

GERMANY: A SYSTEMATIC APPROACH TO PREVENTING MSDs

Summary

According to Eurostat, data from the EU Labour Force Survey ad hoc modules show that, in the 5 years from 2007 to 2013, the percentage of workers in Germany reporting some form of musculoskeletal disorder (MSD) decreased markedly, from 74.9 % to 64.5 %. As with many other EU countries, MSDs are the most common cause of absence from work in Germany, and a major contributor to disability and limited work capability.

A strong aspect of the policy approach adopted in Germany to address the problem of workplace MSDs is the collaboration at a strategic level between different partners, helping to ensure consistency and coordination. A key part of this is illustrated by the Joint German Occupational Safety and Health Strategy (Gemeinsame Deutsche Arbeitsschutzstrategie — GDA). The GDA is an initiative of the federal government, the federal states (*Länder*) and the accident insurance institutions. This alliance aims to improve the German occupational safety and health (OSH) system and help companies strengthen workplace health and safety. It is therefore a good example of collaborative partnerships being involved in national policies and strategic thinking. Established in 2008, the GDA is now in its third period ⁽¹⁾.

The GDA is determined by the National Occupational Safety Conference (Nationale Arbeitsschutzkonferenz — NAK) ⁽²⁾. The NAK defines the direction of the GDA and identifies common priorities and safety and health goals. It appoints working groups to implement work programmes or steer their evaluation. GDA stakeholders cooperate with trade associations, safety experts and occupational physicians, as well as with the statutory health insurance funding bodies. These partners cooperate and contribute to the work programmes and participate in the further development of the GDA. Work programmes have included the GDA work programme on MSDs (2013-2018) 'Prevention makes you strong — including your back' and the prevention campaign of the German Social Accident Insurance body (Deutsche Gesetzliche Unfallversicherung — DGUV) 'Think of me — your back'.

MSD risks are not unique to the workplace and distinctions between work, home and leisure are artificial. Such risks occur in all aspects of life and this is gradually becoming more widely recognised. A further strength of the German legislative framework is therefore the Preventive Health Care Act. ⁽³⁾ This act, formulated as part of public health legislation, focuses on the prevention of ill health and health promotion more generally, covering all settings where people live, learn and work. As such, it forms part of a more holistic approach to health, with a strong emphasis on prevention. A key objective of the act is to have closer links between OSH and workplace health promotion. The act therefore contributes to a strong policy framework, enabling the development of strategies and programmes for promoting health through the workplace. As part of this, it helps to improve OSH systems and promotes cooperation between health insurance and social accident insurance funds. The continuation of the GDA and the evaluative processes enshrined within it provide a strong example of this holistic approach, helping to provide and promote consistent and lasting messages.

⁽¹⁾ <https://www.dguv.de/en/prevention/osh-strategy/index.jsp>

⁽²⁾ <https://www.baua.de/EN/Tasks/Coordination-offices/GDA.html>

⁽³⁾ <https://www.dguv.de/en/prevention/topics-a-z/praevg/index.jsp>

1 National background

1.1 Relevant statistics

As with many other EU countries, in Germany MSDs are the most common cause of absence from work and a major contributor to disability and limited work capability. Statistics (BAuA, 2018) show that, per year, MSDs account for:

- 22.5 % of all sick days;
- 21,380 retirements due to impaired ability to work;
- EUR 17.2 billion in lost production;
- EUR 30.5 billion in lost gross value added.

An alternative source (GDA, 2019) suggests a higher MSD-related absence figure, with an estimated 27 % of lost work days being attributed to MSDs.

A common problem with national statistics from some sources stems from them having a focus on officially approved disorders. This is an issue in a number of EU countries but appears to be particularly marked in Germany. There is a marked disparity between the level of 'reported' MSDs and those formally accepted or recognised (as presumably work related). Although the proportion varies from year to year, fewer than 20 % of reported cases are 'accepted' in any year.

There are currently 14 approved occupational musculoskeletal diseases in Germany, with three more currently being discussed. According to a very recent paper (Ochsmann, 2019), disc-related diseases of the lumbar spine caused by carrying heavy loads continue to be the occupational diseases of which there are most reports, with approximately 12,500 cases reported in 2000 and approximately 4,800 cases reported in 2016. In 2016, 443 of those cases reported were confirmed, again representing around 20 % of the total reported. As assistance from insurance companies (*Berufsgenossenschaften*) depends on whether or not a disorder is officially recognised, this means that 80 % of individuals who report problems are not eligible for compensation regardless of the extent of their pain or disability.

The discrepancy between the numbers of reported and recognised cases creates a distorted picture of the extent of the problem.

Although Eurostat data from the EU Labour Force Survey ad hoc modules show a decreasing trend (in the 5 years from 2007 to 2013, the percentage of workers in Germany reporting some form of MSD fell from 74.9 % to 64.5 %), the 2012 figure for Germany was still higher than the EU average, of 60.1 %, for the same year.

Clearly, therefore, MSDs remain a significant problem in Germany.

1.2 Legislation

The German legislative OSH framework is characterised by the influence of EU OSH legislation, with EU directives being transposed into national legislation. The German national regulations and acts are then specified by social accident insurance institutions' accident prevention regulations. Technical rules and standards complement national regulations but are not legally binding.

The EU's OSH Framework Directive (Council Directive 89/391/EEC of 12 June 1989) is transposed into German national law by the German Occupational Safety and Health Act (*Arbeitsschutzgesetz* — ArbSchG). This act defines basic OSH principles and measures for employers and employees.

The German system for safety and health in the workplace has a dual structure. It encompasses state (at federal and *Land* levels) safety and health provisions and the autonomous accident insurance institutions. Whereas the federal state (*Bund*), and in particular the Federal Ministry of Labour and Social Affairs (Bundesministerium für Arbeit und Soziales — BMAS), enacts OSH laws and acts at the national level, the states (Länder or Bundesländer) are responsible for the enforcement of these laws. To fulfil their statutory mandate on prevention, the accident insurance institutions enact accident prevention regulations (Unfallverhütungsvorschriften — UVV), which require the approval of the Federal Ministry of Labour and Social Affairs. The enforcement of these accident prevention regulations is carried out by the prevention services (*Technische Aufsichtsdienste* — TAD) of the accident insurance institutions.

There are no substantial additional requirements under German law in respect of either the Manual Handling Directive or the Display Screen Equipment Directive (DSE Directive) ⁽⁴⁾. However, legal provisions relating to the prevention of work-related MSDs are more extensive than those of EU directives. These provisions are contained in a number of pieces of national legislation including the Ordinance on Manual Handling of Loads (LastenhandhabV), a regulation to protect working mothers and the Occupational Health Rule AMR - activities with increased physical workload with health risk for musculoskeletal system (Arbeitsmedizinische Regel AMR Nr. 13.2 'Tätigkeiten mit wesentlich erhöhten körperlichen Belastungen mit Gesundheitsgefährdungen für das Muskel-Skelett-System).

Psychosocial risks are increasingly recognised as a contributory factor for work-related MSDs. In 2013, following an intense political debate, the Occupational Safety and Health Act was amended, and it now explicitly states that employers have to conduct a risk assessment including of psychosocial risks (§ 5) and that the measures implemented, based on that risk assessment, have to address both physical and mental health (§ 4). However, it is not clear to what extent psychosocial risk assessments are included within the assessments of manual handling operations conducted, although it is understood that the influence of psychological stress at work on the development of MSDs is referred to within the Occupational Safety and Health Act (ArbSchG § 5(3)1).

1.2.1 Ordinance on Manual Handling of Loads — § 2

The main objectives of this ordinance (made under the Occupational Health and Safety Act) are to clarify the responsibilities of the employer to perform ergonomic risk assessments and to take preventive measures.

Although, as stated earlier, there are no substantial additional requirements in respect of the Manual Handling Directive, this clarification of responsibilities is an important aspect of the overall suite of legislation summarised here. As an example of the integration of legislation and the roles of key players, more detailed guidelines on risk assessments are provided by the statutory accident insurance institutions. These institutions have published several guidelines for manual handling risk assessments related to different sectors.

1.2.2 Maternity Protection Act — § 1

The Maternity Protection Act (MuSch G) requires employers to avoid exposing pregnant women and nursing mothers to unreasonable risks and largely reflects the provisions of the equivalent EU directive for these target groups.

1.2.3 German Occupational Health Rule AMR 13.2

The Ordinance on Occupational Health Care (ArbMedVV) § 5(1), in conjunction with Annex Part 3, Paragraph 2, No 4, entitles employees to specific medical advice and examinations to prevent work-related MSDs, with provisions for preventive medical care in relation to activities involving increased physical

⁽⁴⁾ Council Directive 90/270/EEC on the minimum safety and health requirements for work with display screen equipment (DSE Directive).

workload that are associated with health hazards and risks for the musculoskeletal system. Acceptable values are given for different types of physical workload: 'lifting, holding and carrying', 'pulling and pushing' and 'manual work'; work in stooped positions; kneeling or work above shoulder height if working in such positions lasts longer than 1 hour per shift; sustained seated positions; and extended standing. For the last two, values apply in cases in which such positions are a requirement with no possibility for movement.

2.2.4 Occupational Disease Ordinance

The Occupational Disease Ordinance (Berufskrankheitenverordnung) lists those illnesses and diseases formally classified as having been of occupational origin. Since 2010, several additional MSDs have been added. The introduction of these MSDs to the 'List of Occupational Diseases' is important because the German social accident insurance institutions are forced by law to put maximum effort into preventing cases of named occupational diseases. This effectively increases the protection of workers from these specific MSDs (as well as those already on the list).

2 Joint German Occupational Safety and Health Strategy

To modernise the German health and safety system, government and non-governmental institutions have combined resources and efforts to provide an integrated approach to OSH, the Joint German Occupational Safety and Health Strategy — the GDA. This sought to provide an integrated initiative to address occupational accidents as well as causes of work-related ill health in the workplace (including MSDs). It provides a long-term, national political strategy to promote health and safety in the workplace.

The GDA is governed by the NAK, which is composed of three representatives of the federal government, the labour protection authorities of the federal states and the umbrella associations of the statutory accident insurance institutions. Three representatives from the leading organisations of employers and employees also take part in an advisory capacity, thus helping to strengthen the tripartite approach.

The NAK defines the direction of the GDA and identifies common priorities and safety and health goals for its stakeholders. The GDA's stakeholders cooperate with trade associations, safety experts and occupational physicians, as well as with the statutory health insurance funds. These partners cooperate and contribute to the work programmes and participate in the further development of the GDA. The GDA bodies agree upon its OSH objectives and, every 5 years, the GDA's stakeholders define work programmes with clear objectives that all stakeholder organisations implement together. Three objectives were agreed on for the first period, one of which was a 'reduction in the frequency and severity of musculoskeletal stress and diseases'.

Through the GDA, the first period of which ran from 2008 to 2012, Germany implemented a central requirement of the 2007-2012 EU OSH strategy, and the continuation of the GDA since 2012 reflects Germany's national implementation of subsequent EU strategies'. According to the evaluation report of the GDA's first period, 'The strategy was also a response to criticisms received over the lack of strategic direction and harmonisation in occupational safety institutions' ⁽⁵⁾.

On the specific target of reducing the frequency and severity of MSDs, the evaluation of the first period (General Office of the National Occupational Safety and Health Conference, 2014) found that the target of reducing the number of sick days caused by MSDs was not verifiable, largely because of the diverse causes and long latency periods of the diseases that fall under the term 'MSDs'. Thus, the available data show no perceptible effect of the MSD work programmes on the number of sick days caused by MSDs.

⁽⁵⁾ General Office of the National Occupational Safety and Health Conference (2014), *Final report of the general evaluation of the Joint German Occupational Safety and Health Strategy — Executive summary*, available at: https://www.gda-portal.de/EN/Download/pdf/Evaluation-report-2008-12-Summary.pdf?__blob=publicationFile&v=2

The OSH targets selected for 2013-2018 (the GDA's second period) again included a reduction in the frequency and severity of work-related MSDs. Section 5 describes the 2013-2018 work programme on MSDs within the GDA. In brief, the evaluation of this work programme recommended 'that the newly developed offers by the MSD work programme be continued and sustainably implemented in the next GDA period' ⁽⁶⁾. Reflecting the increasing awareness of a need for a holistic approach to workplace health in general and MSD prevention in particular, the evaluation report also recommended the inclusion in the GDA's work programmes of what was called 'health literacy' — covering both company factors ('occupational health literacy') and individual factors ('individual health literacy') — under the collective banner 'Health literacy in the working world', best designed in cooperative approaches. To reflect this, the MSD work programme recommended broad cooperative partnerships between stakeholders.

The prevention of MSDs has also been identified as a priority for the third period of the GDA, and a work programme on MSDs forms part of the GDA's current (third) period (2019-2024). It incorporates the strategic goals of 'making work safe and healthy: prevention with the help of risk assessment' and of working together and systematically for good work design to prevent musculoskeletal strain and mental stress and for the safe handling of carcinogenic hazardous substances. One strength of the GDA is that it provides for the continuous evaluation of initiatives in a systematic way, with an evaluation expert group guided by a scientific advisory board. Such evaluations examine the extent to which the health and safety objectives of any initiative were achieved (as defined by the various stakeholders involved in that initiative). The insights gained from this evaluation have provided the basis for the progressive development of the GDA's three consecutive work programmes on MSDs. The prevention of MSDs and musculoskeletal workloads in the workplace setting have thus been integrated into work programmes over three of the GDA's periods.

The NAK cooperates with the National Prevention Conference (NPK) within the framework of the Preventive Health Care Act. The goals of the GDA are considered to contribute to achieving the goal 'healthy living and working' of the Preventive Health Care Act.

3 Work programme on musculoskeletal disorders 2013-2018

The work programme on MSDs, which ran under the motto 'Prevention makes you strong — including your back' ('Prävention macht stark — auch deinen Rücken'), was launched in 2013 and ran until 2018. It included workplace inspections and a broad information campaign and ran in parallel with other initiatives that were coordinated with the work programme (see below).

The 2012-2018 work programme had the general goal of reducing work-related musculoskeletal health risks and disorders with a main focus on those activities seen as presenting the greatest risk for the development of MSDs, such as lifting and carrying heavy loads, repetitive work or work involving little movement ('static work'). Its strategy to achieve this was based on two pillars:

- to improve the prevention culture in enterprises;
- to increase health literacy on the prevention of MSDs among employees and insured persons.

A key element of work to increase/improve the prevention culture in organisations was an extensive programme of workplace inspections. As part of this, during the first round of inspections, 11,955 workplaces were visited, of which 32 % were enterprises with 20 employees or fewer, 57 % had between 21 and 249 employees and 11 % had 250 employees or more. A scoring system was developed and

⁽⁶⁾ Geschäftsstelle der Nationalen Arbeitsschutzkonferenz (2018), 'Prävention macht stark — auch Deinen Rücken' (Arbeitsprogramm MSE), available at: https://www.gda-portal.de/DE/Downloads/pdf/MSE-Abschlussbericht.pdf?__blob=publicationFile&v=1

adopted and used to identify companies that performed poorly in terms of MSD prevention. Based on this scoring, 1,292 were subject to follow-up visits approximately 1 year later.

The initial workplace visits showed that the implementation of MSD preventive measures was deficient in relation to a number of sub-targets including risk assessments; the instruction and participation of employees; training and support by managers; and occupational medical preventive treatments. Risk assessments were considered 'appropriate' in a little over half of the sites inspected and it was considered that further action was needed in preventive occupational health. Despite the deficiency in support from managers noted, the data showed that good managers had a positive influence on MSD prevention activities.

However, implementation was satisfactory in relation to the availability of ergonomic workstations and processes, and health literacy with regard to ergonomics.

The follow-up visits showed that the situation had improved as a result of the inspections in respect of all targets.

As well as these inspections (and follow-up visits), accompanying actions were implemented independently by the GDA's stakeholders. These included conferences on risk assessment; online seminars and films; the provision of training sessions and qualifications; 'health days' (mainly aimed at employees); consultations with enterprises (including on MSD prevention); and the online provision of an extensive series of tools and guides.

Further details of what was done (and how) and what was achieved are summarised in a separate case study report (7).

4 The prevention campaign of the German Social Accident Insurance 'Think of me — your back'

As noted above, the GDA provides for the coordination of initiatives by separate stakeholders under common agreed themes. One of the stakeholders is the DGUV and, from 2013 to 2015, it conducted its own campaign 'Think of me — your back' ('Denk an mich — Dein Rücken'). As with 'Prevention makes you strong — including your back', further details of this are provided in a separate case study (8). The focus of the campaign was on reducing work-related back workloads, although it sought to do this not only through the workplace but also through schools and colleges. It took the form primarily of an information campaign that sought to change the behaviour of individual workers; to make workers more aware of the back and the loads placed on it; and to reduce risk factors such as lack of exercise and psychosocial risks (9). It adopted a variety of different formats aimed at reaching different groups, with content developed with the aid of a survey that had been carried out in advance.

The results of a post-measurement survey gave an indication of the impact of the campaign. Thus, in response to a series of questions relating to loads (pressures) on the back at work, more than 75 % of those questioned indicated that the campaign had encouraged positive action at least 'sometimes' with around 40 % indicating taking action either 'often' or 'very often', thus providing a clear indication of an increased awareness of issues relevant to the prevention of back-related MSDs.

(7) EU-OSHA (forthcoming), 'Case study: prevention makes you strong — including your back' ('Prävention macht stark — auch Deinen Rücken').

(8) EU-OSHA (forthcoming), 'Short brief: the prevention campaign of German Social Accident Insurance (DGUV) — "Think of me — Your back"' ('Denk an mich — Dein Rücken').

(9) https://www.dguv.de/de/praevention/kampagnen/praev_kampagnen/dein_ruecken/index.jsp

5 MEGAPHYS project — multilevel risk assessment of physical exposures

The MEGAPHYS project was coordinated and carried out by BAuA and IFA. As part of this, a package of methods for the risk assessment of physical workloads was developed. The aim was to provide a scientifically sound inventory of methods that are coordinated with one another and classified according to the level of input required (special screening, expert screening or measurement-based analysis). For example, a set of six new and validated key indicator methods is available at screening level. The package will therefore assist employers in reliably assessing MSD risks⁽¹⁰⁾⁽¹¹⁾.

6 Preventive Health Care Act

In 2015, Germany passed an act to strengthen health promotion and preventive health care, the Act to Strengthen Health Promotion and Prevention (Das Gesetz zur Stärkung der Gesundheitsförderung und der Prävention, or Präventionsgesetz — PräVG). This act provides a strong legal basis for cooperation between actors involved in prevention and health promotion. It stipulates that a national prevention strategy (Nationale Präventionsstrategie) be developed by the country's different health insurance funds, to be implemented through the NPK. The NPK comprises the umbrella organisations of the social insurance institutions and representatives from the federal government, the federal states (*Länder*), local authorities and social partners.

The core of the act focuses on strengthening prevention and health promotion in the settings in which people live, work and learn, including daycare centres, schools and workplaces. This should be achieved through improving the coordination between the institutions responsible for these settings and involved in prevention and health promotion at the federal government, federal state and municipal levels.

The stakeholders of the NPK identified joint goals and agreed on a joint approach for prevention and health promotion in three main areas: growing up healthy, healthy living and working, and healthy ageing. To operationalise the goals in the area of healthy living and working, for the target group salaried workers, the NPK defined the following specific goals for the period 2019-2024, in line with the goals of the GDA:

- protecting and strengthening musculoskeletal health in the workplace;
- protecting and strengthening mental health in the workplace.

The NPK highlights that MSDs and mental health problems are the main causes of work disability and early retirement and that they are multifactorial in origin, including being caused by work-related factors. Preventive and health-promoting interventions in the workplace should contribute to the reduction of work-related risk factors and thus should reduce the occurrence and/or long-term persistence of these health problems. The goals set by the statutory health insurance body for the period 2013-2019 corresponded with the goals of the GDA and, as of 2019, will be developed under the National Prevention Strategy. The achievement of the overall targets of this approach cannot yet be assessed. However, the statutory health insurance body issues prevention reports on an annual basis and these can provide relevant information. According to the 2017 prevention report (*Präventionsbericht 2017*), the level of investment and outreach in health promotion in 2016 was the highest it had been since 2002. This strong growth can be traced back to the Preventive Health Care Act. The report also notes a 20 % annual increase in the number of companies that were directly reached through health promotion measures, and this outreach also expanded among small and medium-sized enterprises (SMEs). The report also notes that the number of enterprises in which work-related pressures (addressing important psychosocial risks) were prevented through behavioural measures increased by 40 % compared with 2015 (from 3,010 to 4,207).

⁽¹⁰⁾ <https://www.baua.de/EN/Tasks/Research/Research-projects/f2333.html>

⁽¹¹⁾ <https://www.dguv.de/ifa/fachinfos/ergonomie/megaphys-mehrstufige-gefaehrungsanalyse-physischer-belastungen-am-arbeitsplatz/index-2.jsp>

The legislation also led to the establishment of regional coordination centres that support enterprises, especially SMEs, with workplace health promotion (*Betriebliche Gesundheitsförderung* — BGF). These coordination centres provide enterprises with individual consultations on workplace health promotion goals and processes, on the related services of the health, accident and pension insurance bodies, and on the conditions that must be met to access these services. The BGF coordination centres work in close collaboration with business organisations, for example chambers of industry and commerce.

7 Conclusions

One of the strengths of the German approach to tackling MSDs is that it is enshrined in a legal framework and general OSH strategy.

The policy adopted in Germany reflects this strategic thinking at the highest (legislative) level. The legal framework summarised above provides the basis for a multifaceted approach specifically to MSD prevention but also to the wider OSH milieu. Importantly, it enshrines within a legal framework a number of important features. To be successful, policies need commitment from all actors starting at the top and this is apparent here with the legal framework created.

The complexity and multifactorial nature of MSDs means that they cannot easily be addressed by one actor in the national occupational health infrastructure acting in isolation or by a single approach. Enshrined within this national legislative framework therefore are important requirements for collaboration and coordination, brought about by the provisions of the GDA. The integration that this policy and strategy allows brings together different stakeholders; agreeing on common goals (whether in the wider health field or in an OSH context) through the NAK and associated forum is of particular value. Clearly, all stakeholders view the situation from their own unique perspective (depending on their knowledge and experience, this combination of perspectives and talents helps to provide underlying consistency) of both the core messages and the methods used to disseminate those messages.

There is a widespread tendency to compartmentalise issues, especially in relation to the complexity of MSDs. Many health problems are not uniquely work related. For example, researchers and practitioners often find it difficult to separate the influence of possible carcinogens in the workplace from the influence of other carcinogenic exposures such as through tobacco smoke. MSDs provide an excellent example of a similar challenge; for example, many countries have found it difficult to segregate back injuries genuinely caused by work from those originating outside the workplace (or those where the cause is regarded as ‘unknown’).

It is necessary to recognise that MSD risks are not unique to the workplace and that distinctions between work, home and leisure are artificial. MSD risks occur in all three areas and this is gradually becoming more widely recognised. The Preventive Health Care Act meets this need, providing a clear indication that the policy in Germany is to promote the health of its population. As such, this act focuses not just on preventing ill health (although this is an important element of the overall goal) but also on actively promoting healthy behaviour and good health. It serves to promote a holistic approach to health rather than adopting a ‘silo’ mentality in which occupational health is seen as separate from wider public health issues. The act has served to encourage the integration of workplace health promotion and OSH, and to promote cooperation and collaboration among actors in the areas of MSD prevention and health promotion.

This holistic approach in Germany has parallels with the approaches of other countries (across Europe and beyond) in recognising the need to integrate activities aimed at improving the general health of the population with those targeting the occupational causes of (or contributors to) ill health. Preventive action in the workplace is more likely to be effective if it is accompanied by similar changes outside work. This is more than just simplistic solutions such as adopting a ‘healthy lifestyle’ and requires positive change that

seeks to remove the same risks from everyday living as the risks that workplace initiatives seek to remove from work tasks. Heavy manual handling at home is just as hazardous as such handling in a work situation, and sustained sitting in a poor posture is potentially harmful whatever the setting. Changing awareness, attitudes and behaviours therefore are the cornerstones of good health, whatever the setting.

As part of this holistic approach, the enactment of specific legislation relating to psychosocial risks in the workplace is welcomed. However, there are indications from practitioners that this has yet to fully filter into the workplace, where, if assessed, psychosocial risks are more likely to be explored as a separate issue, with the interconnectivity between the two yet to be widely appreciated. It is to be hoped that the inclusion of both physical and psychosocial risks in the current GDA will be used to address this challenge.

Policy-level actions should not happen then just stop. They should be continually evaluated and refined and new actions developed based on lessons learned from previous actions. The continuation of the GDA and the evaluative processes enshrined within it provide a strong example of this thinking, helping to provide and promote consistent and lasting messages. There is recognition that, although some MSDs arise from acute incidents, many reflect cumulative damage over a number of years. There is therefore a need for behavioural change to take place over the long term if real benefits are to be seen; ongoing measures to encourage such change are enshrined within the continuity provided by the national policies and strategies described here.

The policy of the ongoing evaluation of the measures adopted and progress towards specific campaign or programme goals is to be applauded. In common with other countries, the German evaluation team refer to the difficulties in obtaining adequate data to inform such evaluations in terms of the ultimate goal of reducing the incidence of MSDs. In recognition of this, its recommendation is to adopt process (rather than outcome) benchmarks. Although this approach will help inform the immediate impact of the various programmes and campaigns undertaken, it leaves the final question about the incidence of MSDs unanswered.

Clearly, policy challenges remain — but the integrated messages and holistic approach adopted here suggest the development of a sound strategic policy basis for reduction in the incidence of MSDs.

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Project Management: Katalin Sas, European Agency for Safety and Health at Work (EU-OSHA), with the support of Nóra Palmai

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This discussion paper was commissioned by the European Agency for Safety and Health at Work (EU-OSHA). Its contents, including any opinions and/or conclusions expressed, are those of the authors alone and do not necessarily reflect the views of EU-OSHA

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