retirement
Between 2007 and 2011, the company has seen significant reduction in both short and long term absenteeism rates and increase in productivity as a result of the healthy behaviour model. In 2007 it was estimated that absenteeism cost the company €4.42million, the reduced significantly to €2.29million in 2010.
Impact of policies/ initiatives on number of employees suffering from mental health disorders
The company believe that the healthy behaviour model has helped to reduce the number of people suffering from poor mental health, as can be seen by the reduction in absenteeism and the increase in productivity.
How much has been invested in supporting mental health related issues in the workplace?
Between 2007 and 2010 €1.23million has been invested in health management. The return on investment for the company has been estimated at €896,192. However the company does not get any support from the government for supporting mental health related issues in the workplace.
Lessons learned
What feedback has been given by people about the policy/ initiative?
Feedback has been positive with employees saying they feel they are being taken seriously by the company, and being thankful for the structure put in place to help them. Overall the employer-employee relationship has been strengthened.
What improvements can be made?
More attention and development is needed to handle work related conflicts, as well as improving facilities to help employees deal with changes in the company.
Are there any changes due to be implemented in the near future?
The above stated improvements are currently in development to be integrated into the healthy behaviour model.

[62] Source: Background document for the EU Thematic Conference:"Promotion of Mental Health and Well-being in Workplaces"
http://ec.europa.eu/health/mental_health/docs/ev_20110303_bgdoc_en.pdf

BT Group (U.K)

SCOPE OF MENTAL HEALTH PROBLEMS IN THE COUNTRY
Working age Population size
62,498,612 [63]
Prevalence of mental health disorders
12%[64]
Percentage of total healthcare budget spent on mental health
12%[65]
Company Description
Industry
Communications services
Number of employees
89,000 worldwide
Description
BT is one of the world's leading providers of communications services and solutions, serving customers in more than 170 countries. Its principal activities include the provision of networked IT services globally; local, national and international telecommunications services to its customers for use at home, at work and on the move; broadband and internet products and services and converged fixed/mobile products and services. BT consists principally of four lines of business: BT Global Services, BT Retail, BT Wholesale and Openreach.
Impacts of mental health disorders in the organisation
Within the company there are a wide range of mental health related disorders that affect the workforce, from stress, anxiety and depression through to obsessive compulsive disorder and bipolar disease. Prevalence of mental health is measure by the company's mental health dashboard, which is updated monthly. Before the introduction of the framework in 2001, absenteeism rates were significantly higher and productivity rates were low. Presenteeism is more difficult to measure, but has been estimated to 1.5times the rate of absenteeism.15% of all medically related early retirement was as a result of mental health disorders.
Mental health policies/ Initiatives in the workplace
Description of mental health policies/ initiatives in place
BT Mental Health Toolkit The toolkit is range of comprehensive resources aimed at promoting, supporting and managing employees' mental health. The framework is aimed at all employees, with specific elements targeted toward those employees who are at risk of developing poor mental health and employees who have existing mental health disorders . Resources include literature on promoting positive mental health and managing stress, training, stress assessments, self help books and an employee assistance programme.
What are the main drivers behind the introduction of the policies/ initiatives?
The framework has been developed from 2001 and continues, because mental health was and remains the most important health issue facing the company.
Who are the relevant stakeholders?

[63] Source: Population database, Eurostat 2011.
[64] Source: Special EU barometer 345 "Mental Health", European commission 2010. http://ec.europa.eu/health/mental_health/docs/ebs_345_en.pdf
[65] Source: Annex XII – Paper B - Financing in Mental Health in Western Europe, European commission http://ec.europa.eu/health/ph_projects/2002/promotion/fp_promotion_2002_a12_frep_07_en.pdf

All employees and management teams
Are the policies/ initiatives reviewed to meet changing needs?
The framework in place is a continuous and is in constant development to meet the changing needs of the company.
Costs and Impacts of policies/ initiatives on mental health disorders in the workplace
Costs of having employees absent from work
In the UK long-term sick leave covered by the department of Work and Pensions[66]. However sick leave for employees of BT is covered by the company. It has been estimated by the company that mental health related absence costs the company about £20million per year and presenteeism has been estimated as £30million per year.
Number of people benefiting from policies/ initiatives
This is not measured, how resources are available for 100% of staff, and use is encouraged by management.
Impact of policies/ initiatives on absenteeism/ productivity/ labour turnover/ early retirement
The framework has managed to reduce sickness absence rate over time and is currently very low at 2.1% and of that 0.5% is related to mental health disorders. As a result this has helped to improve productivity. In 2001 there were 112 people medically retired due to mental health disorders. The latest figures for 2012 (upto August) indicate that the number of medical retirements due to mental health now stand at 7 cases. .
How much has been invested in supporting mental health related issues in the workplace?
BT has an existing occupational health, safety and wellbeing department, which is specifically tasked with introducing measures to improve health. As such, very little additional funding has been required to develop and implement the Mental Health framework. The small amount of money required has been spent on externally provided training and materials to disseminate good practice.
Lessons learned
What feedback has been given by people about the policy/ initiative?
Feedback has been positive, with employees saying that the framework is helpful and makes them feel valued by the company. As a result, relationships with the trade unions have been strengthened as BT is seen as a good employer.
What improvements can be made?
Improvements to the framework are being made all the time, with the main themes being to keep it relevant, and make it more comprehensive.
Are there any changes due to be implemented in the near future?
Currently a trainee resilience programme aimed at helping to improve resilience in dealing with internal and external pressures is being piloted, with view for it to be implemented across the whole company in the near future.

[66]Source: Background document for the EU Thematic Conference:"Promotion of Mental Health and Well-being in Workplaces"
http://ec.europa.eu/health/mental_health/docs/ev_20110303_bgdoc_en.pdf

8.3 Sensitivity analysis

This section presents sensitivity analysis for the return on investment (benefit-cost ratio) yield by workplace programmes.

Table A2.1: Sensitivity analysis for Workplace improvement

Sensitivity analysis of B:C ratio to effect and cost of intervention					
Effect / Cost	€ 3.95	€ 7.91	€ 15.81	€ 19.77	€ 23.72
-9%	-20.53	-10.26	-5.13	-4.11	-3.42
-17%	2.04	1.02	0.51	0.41	0.34
-34%	47.18	23.59	11.79	9.44	7.86
-43%	69.75	34.87	17.44	13.95	11.62
-51%	92.32	46.16	23.08	18.46	15.39

Table A2.2: Sensitivity analysis for Acceptance and commitment therapy

Sensitivity analysis of B:C ratio to effect and cost of intervention					
Effect / Cost	€ 17.05	€ 34.10	€ 68.20	€ 85.25	€ 102.30
-20%	4.18	2.09	1.05	0.84	0.70
-40%	16.45	8.23	4.11	3.29	2.74
-80%	40.99	20.49	10.25	8.20	6.83
-100%	53.26	26.63	13.31	10.65	8.88
-120%	65.53	32.76	16.38	13.11	10.92

Table A2.3: Sensitivity analysis for Stress management

Sensitivity analysis of B:C ratio to effect and cost of intervention					
Effect / Cost	€ 121.95	€ 243.91	€ 487.82	€ 609.77	€ 731.73
-11%	0.63	0.32	0.16	0.13	0.11
-22%	2.31	1.15	0.58	0.46	0.38
-45%	5.66	2.83	1.41	1.13	0.94
-56%	7.33	3.67	1.83	1.47	1.22
-67%	9.01	4.50	2.25	1.80	1.50

Table A2.4: Sensitivity analysis for Electronic CBT

Sensitivity analysis of B:C ratio to effect and cost of intervention					
Effect / Cost	€ 119.50	€ 239.00	€ 477.99	€ 597.49	€ 716.99
-6%	0.37	0.19	0.09	0.07	0.06
-13%	1.33	0.67	0.33	0.27	0.22
-25%	3.26	1.63	0.81	0.65	0.54
-32%	4.22	2.11	1.06	0.84	0.70
-38%	5.19	2.59	1.30	1.04	0.86

Table A2.5: Sensitivity analysis for Exercise programme

Sensitivity analysis of B:C ratio to effect and cost of intervention					
Effect / Cost	€ 180.70	€ 361.41	€ 722.82	€ 903.52	€ 1,084.23
-18%	12.45	6.23	3.11	2.49	2.08
-36%	26.47	13.23	6.62	5.29	4.41
-72%	54.50	27.25	13.62	10.90	9.08
-90%	68.51	34.26	17.13	13.70	11.42
-108%	82.53	41.26	20.63	16.51	13.75

Table A2.6: Sensitivity analysis for Problem solving therapy

Sensitivity analysis of B:C ratio to effect and cost of intervention					
Effect / Cost	€ 301.22	€ 602.44	€ 1,204.89	€ 1,506.11	€ 1,807.33
-11%	4.56	2.28	1.14	0.91	0.76
-21%	9.59	4.79	2.40	1.92	1.60
-43%	19.63	9.81	4.91	3.93	3.27
-54%	24.65	12.33	6.16	4.93	4.11
-64%	29.67	14.84	7.42	5.93	4.95

8.4 Five-year benefit estimates from economic model

In addition to one year estimates, we ran the model assuming the benefits of avoided cases of depression could accrue for up to 5 years. In this scenario we allowed the benefits of the intervention in terms of reduced disability benefits and output loss to be maintained for 5 years. The estimates for each intervention are presented below.

Universal programmes

The results for the **Workplace improvement (WI)** programme are as follows:

- The cost of implementing the programme has been estimated as €16 per person.
- The total cost of delivering the programme to163 million eligible people is estimated as €3 billion, with an opportunity cost of €28 billion for employees attending the programme instead of working.
- The programme was estimated to reduce rates of depression by 34% in the “no symptoms” population of the model.
- The programme was estimated to reduce total absenteeism by 110 million working days.
- The total cost savings associated with a reduction in depression rates is estimated to be €100 billion.

Table A2.7: Cost and benefits associated with Workplace improvement (€ and €billion) over a period of up to five years

	Without WI	With WI	Benefits (Cost savings)
Costs			
Programme	-	€3bn	-€3bn
Opportunity cost of recipients' time	-	€28bn	-€28bn
Impacts			
Healthcare system	€63bn	€56bn	€8bn
Social welfare system	€166bn	€161bn	€5bn
Economy	€994bn	€943bn	€51bn
Employers	€272bn	€235bn	€36bn
Total	€1,495bn	€1,395bn	€100bn
Net benefit			**€70bn**
Net benefit per person			**€ 427**

Note: Any differences in calculation are due to figures being rounded to the nearest €billion.

- The net benefit, calculated as the difference between the total benefits (cost savings) and the cost of delivering the programme including the opportunity cost of recipients' time, is €70 billion.
- The net benefit per person is €427.
- The benefit cost ratio indicates that for every €1 invested the programme generates €28.01 in return, which shows the programme is value for money.
- For each sector, the benefit-cost ratio is greater than 1. This indicates that even if the full cost of the programme was funded by a specific sector, the economic benefits would outweigh the programme costs. Therefore at sector specific level the programme would still represent value for money.

Table A2.8: Net benefits and benefit cost ratios associated with Workplace improvement by sector (€ and €billion) over a period of up to five years

Sector	Net benefit	Benefit-cost ratio
Healthcare system	€5bn	2.94
Social welfare system	€3bn	2.00
Economy	€48bn	19.71
Employers	€6bn	3.36
Total	**€70bn**	**28.01**

Note: in the net benefit and benefit-cost ratio calculations, the opportunity cost of recipients' time is included only for Employers and in the Total estimates.

The results for the **Acceptance and commitment therapy (ACT)** programme are as follows:

- The cost of implementing the programme has been estimated as €68 per person.
- The total cost of delivering the programme to 163 million eligible people is estimated as €10 billion, with an opportunity cost of €22 billion for employees attending the programme instead of working.
- The programme was estimated to reduce rates of depression by 80% in the "no symptoms" population of the model.
- The programme was estimated to reduce absenteeism by 259 million days
- The total cost savings associated with a reduction in depression rates is estimated to be €234 billion.

Table A2.9: Cost and benefits associated with Acceptance and commitment therapy (€ and €billion) over a period of up to five years

	Without ACT	With ACT	Benefits (Cost savings)
Costs			
Programme	-	€11bn	-€11bn
Opportunity cost of recipients' time	-	€22bn	-€22bn
Impacts			
Healthcare system	€63bn	€46bn	€18bn
Social welfare system	€166bn	€154bn	€12bn
Economy	€994bn	€875bn	€119bn
Employers	€272bn	€186bn	€85bn
Total	€1,495bn	€1,261bn	€234bn
Net benefit			**€201bn**
Net benefit per person			**€ 1,232**

Note: Any differences in calculation are due to figures being rounded to the nearest €billion.

- The net benefit, calculated as the difference between the total benefits (cost savings) and the cost of delivering the programme including the opportunity cost of recipients' time, is €201 billion.
- The net benefit per person is €1,232.
- The benefit cost ratio indicates that for every €1 invested the programme generates €19.06 in return, which shows the programme is value for money.
- For each sector, the benefit-cost ratio is greater than 1. This indicates that even if the full cost of the programme was funded by a specific sector, the economic benefits would outweigh the programme costs. Therefore at sector specific level the programme would still represent value for money.

Table A2.1028: Net benefits and benefit cost ratios associated with Acceptance and commitment therapy by sector (€ and €billion) over a period of up to five years

Sector	Net benefit	Benefit-cost ratio
Healthcare system	€7bn	1.60
Social welfare system	€1bn	1.09
Economy	€108bn	10.71
Employers	€52bn	5.66
Total	**€201bn**	**19.06**

Note: in the net benefit and benefit-cost ratio calculations, the opportunity cost of recipients' time is included only for Employers and in the Total estimates.

Out of the two programmes, the Acceptance and commitment therapy has the largest effectiveness, estimated at 80% reduction in depression rates for this population group. It is more expensive than workplace improvement, as the group sessions need to be carried out by psychotherapists, whereas with workplace improvement people from within the company are trained to implement the programme. Even though it is more costly, the net benefits generated exceed that of workplace improvement, at €201 billion. However the value for money of Acceptance and commitment therapy is lower than that of the workplace improvement programme at €19.06 compared with €28.01. In addition, the workplace improvement programme would be easier for companies to implement.

For both programmes, the sector which is estimated to benefit the most from investing in these interventions is the economy, which could generate large returns for every €1 invested. However each sector could support the cost of the intervention and experience a good return on investment.

Targeted programmes

The results for the **Stress management (SM)** programme are as follows:

- The cost of implementing the programme has been estimated as €488 per person.
- The total cost of delivering the programme to 29 million eligible people is estimated as €14 billion, with an opportunity cost of €4 billion for employees attending the programme instead of working.
- The programme was estimated to reduce rates of depression by 45% in the "stress" population of the model.
- The programme was estimated to reduce absenteeism by 48 million days.
- The total cost savings associated with a reduction in depression rates is estimated to be €42 billion.

Table A2.11: Cost and benefits associated with Stress management (€ and €billion) over a period of up to five years

	Without SM	With SM	Benefits (Cost savings)
Costs			
Programme	-	€14bn	-€14bn
Opportunity cost of recipients' time	-	€4bn	-€4bn
Impacts			
Healthcare system	€63bn	€61bn	€3bn
Social welfare system	€166bn	€164bn	€2bn
Economy	€994bn	€972bn	€22bn
Employers	€272bn	€257bn	€15bn
Total	€1,495bn	€1,453bn	€42bn
Net benefit			**€24bn**
Net benefit per person			**€ 836**

Note: Any differences in calculation are due to figures being rounded to the nearest €billion.

- The net benefit, calculated as the difference between the total benefits (cost savings) and the cost of delivering the programme including the opportunity cost of recipients' time, is €24 billion.
- The net benefit per person is €836.
- The benefit cost ratio indicates that for every €1 invested the programme generates €2.71 in return, which shows the programme is value for money.
- Except for the economy as a whole, the benefit-cost ratios at sector level are less than 1. This indicates that for the healthcare systems, the social welfare systems and the employers, the programme costs exceed their benefits. Therefore for none of the sectors in isolation the programme would represent a good use of resources.

Table A2.12: Net benefits and benefit cost ratios associated with Stress management by sector (€ and €billion) over a period of up to five years

Sector	Net benefit	Benefit-cost ratio
Healthcare system	-€11bn	0.20
Social welfare system	-€12bn	0.14
Economy	€8bn	1.57
Employers	-€3bn	0.81
Total	**€24bn**	**2.71**

Note: in the net benefit and benefit-cost ratio calculations, the opportunity cost of recipients' time is included only for Employers and in the Total estimates.

The results for the **Electronic CBT (ECBT)** programme are as follows:

- The cost of implementing the programme has been estimated as €478 per person.
- The total cost of delivering the programme to 29 million eligible people is estimated as €21billion, with an opportunity cost of €2 billion for employees attending the programme instead of working.
- The programme was estimated to reduce rates of depression by 25% in the "stress" population of the model.
- The programme was estimated to reduce absenteeism by 27 million days.
- The total cost savings associated with a reduction in depression rates is estimated to be €23 billion.

Table A2.13: Cost and benefits associated with Electronic CBT (€ and €billion) over a period of up to five years

	Without ECBT	With ECBT	Benefits (Cost savings)
Costs			
Programme	-	€14bn	-€14bn
Opportunity cost of recipients' time	-	€2bn	-€2bn
Impacts			
Healthcare system	€63bn	€62bn	€2bn
Social welfare system	€166bn	€165bn	€1bn
Economy	€994bn	€981bn	€12bn
Employers	€272bn	€263bn	€8bn
Total	€1,495bn	€1,472bn	€23bn
Net benefit			**€8bn**
Net benefit per person			**€ 266**

Note: Any differences in calculation are due to figures being rounded to the nearest €billion.

- The net benefit, calculated as the difference between the total benefits (cost savings) and the cost of delivering the programme including the opportunity cost of recipients' time, is €8 billion.
- The net benefit per person is €266.
- The benefit cost ratio indicates that for every €1 invested the programme generates €1.56 in return which shows the programme is value for money.
- The benefit-cost ratios at sector level are less than 1. This indicates that for the healthcare systems, the social welfare systems and the employers, the programme costs exceed their benefits. Therefore for none of the sectors in isolation the programme would represent a good use of resources.

Table A2.14: Net benefits and benefit cost ratios associated with Electronic CBT by sector (€ and €billion) over a period of up to five years

Sector	Net benefit	Benefit-cost ratio
Healthcare system	-€12bn	0.11
Social welfare system	-€13bn	0.08
Economy	-€1bn	0.90
Employers	-€7bn	0.47
Total	**€8bn**	**1.56**

Note: in the net benefit and benefit-cost ratio calculations, the opportunity cost of recipients' time is included only for Employers and in the Total estimates.

The population eligible for the targeted programmes are those which have been identified as at risk of suffering from depression. They are a smaller population group at 29 million people, compared to 163 million people for the universal programmes and require a more intensive intervention. As such the costs of the programmes increase significantly, with stress management cost €488 per person and electronic CBT costing €478 per person. Stress management is the more effective programme, reducing depression rates by 45%, compared with 25% for ECBT, and generates a larger net benefit. Stress management is a more intensive programme, consisting of ECBT, as well as one stress management workshop and a muscle relaxation workshop. The benefit-cost ratio of stress management is €2.71 for every €1 invested, compared with €1.56, but both are considered value for money.

The only sector which would be able to solely support the cost of the stress management programme and still generate value for money would be the economy. With ECBT, the cost would have to be shared; otherwise the return on investment for any one sector would be small.

Treatment programmes

The results for the **Exercise programme (EX)** programme are as follows:

- The cost of implementing the programme has been estimated as €723 per person.
- The total cost of delivering the programme to 15 million eligible people is estimated as €11 billion, with an opportunity cost of €4 billion for employees attending the programme instead of working.
- The programme was estimated to reduce rates of depression by 72% in the "mental health disorder" population of the model.
- The programme was estimated to reduce absenteeism by 286 million days.
- The total cost savings associated with a reduction in depression rates is estimated to be €258 billion.

Table A2.15: Cost and benefits associated with Exercise programme (€ and €billion) over a period of up to five years

	Without EX	With EX	Benefits (Cost savings)
Costs			
Programme	-	€11bn	-€11bn
Opportunity costs of recipients' time	-	€4bn	-€4bn
Impacts			
Healthcare system	€63bn	€44bn	€19bn
Social welfare system	€166bn	€153bn	€13bn
Economy	€994bn	€862bn	€132bn
Employers	€272bn	€178bn	€94bn
Total	€1,495bn	€1,237bn	€258bn
Net benefit			**€243bn**
Net benefit per person			**€ 16,464**

Note: Any differences in calculation are due to figures being rounded to the nearest €billion.

- The net benefit, calculated as the difference between the total benefits (cost savings) and the cost of delivering the programme including the opportunity cost of recipients' time, is €243 billion.
- The net benefit per person is €16,464.
- The benefit cost ratio indicates that for every €1 invested the programme generates €23.78 in return, which shows the programme is value for money.
  For each sector, the benefit-cost ratio is greater than 1. This indicates that even if the full cost of the programme was funded by a specific sector, the economic benefits would outweigh the programme costs. Therefore at sector specific level the programme would still represent value for money.

Table A2.16: Net benefits and benefit cost ratios associated with Exercise programme by sector (€ and €billion) over a period of up to five years

Sector	Net benefit	Benefit-cost ratio
Healthcare system	€9bn	1.80
Social welfare system	€2bn	1.22
Economy	€121bn	12.33
Employers	€79bn	8.42
Total	**€243bn**	**23.78**

Note: in the net benefit and benefit-cost ratio calculations, the opportunity cost of recipients' time is included only for Employers and in the Total estimates.

The results for the **Problem solving therapy (PST)** programme are as follows:

- The cost of implementing the programme has been estimated as €1,205 per person.
- The total cost of delivering the programme to 15 million eligible people is estimated as €18 billion, with an opportunity cost of €2 billion for employees attending the programme instead of working.
- The programme was estimated to reduce rates of depression by 43% in the "mental health disorder" population of the model.
- The programme was estimated to reduced absenteeism reduced by 171 million days
- The total cost savings associated with a reduction in depression rates is estimated to be €154 billion.

Table A2.17: Cost and benefits associated with Problem solving therapy (€ and €billion) over a period of up to five years

	Without PST	With PST	Benefits (Cost savings)
Costs			
Programme	-	€18bn	-€18bn
Opportunity cost of recipients' time	-	€2bn	-€2bn
Impacts			
Healthcare system	€63bn	€52bn	€11bn
Social welfare system	€166bn	€158bn	€8bn
Economy	€994bn	€915bn	€79bn
Employers	€272bn	€215bn	€56bn
Total	€1,495bn	€1,341bn	€154bn
Net benefit			**€134bn**
Net benefit per person			**€ 9,091**

Note: Any differences in calculation are due to figures being rounded to the nearest €billion.

- The net benefit, calculated as the difference between the total benefits (cost savings) and the cost of delivering the programme including the opportunity cost of recipients' time, is €134 billion.
- The net benefit per person is €9,091.
- The benefit cost ratio indicates that for every €1 invested the programme generates €8.55 in return, which shows the programme is value for money.
- At sector level, except for employers and the economy as a whole, the benefit-cost ratios are lower than 1. This indicates that if the full cost of the programme was funded by a specific sector, the programme would only represent value for money for these two sectors.

Table A2.18: Net benefits and benefit cost ratios associated with Problem solving therapy by sector (€ and €billion) over a period of up to five years

Sector	Net benefit	Benefit-cost ratio
Healthcare system	-€6bn	0.64
Social welfare system	-€10bn	0.44
Economy	€61bn	4.42
Employers	€36bn	3.04
Total	**€134bn**	**8.55**

Note: in the net benefit and benefit-cost ratio calculations, the opportunity cost of recipients' time is included only for Employers and in the Total estimates.

The eligible population in the EU-27 for the treatment programmes equates to around 15 million people. However it is this population which incur a significantly larger proportion of costs to each sector compared with those eligible for targeted and universal programmes. Therefore the benefits associated with a reduction in depression rates are estimated to be quite large. Out of the two programmes, the exercise programme has been estimated to reduce depression rates by 72% compared with 43% for problem solving therapy and results in a net benefit which is over €100 billion larger. The benefit-cost ratio for the exercise program is nearly triple that of problem solving therapy and could be a more generalisable programme to implement within companies as larger companies tend to have either their own exercise facilities or have corporate links with gyms.

For both programmes, there are incentives for each sector to individually bear the total cost of the intervention, as all the benefit-cost ratios are greater than 1. However it is the economy and the employers who would experience a greater return on investment compared with the health system and social welfare system.

Table A2.19: Summary of benefits and costs of mainstreamed programmes by sector (€ and €billion) over a period of up to five years

	Without programme	Universal		Targeted		Treatment	
		Workplace Improvement (WI)	Acceptance & commitment therapy (ACT)	Stress Management (SM)	Email CBT (ECBT)	Exercise (Ex)	CBT
Effects							
Effect on depression rate	-	-34%	-80%	-45%	-25%	-72%	-43%
Programme costs							
Cost of programme per person	-	€ 15.8	€ 68.2	€ 487.8	€ 478.0	€ 722.8	€ 1,204.9
Cost of programme	-	€3bn	€11bn	€14bn	€14bn	€11bn	€18bn
Opportunity cost of recipients' time	-	€28bn	€22bn	€4bn	€2bn	€4bn	€2bn
Costs by sector							
Healthcare system	€63bn	€56bn	€46bn	€61bn	€62bn	€44bn	€52bn
Social welfare system	€166bn	€161bn	€154bn	€164bn	€165bn	€153bn	€158bn
Economy	€994bn	€943bn	€875bn	€972bn	€981bn	€862bn	€915bn
Employers	€272bn	€235bn	€186bn	€257bn	€263bn	€178bn	€215bn
Total costs	**€1,495bn**	**€1,395bn**	**€1,261bn**	**€1,453bn**	**€1,472bn**	**€1,237bn**	**€1,341bn**
Benefits							
Net benefit	**-**	**€70bn**	**€201bn**	**€24bn**	**€8bn**	**€243bn**	**€134bn**
Net benefit per person	**-**	**€ 427.05**	**€ 1,231.68**	**€ 836.11**	**€ 265.75**	**€ 16,463.51**	**€ 9,090.93**
Benefit-cost ratio by sector							
Healthcare system	-	€ 2.94	€ 1.60	€ 0.20	€ 0.11	€ 1.80	€ 0.64
Social welfare system	-	€ 2.00	€ 1.09	€ 0.14	€ 0.08	€ 1.22	€ 0.44
Economy	-	€ 19.71	€ 10.71	€ 1.57	€ 0.90	€ 12.33	€ 4.42
Employers	-	€ 3.36	€ 5.66	€ 0.81	€ 0.47	€ 8.42	€ 3.04
Overall benefit-cost ratio	**-**	**€ 28.01**	**€ 19.06**	**€ 2.71**	**€ 1.56**	**€ 23.78**	**€ 8.55**

Summary of results and sensitivity analysis

In total six programmes were modelled to estimate the potential contribution of mainstreamed actions. Table 27 summarises the effects, costs and return on investment metrics for each programme. The results show that the net economic benefits generated by these programme range between €1.56 to €28.01 for every €1 of expenditure in the programme. These values fall within those estimated by other authors for similar types of programmes (Knapp et al 2011). In absolute terms the net economic benefits (reduced costs and lost output) generated by these programmes range from €8 billion to €243 billion.

To test the sensitivity of the results to variation in the cost and effect of the programmes, we run sensitivity analysis around these two parameters. The results (presented in Section of Appendix 2) show that the conclusion of the analysis – i.e. that these programmes represent a good investment from an economic point of view – generally remains, even when the cost of the programmes is increased and the effect of the programmes is reduced. The results of the sensitivity analysis can also be used as an indication of the minimum effect a programme must generate for a given cost (or the maximum cost a programme can bear for a given effect) for it to be worth investing.

8.5 Sensitivity analysis for five-year benefit estimates

This section presents sensitivity analysis for the return on investment (benefit-cost ratio) yield by workplace programmes.

Table A2.20: Sensitivity analysis for Workplace improvement

Sensitivity analysis of B:C ratio to effect and cost of intervention					
Effect / Cost	€ 3.95	€ 7.91	€ 15.81	€ 19.77	€ 23.72
-9%	-4.32	-2.16	-1.08	-0.86	-0.72
-17%	34.46	17.23	8.62	6.89	5.74
-34%	112.02	56.01	28.01	22.40	18.67
-43%	150.81	75.40	37.70	30.16	25.13
-51%	189.59	94.79	47.40	37.92	31.60

Table A2.21: Sensitivity analysis for Acceptance and commitment therapy

Sensitivity analysis of B:C ratio to effect and cost of intervention					
Effect / Cost	€ 17.05	€ 34.10	€ 68.20	€ 85.25	€ 102.30
-20%	12.99	6.50	3.25	2.60	2.17
-40%	34.08	17.04	8.52	6.82	5.68
-80%	76.24	38.12	19.06	15.25	12.71
-100%	97.32	48.66	24.33	19.46	16.22
-120%	118.40	59.20	29.60	23.68	19.73

Table A2.22: Sensitivity analysis for Stress management

Sensitivity analysis of B:C ratio to effect and cost of intervention					
Effect / Cost	€ 121.95	€ 243.91	€ 487.82	€ 609.77	€ 731.73
-11%	1.93	0.97	0.48	0.39	0.32
-22%	4.91	2.45	1.23	0.98	0.82
-45%	10.86	5.43	2.71	2.17	1.81
-56%	13.83	6.92	3.46	2.77	2.31
-67%	16.81	8.40	4.20	3.36	2.80

Table A2.23: Sensitivity analysis for Electronic CBT

Sensitivity analysis of B:C ratio to effect and cost of intervention					
Effect / Cost	€ 119.50	€ 239.00	€ 477.99	€ 597.49	€ 716.99
-6%	1.12	0.56	0.28	0.22	0.19
-13%	2.83	1.41	0.71	0.57	0.47
-25%	6.25	3.12	1.56	1.25	1.04
-32%	7.96	3.98	1.99	1.59	1.33
-38%	9.67	4.83	2.42	1.93	1.61

Table A2.24: Sensitivity analysis for Exercise programme

Sensitivity analysis of B:C ratio to effect and cost of intervention					
Effect / Cost	€ 180.70	€ 361.41	€ 722.82	€ 903.52	€ 1,084.23
-18%	22.60	11.30	5.65	4.52	3.77
-36%	46.77	23.39	11.69	9.35	7.80
-72%	95.11	47.55	23.78	19.02	15.85
-90%	119.28	59.64	29.82	23.86	19.88
-108%	143.44	71.72	35.86	28.69	23.91

Table A2.25: Sensitivity analysis for Problem solving therapy

Sensitivity analysis of B:C ratio to effect and cost of intervention					
Effect / Cost	€ 301.22	€ 602.44	€ 1,204.89	€ 1,506.11	€ 1,807.33
-11%	8.20	4.10	2.05	1.64	1.37
-21%	16.86	8.43	4.22	3.37	2.81
-43%	34.18	17.09	8.55	6.84	5.70
-54%	42.84	21.42	10.71	8.57	7.14
-64%	51.50	25.75	12.87	10.30	8.58