

**Absenteeism in the Construction  
Industry due to Musculoskeletal  
Disorders and Recommendations  
for the Implementation of  
Workplace Health Promotion**



**BUILD  
HEALTHILY**

**2015-2016**



**Absenteeism in the Construction Industry due to Musculoskeletal Disorders and Recommendations for the Implementation of Workplace Health Promotion**

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# Absenteeism in the Construction Industry due to Musculoskeletal Disorders and Recommendations for the Implementation of Workplace Health Promotion

- Abridged and Adapted Version of the full Slovenian Printed Publication





# Foreword

Dear reader,

In order to mark the conclusion of the one-year Slovenian national project on workplace health promotion (hereinafter: WHP) titled ***Promotion of Preventive Measures for Reducing Musculoskeletal Disorders among Construction Workers*** in October 2016, an abridged English version of the publication titled *Absenteeism in the Construction Industry due to Musculoskeletal Disorders and Recommendations for the Implementation of Workplace Health Promotion* was prepared. The aim of this publication is to present the results of the project, which was co-financed by the Health Insurance Institute of Slovenia (ZZZS), and the pilot activities carried out in Slovenia with the intention of reducing musculoskeletal disorders in the construction industry to similar organizations in Europe and to sectoral social partners.

Since 2011, Slovenian legislation has been clearly imposing on employers the obligations to plan and implement workplace health promotion activities as part of the company's Safety Statement with a Risk Assessment drafted for each work position. In 2015, the Slovenian Ministry of Health issued the first guidelines for the implementation of workplace health promotion. Based on the company's needs assessment, firstly an analysis of sick leave and the employees' needs should be carried out. This forms a basis for the creation of a health promotion plan that should include topics selected according to company specifics as well as detailed measures and workplace health promotion activities for the target group of employees.

This publication provides an overview of key statistics on sick leave taken by construction workers in Slovenia in 2014 and presents the fieldwork (the implementation of practical workshops providing informative and educational training) conducted in construction companies and the customized workshops for students implemented in educational institutions. In the conclusion, recommendations are provided for employers to improve their future workplace health promotion activities.

The aim of the project was to establish and promote a more sustainable form and process of cooperation between employers, employees and health professionals, such as occupational physicians, physiotherapists and kinesiologists, safety engineers, employer and employee associations, etc. Such cooperation could help improve existing practices and work methods in companies. It is necessary to reduce the occurrence and the extent of musculoskeletal disorders in the construction industry in Slovenia as well as to raise awareness among employees to take better care of their own health, both at and outside the workplace. Only this can lead to a win-win situation reducing sick leave costs paid by the employers on the one hand, and improve health, the quality of life and increase working ability of the employees on the other hand. Of course, major problems brought on by musculoskeletal disorders in employees cannot be evaluated only monetarily. Rather, we must also consider the impact these problems have on the broader society, which depends on the employees in the construction industry.



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# Introduction

The construction sector and the building materials industry (hereinafter: the construction industry) encompass activities that require continuous development and fostering of healthy workplaces. In other words, work should be organized in such a way as to minimize workers' health risks while making sure that their performance does not decrease excessively.

Due to the nature of work performed by construction workers, jobs in the construction industry can put quite a strain on workers' health, since, despite the technological progress in this sector, some workers are still exposed to heavy lifting, work in forced positions, repetitive movements, noises, humidity, dust, a wide variety of weather conditions, etc. For these reasons, employees in the construction industry take longer sick leaves due to musculoskeletal disorders, which often result in disability retirements. In 2014, the index of temporary disability (ITD) in the construction industry amounted to 10.24 working days lost per employee; in the construction sector, the ITD was 9.90 working days, whereas in the building materials industry (BMI), it amounted to as much as 15.98 working days lost per employee. Unfortunately, musculoskeletal disorders are not recognized as occupational diseases in Slovenia, even though these disorders are often the result of work in the aforementioned conditions.

It is therefore imperative that companies take concrete measures to promote preventive behaviour in workers, as, in the long run, they could achieve better work results and increase the workers' quality of life in old age.

The Slovenian Occupational Health and Safety Act of 2011 imposes an obligation on employers to organize workplace health promotion. Article 6 of the Occupational Health and Safety Act (ZVZD-1, Official Gazette of the Republic of Slovenia, No. 43/2011) provides as follows: "The employer is obliged to plan and implement workplace health promotion." Promoting a healthy and

orderly way of life and work as well as sports and recreation can be part of the health promotion activities.

Preventive practices also reduce the financial burden on employers – or the ZZZS in cases where the sick leave lasts longer than 30 days. In 2014, employee absenteeism in the construction sector (excluding the building materials industry) cost the ZZZS and the Slovenian construction employers €27.6 million, of which the largest share, 72%, was covered by the ZZZS due to absence cases lasting longer than 30 working days. Sick leaves lasting less than 30 working days, which are paid for by employers, amounted to 26%. The remaining 2% was also borne by the ZZZS as it encompasses other categories of sick leave as well as one-day absences due to care for family members, transplantation, isolation, accompaniment, child rehabilitation training, and occupational injuries that occurred in special circumstances.

As can be seen in the 2014 Annual Report of the Labour Inspectorate of the Republic of Slovenia, workplace health promotion is mainly focused on preventive medical examinations, which is clearly insufficient. Even though it is commonly known that musculoskeletal disorders are present at all workplaces within the construction industry, most companies fail to implement specific programmes to prevent or reduce them. It seems as though we have come to terms with the fact that musculoskeletal disorders are a normal phenomenon in the construction industry. Moreover, the degradation of workers' health and the medical treatment of workers is passed to the wider society, including those companies that follow good occupational health and safety practices, and constantly work towards fostering healthy and safe workplaces for healthier employees.

Due to the reasons listed above, the Trade Union of Construction Workers of the Republic of Slovenia (hereinafter: the SDGD) and the Chamber of Construction and Building Materials Industry of Slovenia (hereinafter: the ZGIGM) decided to jointly prepare a workplace health promotion project aimed at reducing absenteeism resulting from musculoskeletal disorders.

On average, more than one in five absences from work due to sick leave in the construction industry result from those disorders. We have also partnered with the Occupational Safety and Health Chamber (hereinafter: the ZVZD), whose members should include workplace health promotion activities in the Safety Statements with Risk Assessments.

The aim of the project was to encourage employers and employees to actively promote healthier workplaces and ensure appropriate workplace organization, especially where there is a high occurrence of musculoskeletal disorders. The project also intended to raise awareness among employees about proactive measures for improving their health and preventing musculoskeletal disorders. Both employers and employees were encouraged to implement preventive practices into their work and everyday life.

The objective of the project was to introduce effective practices for reducing musculoskeletal disorders and to provide other useful information on reducing these disorders in ten Slovenian construction companies, thus laying the foundations for active health promotion programmes in construction companies. This publication, in its unabridged version, was created in order to help Slovenian construction companies implement workplace health promotion and convince employers that these activities are not a burden, but an investment in their employees, provided the latter follow the recommendations and voluntarily participate in organized contents of the WHP programme taking place in their company. The abridged version is a summary of the project in the form of a report, providing recommendations for further work in the area of workplace health promotion in Slovenia and possibly in the wider European area.

# 1. First national guidelines for the implementation of workplace health promotion

An analysis of sick leave in the construction industry was carried out based on the additionally acquired and paid NIJZ data. All employers may comply with statutory obligations by following the optional Workplace Health Promotion Guidelines.

## 1.1 Workplace Health Promotion Guidelines

In March 2015, the Slovenian Ministry of Health issued the first Workplace Health Promotion Guidelines for employers. **The Guidelines emphasize that well-planned WHP programmes combine the needs of the organization with those of workers.** There is no standard model or a prescribed method for the implementation of WHP. Due to the large variety of working environments, the Guidelines provide only the basic principles for WHP planning and implementation. Each employer needs to adapt the fundamental WHP principles to their company specifics and circumstances based on the assessment of needs and desires within their organisation. WHP Guidelines help companies by providing examples of WHP steps and activities. The emphasis lies on promoting a healthy lifestyle (improving eating habits, increasing physical activity, quitting smoking), reducing stress at work, improving relationships and communication in the workplace, improving and protecting mental health and well-being, increasing employee satisfaction and creating employee-friendly jobs.

**Categories of WHP measures and activities taken from the WHP Guidelines and supplemented with proposals for action from the publication titled Healthy Employees in Healthy Organizations that may be included in the WHP implementation programme are as follows:**

**COLLECTIVE:**

**1. Improving work organization**, e.g. introducing flexible working hours, reorganizing workplaces so as to enable work from home or telework, providing opportunities for lifelong learning, e.g. by introducing rotation among similar workplaces and expanding job profiles, reducing exposure, providing a tidy and organized working/construction/building materials production site.

**2. Improving the working environment**, e.g. promoting support and encouragement among co-workers, promoting employee participation in the process of improving the working environment, offering healthy food in the canteen, providing construction workers hot beverages in winter and cool beverages in summer, providing a cool space for construction workers in summer, providing meals adapted to the workplace, providing ergonomic workplace layout, changing the environment, i.e. creating a supportive environment, using assistive devices, arranging a WHP corner, arranging a motivation corner for employees, limiting the use of psychoactive substances.

## **INDIVIDUAL (encouraging proactive health behaviour among employees):**

**3. Encouraging employees to actively participate in health promotion activities**, e.g. offering exercise programmes for employees by providing annual/seasonal tickets or renting indoor recreational areas, providing bicycles for shorter distances within a large work area, co-financing recreational activities, co-financing the renting of recreational areas, introducing physical activity breaks at work, organizing a 2km test walk, organizing sports days for employees, introducing active breaks during working time, promoting walking to and from work, labelling and arranging staircases to encourage the use of stairs instead of the elevators (e.g. providing suitable lighting, installing railings, displaying interesting posters or photographs, playing music in the staircase area).

**4. Facilitating the choice of a healthy lifestyle**, e.g. controlling the consumption of psychoactive substances, organizing workshops to raise awareness about healthy lifestyles and health promotion, organizing sports and recreational leisure activities for employees.

**5. Promoting personal development**, e.g. offering courses for the acquisition of competences such as managing work-related stress, assisting employees with smoking cessation, monitoring employee behaviour change.

Ensuring effective WHP can sometimes prove difficult for employers in practice due to labour-intensive construction activities and seasonal work. It is nevertheless necessary for employers to at least offer the possibility of implementing WHP activities.

The Guidelines provide the basic principles for planning proper workplace health promotion and are designed as a tool for employers to plan and implement WHP programmes as laid down in the Occupational Health and Safety Act (ZVZD-1, Official Gazette of the Republic of Slovenia, No. 43/11). They are designed so as to lead the employer step-by-step when developing a WHP programme for their organization individually or in a working group. The Guidelines are also meant to encourage efforts towards the appreciation and support of health and well-being, including the management of psychosocial risks for all employees. This requires the active commitment of both employers to provide healthy organizational and environmental conditions and employees to actively participate in the WHP programmes.

For employees, taking part in the WHP programme as defined in the WHP plan is voluntary. The aim of the programme is to achieve the highest possible turnout as well as to address the employees' collective and individual needs. The content of the programme is based on the company's Needs Assessment, which can be performed by carrying out interviews with employees, conducting a survey, or performing an analysis of sick leave if the company collects such data. The content of the WHP programme should be cost-effective and may to some extent rely on free public prevention programs. It may also involve activities provided by local sports and recreational institutions or by employees experienced in this field.

We wish to remind Slovenian employers that they are free to adopt templates and suggestions from the WHP Guidelines when performing a possible annual revisions of their Safety Statements or when preparing (medium- or long-term) WHP plans. The WHP plan must address WHP-related needs and opportunities of the company in a structured and coordinated way with the help of a detailed WHP programme, which further specifies the actions and measures necessary to achieve the company goals. One of the two

forms designed to facilitate the WHP implementation can be used to prepare the WHP plan and define the content of the programme, provided that the Safety Statement contains a declaration that the document (WHP plan) is an annex to the Safety Statement.

It is sensible and welcome that employers perform an annual revision of WHP measures and activities (referred to as “programme monitoring and evaluation” in the Guidelines) so as to amend the plan and align it with the needs and challenges of the employer and employees. In Slovenia, several public expert organizations, the National Institute of Public Health, health centres (medical educational centres) as well as some organizations involved in the national WHP projects financed by the ZZS may offer employers some basic assistance with their WHP plans, for example with a range of high-quality programme content. It is again necessary to emphasize that a WHP plan is in itself not a difficult document to prepare and that companies should be able to create such a plan on their own.

Each company should nominate a person responsible for supervising WHP activities and provide the necessary resources for the implementation of those activities, including funds for training in WHP. The responsible person should detail the WHP programme, define the necessary human resources, encourage employee participation, and establish a working group that will help with the implementation of various areas of the WHP programme. The Guidelines also provide customized content for micro-enterprises.

In order to improve the situation in the construction industry and help businesses in the field of workplace health promotion, 2015 saw the collaboration of social partners of the Slovenian Collective Agreement for the Construction Industry, who joined forces and set up a common workplace health promotion project, targeting various activities during 2015 and 2016.

The social partners of the construction industry took up the project BUILD HEALTHILY to adopt collective and individual measures (physical activity, exercise, free publicly funded preventive medical examinations, eating habits, ergonomic arrangement of the workplace etc.) aimed at preventing musculoskeletal disorders in construction industry employees. The activities are presented in detail further below.

The determined course of the project BUILD HEALTHILY will continue to foster employers and employees to prevent musculoskeletal disorders and actively implement a well-thought out workplace health promotion. An expert team visit on site is, of course, a premium service for employers who promote workplace health. However, an occasional payable exercise under expert guidance for employees or the preparation of materials on exercises aimed at preventing musculoskeletal disorders would also raise awareness on the importance of being collectively and individually responsible for our health.

Employers can continue implementing activities of the project BUILD HEALTHILY for example by distributing ready-made OSHA publications (listed at the end of this publication) for the prevention of musculoskeletal disorders among their employees or by arranging a meeting between an occupational safety and health expert and the employees. The meeting would be followed by a record of the meeting and an agreement on future activities and measures for the employees. The Ministry of Labour, Family, Social Affairs and Equal Opportunities website contains a number of free OSHA publications in Slovenian and English on preventing musculoskeletal disorders. These publications contain a selection of verified solutions to prevent such disorders among employees. Construction companies and sole proprietors who operate in the construction industry can particularly benefit from the useful check lists for the prevention of musculoskeletal disorders in various body sites and from examples of prevention measures which are divided into the following thematic areas:

eliminate/redesign, reduce exposure, assistive devices, and organisation/training. Employers can undertake the above measures largely by themselves with the help of their co-workers.

To reduce sick leave due to musculoskeletal disorders, specialised literature notes the need to apply complex prevention programmes and measures, to constantly monitor their efficiency, and to adopt an interdisciplinary approach which would consider the arrangement and the organization of the construction/working site, the ergonomic arrangement of the workplace, the workplace risk assessment with proposals for its improvements, and preventive education of employees and employers. Employers should only implement these measures with the professional help of various consultants.

A few of the recommended measures and activities for the construction industry are set out further in the publication, where they are drawn up as a form accompanying the Workplace Health Promotion Guidelines.

Below is an example of a workplace health promotion plan for companies that participated in the project BUILD HEALTHILY. For this purpose, Form 2 of the Guidelines was used.

*Form 1: An example of a workplace health promotion plan for companies that participated in the project*

<b>PURPOSE/ OBJECTIVE</b>	<b>To reduce work-related musculoskeletal disorders and encourage consistent and balanced eating habits</b>
<b>PROGRAMME</b>	<b><i>Ergonomics and workplace physical activity</i></b>
<b>MEASURES/ACTIVITIES</b> Based on the needs assessment	<ol style="list-style-type: none"> <li>1. <u>Ergonomic arrangement of the workplace: armature bending (individual measure)</u></li> <li>2. <u>Activation and strengthening of spine stabilizers (individual measure)</u></li> <li>3. <u>Morning workout and exercise as preparation for work (collective measure)</u></li> <li>4. <u>Exercise brake: Use of a football for hard surfaces (asphalt, concrete,...) or exercising according to the instructions from the exercise brake posters and cards</u></li> </ol>
<b>MEASURE/ACTIVITY NO. 1:</b> <u>Ergonomic arrangement of the workplace: armature bending (individual measure)</u>	<p>What: Placement of the stand for capturing the manufactured armature next to the bending machine</p> <p>Responsible person: Head of production</p> <p>Time frame: Permanent</p> <p>Monitoring indicators: Questionnaire on employees' well-being and sick leave in the armature bending workplace</p> <p>Resources and means: €200 for the production</p>

	<p>of the stand</p> <p>Progress/effect: A proven increase of employee satisfaction with the workplace and their health</p>
<p><b>MEASURE/ACTIVITY NO. 2:</b> <u>Activation and strengthening of spine stabilizers (individual measure)</u></p>	<p>What: Regular and correct implementation of exercises for the stabilization of the spine and pelvis muscles</p> <p>Responsible person: Occupational safety and health expert in collaboration with occupational health professionals</p> <p>Time frame: 1 year</p> <p>Monitoring indicators: Questionnaire on the well-being of the participating employees and an analysis of their sick leave</p> <p>Resources and means: €500 for a mentoring visit from a physiotherapist, kinesiologist or another health expert at the company, preparation of exercises for employees, and a follow-up visit to monitor the progress of the programme.</p> <p>Note: A physiotherapist is the only medical worker who can treat employees with severe medical problems (or employees who are dealing with several health problems at the same time) and those with acute medical conditions.</p> <p>Progress/effect: A proven increase of employee satisfaction with the workplace and their well-being, less frequent pain and other pelvic floor and spine-related disorders</p>
<p><b>MEASURE/ACTIVITY NO. 3:</b> <u>Morning workout and</u></p>	<p>What: Weekly morning exercise for employees and the introduction of a 10-minute exercise break</p>

<p><u>exercise as preparation for work (collective measure)</u></p>	<p>Responsible person: Head of the shift/working site in collaboration with an occupational safety and health expert</p> <p>Time frame: 1 year</p> <p>Monitoring indicators: Questionnaire on the well-being of the participating employees and an analysis of their sick leave</p> <p>Resources and means: €500 for a mentoring visit from a workplace recreation expert (for healthy employees) and a physiotherapist (for healthy employees and those with chronic health problems) at the company, preparation of exercises for employees and a follow-up visit to monitor the progress of the programme</p> <p>Progress/effect: A proven increase of employee satisfaction with the workplace and their well-being, and less work-related injuries</p>
<p><b>MEASURE/ACTIVITY NO. 4:</b> <u>Exercise brake: Use of a football for hard surfaces (asphalt, concrete,...) or exercising according to the instructions from the exercise brake posters and cards</u></p>	<p><u>What: introduction of a 10-minute exercise break once a week with the use of a football for hard surfaces (asphalt, concrete,...) to foster socialization and physical activity of employees; this activity should alternate every two weeks with exercises from exercise brake posters and cards (collective measure)</u></p> <p>Responsible person: Head of production/working site in collaboration with an occupational safety and health expert</p> <p>Time frame: 1 year</p> <p>Monitoring indicators: Questionnaire on the participating employees' well-being and an analysis of their sick leave</p>

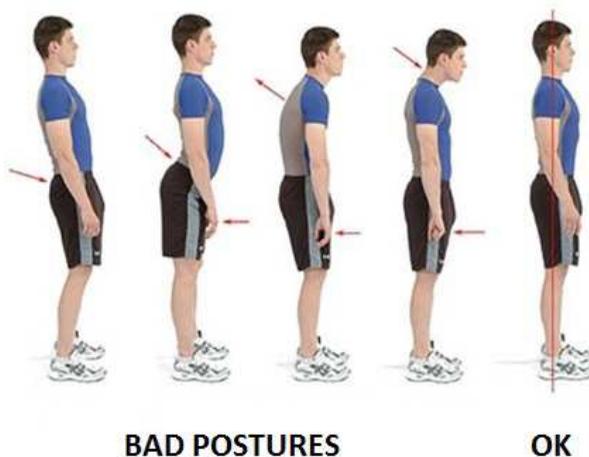
	<p>Resources and means: A football, a paid 10-minute break for employees once a week</p> <p>Progress/effect: A proven increase of employee satisfaction with the workplace and their well-being, improved mobility and working abilities after the exercise</p>
<b>PROGRAMME</b>	<b><i>Workplace eating habits</i></b>
<p><b>MEASURES/ACTIVITIES</b> Based on the needs assessment</p>	<p>1. <u>Encouraging a regular consumption of smaller meals (the working hours on construction sites usually extend beyond 8 hours) (collective measure)</u></p>
<p><b>MEASURE/ACTIVITY NO. 1:</b> <u>Encouraging the consumption of a larger number of smaller meals and enabling two additional 10-minute breaks to consume a healthy snack (the working hours on construction sites usually extend beyond the 8 hours).</u></p>	<p>What: Consuming protein or fruit and cereal bars or dried/fresh fruit once a week and enabling two additional breaks a day for consuming healthy snacks</p> <p>Responsible person: Manager in collaboration with an occupational safety and health expert</p> <p>Time frame: 3 months</p> <p>Monitoring indicators: Observing and talking to the participating employees</p> <p>Resources and means: €3/4 weeks/ × 3 months = €36/employee in 3 months</p> <p>Progress/effect: A proven increase of employee satisfaction with the workplace and their well-being, lower likelihood of occupational accidents on days when workers consume more meals, increased energy for work, a positive feedback from the employees on additional paid breaks and healthy snacks</p>



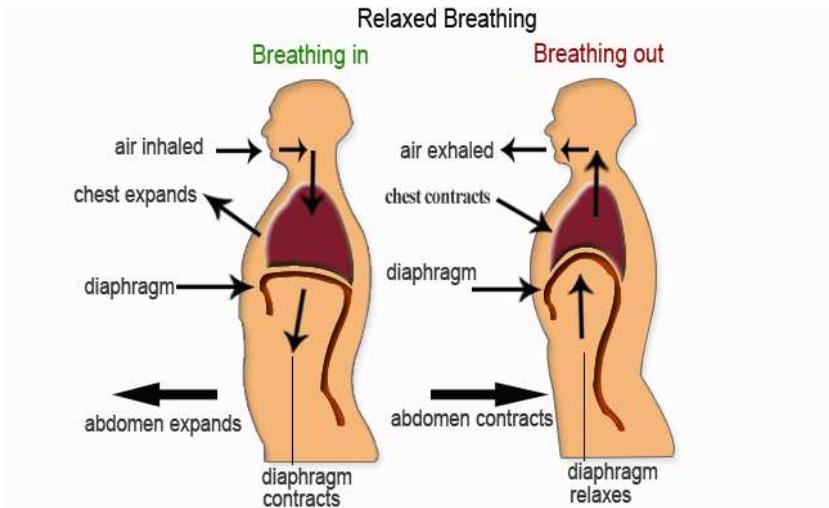
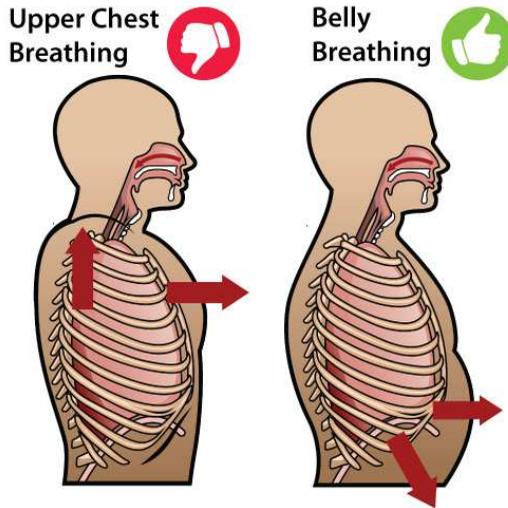
**In connection with measures no. 2 and 3, physiotherapists and kinesiologists recommend the following:**

There are three prerequisites which must be fulfilled in order to guarantee a healthy exercise and correct working methods:

### 1. Physiological posture

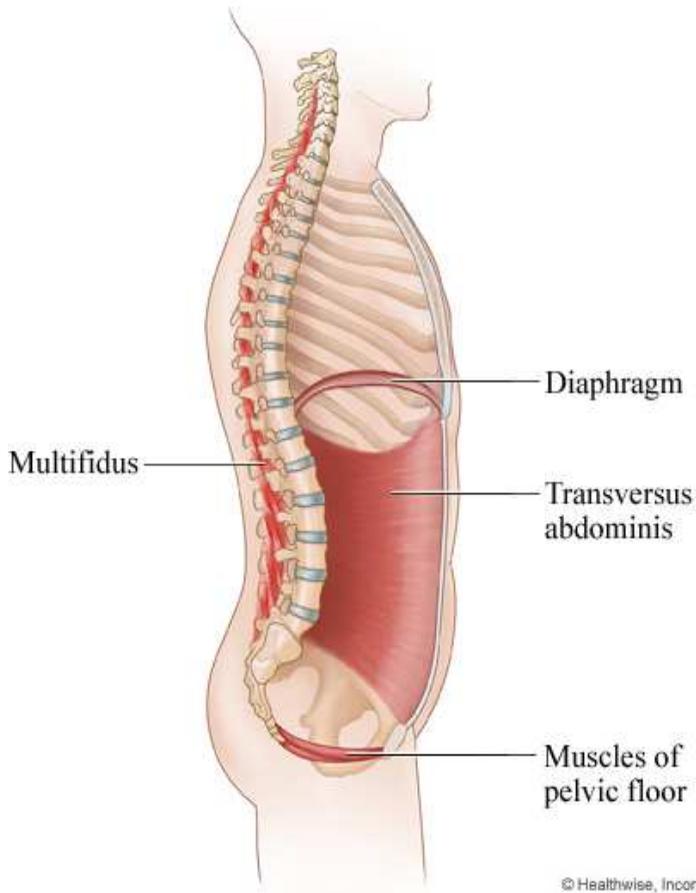


2. A correct breathing pattern while working (steady breathing with the use of the diaphragm)



Source: <https://chiroup.com/role-diaphragm-breathing-right/>,  
<http://truehealthtruelife.com/detox-the-what-why-how/detox-series-1-breathing/>

### 3. Activation of the spine stabilizers (4 learning stages!)



Additional measures and activities can also be introduced in order to implement the workplace health promotion programme. These were not specifically set out as part of the project BUILD HEALTHILY, since this was not the principal objective of the sectoral project and because of the limited budget available. After performing a needs assessment with and for employees we select the appropriate measures to meet those needs and the interests of the employees.

## **Other examples of possible measures and activities for workplace health promotion:**

Enabling flexible working hours, from... to...

Allowing employees to work from home or introducing telework.

Give employees the possibility to partake in activities aimed to improve the organization of work and of work environment.

Enable employees to attend additional professional training.

Providing common areas for socializing for employees and arranging a health corner.

Introducing a complete ban on smoking in the company. Providing and financing after-work sports activities.

Organizing sports events during working hours and outside of working hours for both employees and their families.

Promoting healthy eating habits (offering healthy food and drinks in the canteen and in the vending machines). Provide access to drinking water (for example: clean drinking tap water, water dispensers, cups, drinking fountains) and foster employees to maintain hydration. Support mental well-being (for example by providing external anonymous psychosocial assistance, advice, and stress management training). Improve the work environment by introducing measures: encourage employees to participate in free national screening programmes and national prevention programmes which include free medical examinations (in family medicine practices or reference family medicine practices).

Encourage employees to participate in free health education workshops which promote healthy lifestyle, healthy diet, physical activity, losing weight, provide assessments of physical fitness (for example by a 2km test walk), changing unhealthy habits (such as smoking and excessive drinking), stress management, relaxing techniques etc.

## 2. A detailed numerical analysis of absenteeism among construction industry employees

### 2.1 Methodological insights on the National Institute of Public Health data

An analysis of sick leave (SL) in the construction industry was carried out based on the additionally acquired and paid NIJZ data. The statistical analysis was drawn up based on the database of the National Institute of Public Health (NIJZ) "Record of temporary absence due to illness, injuries, care for family members, and other reasons, IVZ 3". The data were acquired in 2015 for the purpose of the project *Promotion of Preventive Measures for Reducing Musculoskeletal Disorders among Construction Workers (BUILD HEALTHILY)*. The following methodological insights apply for the acquired data.

**NUMBER OF INCIDENCES:** We considered all incidences for which sick leave for one diagnosis terminated in the observed year, regardless the start date of the sick leave.

**WORKING DAYS:** All calendar days except Sundays.

**% OF SICK LEAVE (%SL):** Percentage of sick leave equals the percentage of lost working days per one employee

$$\% \text{ SL} = \frac{\text{Number of lost working days} \times 100}{\text{Number of employees} \times \text{number of days in a year}}$$

**INDEX OF TEMPORARY DISABILITY (ITD):** Number of lost working days per one employee

Number of lost working days

ITD = -----

Number of employees

FREQUENCY INDEX (FI): Number of absences due to sick leave per 100 employees in a year

SEVERITY (S): Average duration of one absence due to illness, injury or other health-related reasons

Number of lost working days due to one reason

S = -----

Number of incidences

The analysis of sick leave (SL) has been drawn up based on the data obtained from the National Institute of Public Health for 2013 and 2014 for the purpose of the project *Preventive Measures for Reducing Musculoskeletal Disorders among Construction Workers*. The analysis addresses and analyses the costs related to sick leave (SL) in the construction industry resulting from the number of lost working days due to illness in 2014 which were covered by employers and the Health Insurance Institute of Slovenia (ZZZS). The analysis further reports the most frequent cause for sick leave in the construction industry in the last two years. The following chapters provide an overview of the construction industry, the number of businesses operating in it, and the number of their employees.

## 2.2 Construction activities

Construction activities according to the Standard Classification of Activities 2008:

- Construction (F) and
- Building materials industry, consisting of mining and quarrying (B) and manufacturing (C).

Construction activities are listed in Table 2. Construction industry representatives group together under the aegis of the Chamber of Commerce and Industry of Slovenia (CCIS), more precisely in the sectoral Chamber of Construction and Building Materials Industry of Slovenia (CCBMIS), and in the Trade Union of Construction Workers of the Republic of Slovenia. Members of both organizations are subject to a new Collective Agreement for the Construction Industry, which was initialled in December 2015 and entered into force on 1 January 2016 (published in the Official Gazette of the Republic of Slovenia, No. 101/2015, from 23 December 2015).

*Table 1: Construction activities according to the Standard Classification of Activities 2008*

**An overview of subclasses of the Standard Classification of Activities 2008 according to NACE 2008 codes**

**MINING AND QUARRYING – B:** 8.110 – Quarrying of stone & 8.120

Operation of gravel and sand pits, mining of clays and kaolin

**MANUFACTURING – C:** 23.320 – Manufacture of bricks, tiles and construction products, in baked clay & 23.510 – Manufacture of cement, 23.520 – Manufacture of lime and plaster & 23.610 – Manufacture of concrete products for construction purposes & 23.620 – Manufacture of plaster products for construction purposes & 23.630 – Manufacture of ready-mixed concrete & 23.640 – Manufacture of mortars, 23.650 – Manufacture of fibre cement & 23.690 – Manufacture of other articles of concrete, plaster and cement & 23.700 – Cutting, shaping and finishing of stone.

**CONSTRUCTION – F:** 41. Construction of buildings, 42. Civil engineering, 43. Specialised construction activities

### 2.3 Overview of the number of businesses and employees working in the Slovenian construction industry in 2014 and 2015

The following describes the construction industry in terms of the number of its employees and businesses as reported by the official statistics data from the Agency of the Republic of Slovenia for Public Legal Records and Related Services (AJPES), the Statistical Office of the Republic of Slovenia (SURS), and the National Institute of Public Health (NIJZ) (Tables 2, 3, 4).

*Table 2: Employees in the construction industry, source: NIJZ*

<b>EMPLOYEES IN 2014</b>	<b>Men</b>	<b>Women</b>	<b>Total</b>
<b>B – MINING AND QUARRYING</b>	1,633	194	1,827
8.110 Quarrying of stone	201	45	246
8.120 Operation of gravel and sand pits, mining of clays and kaolin	370	86	456
<b>C – MANUFACTURING</b>	67,038	43,928	110,966
23.320 Manufacture of bricks, tiles and construction products, in baked clay	159	32	191
23.510 Manufacture of cement	205	79	284
23.520 Manufacture of lime and plaster	62	13	75
23.610 Manufacture of concrete products for construction purposes	756	138	894
23.620 Manufacture of plaster products for construction purposes	16	3	19
23.630 Manufacture of ready-mixed concrete	116	9	125
23.640 Manufacture of mortars	34	6	40
23.650 Manufacture of fibre cement	68	25	93
23.690 Manufacture of other articles of concrete, plaster and cement	122	27	149
23.700 Cutting, shaping and finishing of stone	718	100	818
<b>F – CONSTRUCTION</b>	51,028	4,924	55,952
<b>TOTAL OF EMPLOYEES IN THE CONSTRUCTION INDUSTRY</b>	<b>53,855</b>	<b>5,487</b>	<b>59,342</b>

According to the data from KAPOS (Financial Indicators of the CCIS) and AJPES, there were 248 sole proprietors and 202 companies operating in the building materials industry and 10,607 sole proprietors and 7,426 companies operating in the construction sector in Slovenia in 2014.

In comparison, there were 240 sole proprietors with a total of 595 employees and 211 companies with a total of 2,667 employees operating in the building materials industry in Slovenia in 2015. The construction sector on the other hand consisted of 10,168 sole proprietors with a total of 19,245 employees and 7,407 companies with a total of 36,001 employees.

**In 2014 construction industry employees were most frequently absent due to illness** (as a cause of absence) which is on average the most frequent cause of absence of all employees in the Republic of Slovenia. In the same year the construction industry saw **17,718** (out of 26,607) **incidences of absence** and **376,437** (out of 607,928) **lost working days due to illness**. We continue with an overview of the number of working days and incidences due to various causes of absence in 2014.

Table 3: Incidences, lost working days, and indices by causes of SL for full-time absence in 2014 and indicative gross annual costs due to SL (calculation based on data from the NIJZ)

Cause of absence (listed according to the methodology of the National Institute of Public Health)	Republic of SLOVENIA (RS)			RS (indicative gross annual cost due to sick leave: an average payment of €56 per day from the Health Insurance Institute of Slovenia), EUR
	Incidences	Days	ITD	Sick leave compensation
<b>01 Illness</b>	<b>476,294</b>	<b>6,895,889</b>	<b>8.52</b>	<b>386,169,784</b>
02 Injuries outside the workplace	46,265	1,374,087	1.7	76,948,872
03 Occupational illness	35	1,633	0	91,448
04 Injuries in the workplace	14,208	544,466	0.67	30,490,096
05 Injuries by third parties outside the workplace	3,980	168,154	0.21	9,416,624
06 Care for family members	140,925	550,867	0.68	30,848,552
07 Transplantation	11	522	0	29,232
08 Isolation	34	1,763	0	98,728
09 Accompaniment	57,836	74,208	0.09	4,155,648
10 Child rehabilitation training	86	1,616	0	90,496
11 Injuries in the workplace according to Article 18 of the Health Care and Health Insurance Act	34	1,988	0	111,328
Unclassified	0	0	0	0
<b>Total</b>	<b>739,708</b>	<b>9,615,193</b>	<b>11.88</b>	<b>538,450,808</b>

Cause of absence (listed according to the methodology of the National Institute of Public Health)	Total for the BMI and the CONSTRUCTION SECTOR			Total for the BMI and the CONSTRUCTION SECTOR (indicative gross annual cost due to sick leave, €44 /day), €
	Incidences	Days	ITD	Sick leave compensation
<b>01 Illness</b>	<b>17,718</b>	<b>376,437</b>	<b>6.34</b>	<b>16,563,228</b>
02 Injuries outside the workplace	3,513	114,842	1.94	5,053,048
03 Occupational illness	7	892	0.02	39,248
04 Injuries in the workplace	1,697	84,335	1.42	3,710,740
05 Injuries by third parties outside the workplace	294	18,847	0.32	829,268
06 Family care leave	2,316	10,160	0.17	447,040
07 Transplantation	1	18	0	792
08 Isolation	3	161	0	7,084
09 Accompaniment	1,055	1,447	0.02	63,668
10 Child rehabilitation training	2	723	0.01	31,812
11 Injuries in the workplace according to Article 18 of the Health Care and Health Insurance Act	1	66	0	2,904
Unclassified	0	0	0	0
<b>Total</b>	<b>26,607</b>	<b>607,928</b>	<b>10.24</b>	<b>26,748,832</b>

We can calculate or assess the average amount of sick leave compensation for 1 working day of sick leave borne by the employer (of up to 30 days) or borne by the Health Insurance Institute of Slovenia (in total longer than 30 days) based on the average gross salary which amounted to approximately €1,190 in 2014 (or €1,188 in 2013). The sick leave compensation amounts to €44 per day (174 working hours per month, 8 working hours per day, an 80% compensation of the monthly salary). The sick leave compensation for 1 working day in the Republic of Slovenia is higher, since the average gross salary is higher (€1,540.50 in 2014). Based on the average of 174 monthly working hours, the 8-hour working day and the 80% sick leave compensation, we calculated that the gross amount is €56 per day. It has to be noted that gross amounts are being taken into consideration, since it's virtually impossible to calculate nett amounts due to differences in taxation. Due to all types of sick leave and causes of absence, the employers and the Health Insurance Institute of Slovenia were burdened in total with 607,928 working days and €26,748,832 in 2014. In the same year, employers from the construction industry and the Health Insurance Institute of Slovenia were burdened together with 376,437 working days and €16,563,228 (according to their own calculations) due to illness, which is the most frequent reason for sick leave (Table 8).

**In the year 2014, 26,607 incidences of absence were recorded in the Slovenian construction industry, of which sickness accounted for 17,718. The second most common cause of recorded incidences were injuries outside the workplace (3,513 incidences), followed by family care leave (2,316 incidences) and injuries in the workplace (1,697 incidences). In 2014, the most incidences (17,718) occurred and the most working days (376,437) were lost among construction workers due to illness, with the index of temporary disability reaching 6.34 days.**

The second most common cause of absence in the construction industry were injuries outside the workplace, with the index of temporary disability reaching 1.94 (out of 10.24 in the year 2014), followed by injuries in the workplace with the ITD of 1.42 (out of 10.24 in the year 2014). The index of absence for all employees of the Republic of Slovenia reached 11.88 and exhibited the same order of the most common causes of absence as in the construction industry.

**In 2014, the Slovenian construction industry employees used 607,928 working days of sick leave in total due to various causes.**

As mentioned, illness accounted for the largest share of the working days used (376,437), followed by injuries outside the workplace (114,842 working days) and injuries in the workplace (84,335 working days).

The following section provides a detailed overview of groups of diseases contributing to absence among the Slovenian construction industry workers and presents the findings on the most common causes of absence. The statistical data was obtained from the National Institute of Public Health of the Republic of Slovenia.

The analysis of the data from 2014 presented in Table 4 shows that the most common cause of absence when considering the number of lost days were diseases of the musculoskeletal system and connective tissue. On average, each construction industry employee used 2.27 days of sick leave due to diseases of the musculoskeletal system and connective tissue (ITD, i.e. the number of lost working days per employee).

In 2014, the index of temporary disability due to sick leave was 10.25. In Slovenia, sick leave compensations are borne either by employers or by the Health Insurance Institute of Slovenia. It is possible to calculate an estimate cost that was covered by the construction industry employers and the Health Insurance

Institute of Slovenia in 2014 for the **135,021 working days** lost due to full-time absence caused by diseases of the musculoskeletal system and connective tissue. Based on our calculations, the costs amounted to app. **€5,940,924.00** in 2014, which represented app. 23% of the overall cost of absence due to full-time sick leave in the Slovenian construction industry in 2014.

Table 1 further shows that in 2014, the most common cause of absence due to sick leave were **diseases of the musculoskeletal system and connective tissue** both in the Slovenian construction industry as well as in Slovenia at large. This group of diseases contributed on average to **2.27 lost working days per employee or 22% of all sick leave days** in the construction industry, compared to the Slovenian national average of **2.29 working days per employee or 22% of the ITD (average annual duration of sick leave per Slovenian employee)**.

*Table 4: Number of incidences, working days, and sick leave indices by groups of diseases for full-time absence in 2014 and indicative gross annual costs, based on the data provided by NIJZ, sorted in a decreasing order of the number of working days in the construction industry*

Groups of diseases ICD-10	Construction industry and building materials industry, combined		Republic of Slovenia		Republic of Slovenia (indicative gross annual costs due to sick leave: €56 per day), EUR
	Days	ITD	Days	ITD	Sick leave compensation
XIII Diseases of the musculoskeletal system and connective tissue	<b>135,021</b>	<b>2.27</b>	1,850,416	2.29	103,623,296
XIX B Injury and poisoning outside the workplace	133,461	2.25	1,539,922	1.9	86,235,632
XIX A Injury and poisoning in the workplace	84,541	1.41	545,124	0.67	30,526,944

IX Diseases of the circulatory system	38,735	0.65	411.252	0.51	23,030,112
X Diseases of the respiratory system	34,689	0.58	705.449	0.87	39,505,144
II Neoplasms	30,053	0.51	562.614	0.69	31,506,384
XI Diseases of the digestive system	24,369	0.41	356.743	0.44	19,977,608
V Mental and behavioural disorders	21,356	0.36	622.430	0.77	34,856,080
XVIII Symptoms, signs and abnormal clinical and laboratory findings	17,135	0.29	334.520	0.41	18,733,120
XXI Factors infl. health status and contact with health services	14,063	0.23	421.334	0.52	23,594,704
I Certain inf. and parasitic diseases	11,469	0.19	364.585	0.45	20,416,760
XII Diseases of the skin and subcutaneous tissue	10,860	0.18	138.163	0.17	7,737,128
VI Diseases of the nervous system	10,792	0.18	211.226	0.26	11,828,656
Care for family members	10,160	0.17	550.867	0.68	30,848,552

XV Pregnancy, childbirth and the puerperium	8,966	0.15	512,247	0.63	28,685,832
XIV Diseases of the genitourinary system	6,056	0.1	224,057	0.28	12,547,192
XII Diseases of the eye and adnexa	5,821	0.1	86,459	0.11	4,841,704
IX Endocrine, nutritional and metabolic diseases	4,453	0.08	70,500	0.09	3,948,000
VIII Diseases of the ear and mastoid process	2,664	0.04	53,592	0.07	3,001,152
III Diseases of the blood and blood-forming organs	2,476	0.04	37,176	0.05	2,081,856
Unclassified	1,051	0	6,536	0	366,016
XVII Congenital malformations, deformations and chromosomal abnormalities	735	0.01	9,981	0.01	558,936
XVI Certain conditions originating in the perinatal period	0	0	0	0	0
<b>Total</b>	<b>607,928</b>	<b>10.25</b>	<b>9,615,193</b>	<b>11.87</b>	<b>538,450,808</b>

Groups of diseases ICD-10	BUILDING MATERIALS INDUSTRY		CONSTRUCTION INDUSTRY		Building materials and construction industries combined (indicative gross annual costs due to sick leave: €44 per day), EUR
	Days	ITD	Days	ITD	
<b>XIII Diseases of the musculoskeletal system and connective tissue</b>	<b>13,939</b>	<b>4.11</b>	<b>121,082</b>	<b>2.16</b>	<b>5,940,924</b>
XIX B Injury and poisoning outside the workplace	8,964	2.65	124,497	2.23	<b>5,872,284</b>
XIX A Injury and poisoning in the workplace	8,335	2.16	76,206	1.36	<b>3,719,804</b>

IX Diseases of the circulatory system	2,982	0.88	35,753	0.64	<b>1,704,340</b>
X Diseases of the respiratory system	4,435	1.31	30,254	0.54	<b>1,526,316</b>
II Neoplasms	4,348	1.28	25,705	0.46	<b>1,322,332</b>
XI Diseases of the digestive system	1,657	0.49	22,712	0.41	<b>1,072,236</b>
V Mental and behavioural disorders	2,298	0.68	19,058	0.34	<b>939,664</b>
XVIII Symptoms, signs and abnormal clinical and laboratory findings	1,185	0.35	15,950	0.29	<b>753,940</b>
XXI Factors infl. health status and contact with health services	1,562	0.46	12,501	0.22	<b>618,772</b>
I Certain inf. and parasitic diseases	859	0.25	10,610	0.19	<b>504,636</b>
XII Diseases of the skin and subcutaneous tissue	598	0.17	10,262	0.18	<b>477,840</b>
VI Diseases of the nervous system	1,024	0.3	9,768	0.17	<b>474,848</b>
Care for family members	849	0.25	9,311	0.17	<b>447,040</b>

XV Pregnancy, childbirth and the puerperium	889	0.26	8,077	0.14	<b>394,504</b>
XIV Diseases of the genitourinary system	578	0.17	5,478	0.1	<b>266,464</b>
XII Diseases of the eye and adnexa	242	0.07	5,579	0.1	<b>256,124</b>
IX Endocrine, nutritional and metabolic diseases	177	0.05	4,276	0.08	<b>195,932</b>
VIII Diseases of the ear and mastoid process	156	0.05	2,508	0.04	<b>117,216</b>
III Diseases of the blood and blood-forming organs	1	0	2,475	0.04	<b>108,944</b>
Unclassified	65	0.02	986	0	<b>46,244</b>
XVII Congenital malformations, deformations and chromosomal abnormalities	16	0	719	0.01	<b>32,340</b>
XVI Certain conditions originating in the perinatal period	0	0	0	0	<b>0</b>
<b>Total</b>	<b>55,159</b>	<b>15.98</b>	<b>553,767</b>	<b>9.9</b>	<b>26,792,744</b>

The analysis of data available for 2014 revealed a notable difference in the most common causes of sick leave in the BUILDING MATERIALS INDUSTRY and the CONSTRUCTION SECTOR. **In 2014, the largest cause of lost working days due to sick leave and the highest level of ITD were attributed to injury and poisoning outside the workplace** (disease category XIX B), followed by **diseases of the musculoskeletal system and connective tissue** (disease category XIII), whereas the **diseases of the musculoskeletal system and connective tissue** (disease category XIII) represented both the main cause of lost working days and the highest ITD level in the **building materials industry** (Table 2). When both industries are considered combined, the highest ITD was recorded in the category of **diseases of the musculoskeletal system and connective tissue** (disease category XIII).

The following tables that provide statistical data for the BMI and the construction sector show that the findings are highly comparable. When the construction industry data on the number of incidences and the lost working days according to causes of absence is combined with data available for the BMI, we can see that the results do not change dramatically, except for the index of temporary disability. In both cases, the main cause of absence in relation to lost working days and the number of incidences is illness. Given that the Slovenian building materials industry is relatively small compared to the construction industry, it does not exert a significant effect on the combined sick leave statistics.

Table 5: Comparable statistics on causes of SL in 2014 from the construction sector and the BMI, source: NIJZ

Cause of absence	CONSTRUCTION SECTOR AND BMI = CONSTRUCTION INDUSTRY		
	Incidences	Days	ITD
01 Illness	17,718	376,437	6.34
02 Injuries outside the workplace	3,513	114,842	1.94
03 Occupational illness	7	892	0.02
04 Injuries in the workplace	1,697	84,335	1.42
05 Injuries by third parties outside the workplace	294	18,847	0.32
06 Family care leave	2,316	10,160	0.17
07 Transplantation	1	18	0
08 Isolation	3	161	0
09 Accompaniment	1,055	1,447	0.02
10 Child rehabilitation training	2	723	0.01
11 Injuries in the workplace according to Article 18 of the Health Care and Health Insurance Act	1	66	0
Unclassified	0	0	0
<b>Total</b>	<b>26,607</b>	<b>607,928</b>	<b>10.24</b>

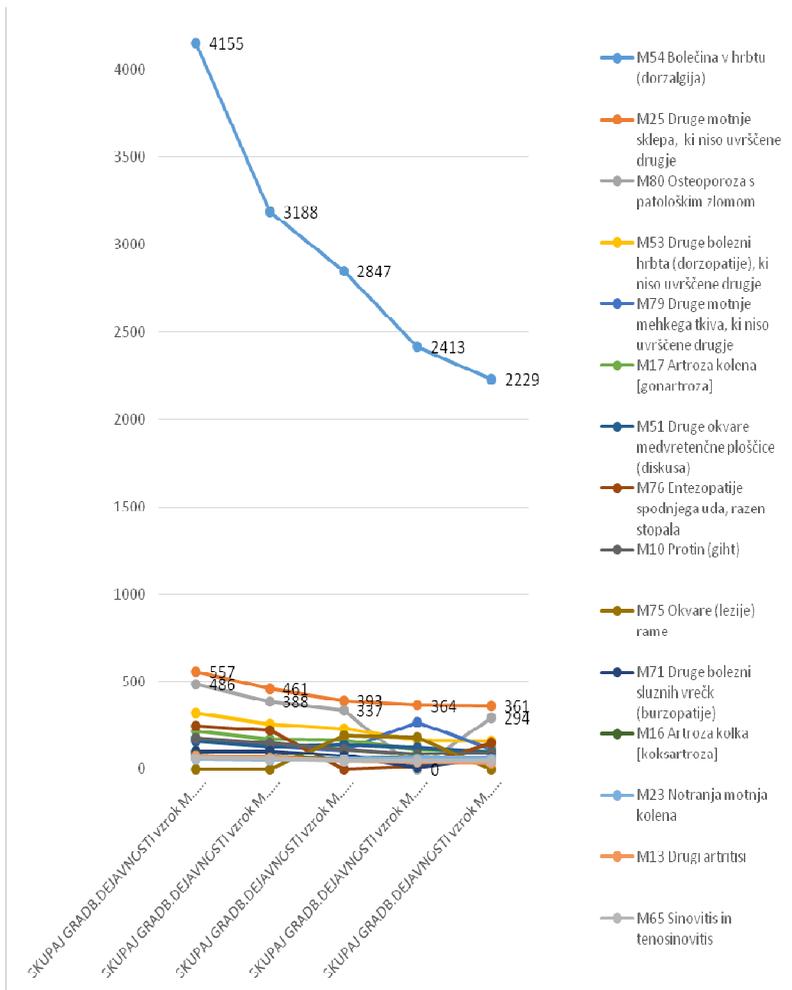
Cause of absence	F – CONSTRUCTION			BMI		
	Incidences	Days	ITD	Incidences	Days	ITD
01 Illness	15,813	340,412	6.08	1,905	36,025	10.63
02 Injuries outside the workplace	3,248	106,632	1.91	265	8,210	2.42
03 Occupational illness	5	348	0.01	2	544	0.16
04 Injuries in the workplace	1,580	77,000	1.38	117	7,335	2.16
05 Injuries by third parties outside the workplace	279	18,093	0.32	15	754	0.22
06 Family care leave	2,101	9,311	0.17	215	849	0.25
07 Transplantation	1	18	0	0	0	0
08 Isolation	1	28	0	2	133	0.04
09 Accompaniment	820	1,136	0.02	235	311	0.09
10 Child rehabilitation training	2	723	0.01	0	0	0
11 Injuries in the workplace according to Article 18 of the Health Care and Health Insurance Act	1	66	0	0	0	0
Unclassified	0	0	0	0	0	0
<b>Total</b>	<b>23,851</b>	<b>553,767</b>	<b>9.9</b>	<b>2,756</b>	<b>54,161</b>	<b>15.98</b>

### 3. Analysis of data on absenteeism due to the most common cause of sick leave (musculoskeletal disorders)

An analysis of sick leave (SL) in the construction industry was carried out based on the additionally acquired and paid NIJZ data using the International Classification of Diseases (ICD) for a five-year period from 2010 to 2014. The analysis of sick leave in the construction industry in the observed period provides an overview of the most common causes of sick leave based on closed cases for one diagnosis. The disease which clearly stands out in the statistics is **M54 Back pain (dorsalgia)**, which contributed to 14,832 incidences in the construction industry from 2010 through 2014. The following two most commonly diagnosed diseases in the observed period were **M25 Other joint disorders, not elsewhere classified** with 2,136 recorded incidences and **M80 Osteoporosis with pathological fracture**, recording 1,505 incidences.

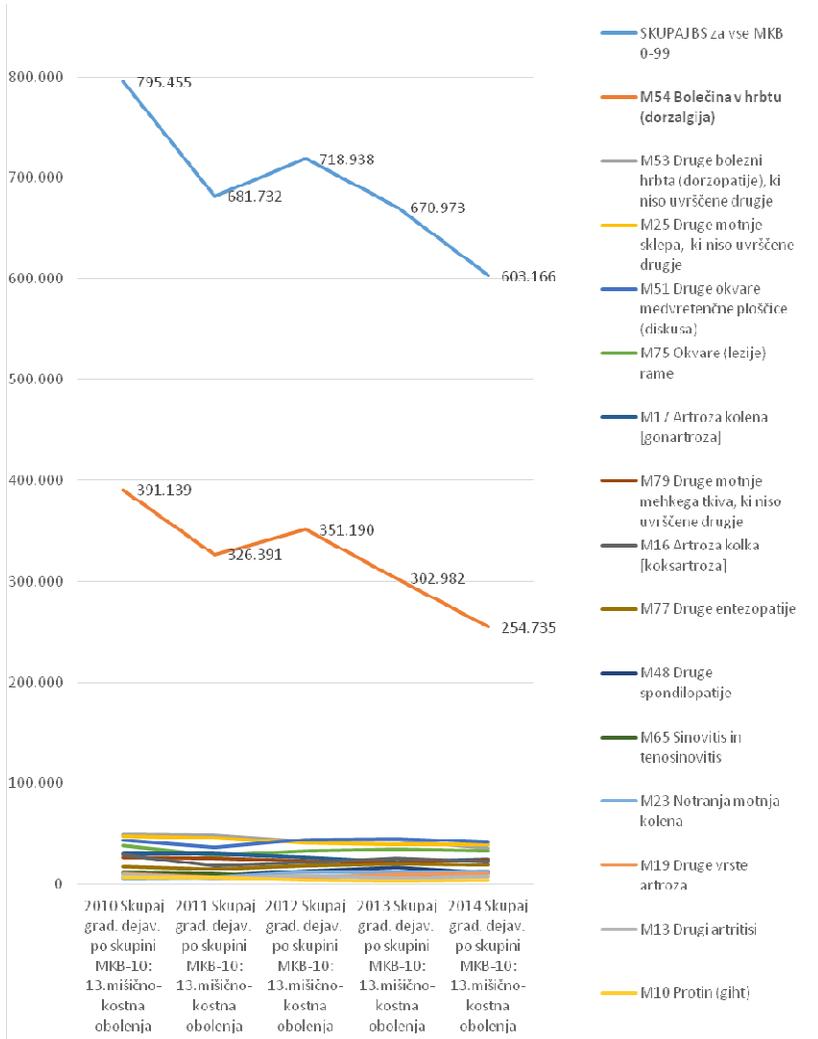
Figure 1 shows trends in the occurrence of the most common causes of sick leave based on the number of incidences in the period from 2010 through 2014. It is necessary to point out that part of the reason for the declining trends in the observed period is the economic crisis that reduced the number of employees in the Slovenian construction industry. Figure 2 gives an overview of the number of lost calendar/working days in the observed period based on the closed cases of the most commonly diagnosed diseases in the Slovenian construction industry. Here again, we can see that the most working days throughout the entire observed period were lost due to M54 Back pain (dorsalgia), interchangeably followed by M53 Other dorsopathies, not elsewhere classified, M25 Other joint disorders, not elsewhere classified, M51 Other intervertebral disc disorders, M75 Shoulder lesions, and M17 Gonarthrosis [arthrosis of knee].

Figure 1: The most common causes of sick leave (top 15) in the period 2010–2014 based on closed cases for one diagnosis, calculated from the NIIZ data for the construction industry, based on the ICD classification



**Blue graph line** - M54 Back pain (dorsalgia) is decreasing in the period of 2010 (4,555 closed cases) - 2014 (2,229 closed cases), but what is important to stress is that the number of employees in Slovenia in the observed period also decreased simultaneously due to the economic crisis.

Figure 2: The most common causes of sick leave (top 15) due to lost calendar days in the period 2010–2014, based on closed cases for one diagnosis, calculated from the NIJZ data for the construction industry, based on the ICD classification



The orange graph line shows calendar days in the period 2010 (391,139 c.d.) – 2014 (254,735 c.d.) due to M54 Back pain (dorsalgia).

It can be seen from the publicly available data accessible through the National Institute of Public Health online portal that the average duration of one absence due to musculoskeletal disorders in the construction sector (not the construction industry) in the observed period from 2010 to 2014 has increased from 31.35 calendar days in 2010 to 39.09 calendar days in 2015.

The reason behind this alarming statistics may lie in the fact that workers in the Slovenian construction industry are increasingly aging, which means they need longer recovery periods, have to take longer sick leaves and require more time to be reinstated at work. Over the last years, the number of recorded incidences in the construction sector has decreased from 9.4 per 100 employees in 2010 to 7.02 per 100 employees in 2015.

The NIJZ<sup>1</sup> online free database on diseases of the musculoskeletal system and connective tissue can also be sorted by age groups for all Slovenian employees suffering from such disorders. In 2015, the most affected group of employees were those aged 45–64 years, with 45,842 recorded incidences and 1,618,727 lost calendar days. As expected, the data shows that the recovery period increases with age. The average duration of an absence due to musculoskeletal disorders lasts 8.98 calendar days in the age group 15–19 years, 20.51 calendar days in the age group 20–44 years, 35.31 calendar days in the age group 45–64 years and 41.38 calendar days in the age group 65 years or over.

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<sup>1</sup> <https://podatki.nijz.si/pxweb/sl/NIJZ%20podatkovni%20portal>

## **4. WHP in companies and good practices in health promotion indicated in construction companies' questionnaire responses**

### **4.1 Questionnaire findings**

**In the scope of the BUILD HEALTHILY project, a questionnaire was prepared and sent out to member companies of the participating project organizations from the construction industry titled »Health promotion programmes in construction companies«.**

**The aim of the 2015 questionnaire was to analyze the situation in the field of health promotion in the surveyed companies. The findings are presented below.**

The structure of the Slovenian construction companies has changed dramatically in recent years owing to the crisis that resulted in bankruptcy for many large construction companies. Before the crisis, large companies employed a large number of people, often reaching over 1,000. Today, the Slovenian construction industry mainly consists of micro and small companies that employ up to five people. The largest companies have 100 to 200 employees, but there are no more than a few dozen of such enterprises.

Due to these reasons, several companies contacted in the scope of the project responded that they could not fill out the questionnaire on workplace health promotion as they do not have any specific WHP plan and programme in place or their WHP is covered by their Safety Statements. These companies also do not organize any WHP trainings or workshops due to the small number of employees that makes their communication take place on an internal daily basis, and it makes it difficult for them to organize joint activities that would include all employees due to regular field work.

18 companies responded to the sent questionnaires. Despite the limited size of the sample, it can be concluded that the sample is nevertheless representative and can serve as a good indicator of the situation in the field of workplace health promotion, as these companies' employees represent over 5 per cent of all Slovenian construction industry employees.

The findings show that micro companies (with up to 10 employees) use the Workplace Health Promotion Guidelines sensibly and that they are adjusting their WHP plans according to their employees' needs. Their feedback provides a basic insight into the health promotion situation in construction companies.

The questionnaire contained inquiries related to the companies' health promotion policies, sick leave monitoring, methods of identifying their employees' needs related to health and well-being, the amount of funds allocated to facilitating workplace health promotion, informative and motivational activities aimed at promoting WHP among employees, responsible WHP personnel, the literature used, WHP-related awareness-raising activities, forms of collaboration with occupational physicians, the implemented WHP activities from the Guidelines, the involvement of employees in the promotion of health, and verified good practices.

Nearly all respondents to the questionnaire have already set out a WHP plan with a specified programme of activities. They also updated their Safety Statements with WHP content in accordance with legal requirements. In cases where no WHP plan is in place, companies are organizing individual activities for workplace health promotion, such as recreation, workshops on healthy lifestyle, health corners, sports games and healthy meals.

Except in five cases where additional external experts were hired to carry out WHP activities, companies are implementing their WHP programmes in collaboration with internal personnel.

The responses show that the companies which are implementing WHP programmes have allocated between €1,000 and €1,200,000 to workplace health promotion, depending on the type of the organized activities and the number of employees.

According to the Workplace Health Promotion Guidelines, WHP activities may include:

**Measures for improving work organization:** Introducing flexible working hours, improving work organization in collaboration with employees, introducing reorganization and rotation of workplaces, facilitating recreation among employees, providing opportunities for lifelong learning, organizing seminars on personal skills development, introducing telework and flexible working hours, adjusting working hours to weather conditions, providing a bicycle for in-house transport.

**Measures for improving the working environment:** Providing air-conditioners, ergonomic chairs and equipment, introducing 5-minute exercise breaks on construction sites, organizing group after-work sports activities, ensuring ergonomic workplace layout, monitoring work-related injuries, offering healthy meals, organizing seminars aimed at raising awareness among employees, providing vending machines with hot beverages, providing suitable lighting, enabling good work-life balance and facilitating support among employees.

**Individual measures:** Organizing courses, seminars, and trainings, providing tickets for recreational programmes, facilitating exercise and healthy nutrition, introducing rotation among workplaces, promoting a healthy lifestyle.

These measures can be based on the employees' suggestions or on the assessment of needs identified in the company.

Companies adopted the following good practices: introducing healthy nutrition, additional fruit and additional breaks, organising group sports activities and sports games, improving and diversifying the offer of warm meals (snacks).

Most companies implement their WHP activities in collaboration with an occupational physician, who performs preventive medical examinations and raises awareness among employees.

The positive effects of health promotion activities were recognized by most companies in improved interpersonal relations and a more positive working atmosphere. Any reduction in costs and sick leaves could not be detected yet due to the limited time since the introduction of these measures.

The questionnaire responses detail workplace health promotion activities implemented up until October 2015, when the questionnaire was submitted to companies. Even though the Workplace Health Promotion Guidelines were published in March 2015, most responses indicate that companies have already implemented their initial WHP activities.

The recent publication of the Guidelines contributes to the reasons why many companies have not designed a WHP plan with a concrete programme of activities yet. Nevertheless, many of them are already promoting workplace health by implementing their employees' suggestions and ideas.

From the questionnaire responses, it can be seen that most companies are in fact promoting WHP activities, but these are not taking place at a regular basis. Permanent measures are aimed at improving employees' eating habits and designing ergonomic workplace solutions. Another positive indicator is that employees are being encouraged to come up with their own suggestions for a healthier working environment and that efforts are being directed into promoting a healthy lifestyle.

## 4.2 Final remarks

### **ACTIVITIES IN 12 PRACTICAL WORKSHOPS ON HEALTH PROMOTION IN 10 COMPANIES**

“Oh, my bones are cracking!” was an interjection that could often be heard during the practical workshops implemented in the scope of the project *Promotion of Preventive Measures for Reducing Musculoskeletal Disorders among Construction Workers*.

The aim of the BUILD HEALTHILY project was to encourage employees of the construction industry to undertake small steps in preventive measures for improving their health and ensuring healthier workplaces. The focus lied on preventive measures for musculoskeletal disorders. Not all disorders can be prevented and it is also not likely that they will soon be recognized as occupational diseases due to their limited occurrence. This is why it is necessary to undertake a proactive approach to preventive healthcare. The construction sector and the building materials industry encompass activities that require continuous development and fostering of healthy workplaces. In other words, work should be organized in such a way as to minimize workers’ health risks while making sure that their performance does not decrease excessively. It is therefore important that companies promote and introduce concrete measures for facilitating preventive actions among workers, as on the long run these could considerably contribute to facilitating a productive and healthy aging.

The project activities were therefore designed as on-site mentoring visits in construction and BMI companies. Practical workshops were organized for employees, who were presented with basic information on preventive measures aimed at reducing musculoskeletal disorders which can be undertaken both in the workplace and at home.

The project workshops were conducted between March and June 2016 and were also presented to students of the Faculty of Civil and Geodetic Engineering of the University of Ljubljana in the scope of the Operational construction course and to high school students of the SGGOŠ school in Ljubljana in an adjusted form. During these workshops, participants got acquainted with the implemented national health promotion project and were presented with findings on sick leave in the construction industry and the most common causes of sick leave among construction workers. They also found out how they can actively take part in the creation of safety statements in the workplace. All participants were offered small meals, fruit and cereal bars, as a reminder of the importance of regular and balanced eating habits, especially on construction sites where they are often lacking the time for a proper nutrition.

As the construction industry often involves labor-intensive work, the main focus of the workshops was to present strengthening exercises for the musculoskeletal system in a joint activity, along with stretching exercises, which also help increase wellbeing. It is commendable that all participating employees took an active approach to performing the exercises and according to their feedback, many of them have also continued performing them at home. A physiotherapist also presented the employees with a variety of useful information on everyday risk factors for the development of musculoskeletal disorders and with ways of limiting them. In this way, the participants got to receive useful knowledge on the importance of exercise, high and low intensity workout, the recommended daily amount of exercise, incontinence and pelvis, the physical activity pyramid, physiological posture and much more useful information involving free preventive medical examinations and testing. In the concluding part, all of these pieces of information were displayed in the “health promotion corner” that is intended to facilitate and promote the exchange of information on healthy practices and activities.

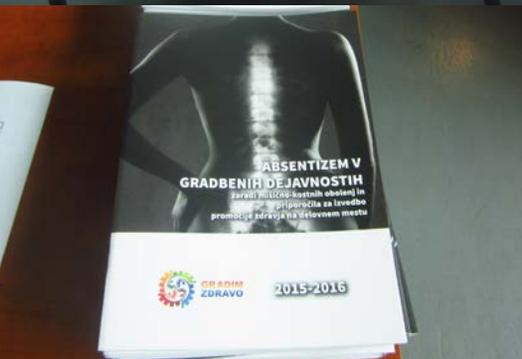
One of the aims of the project was to help employees make preventive practices and health promotion activities part of their daily routine and turn them into a way of life, the same way as workers adopted the use of protective equipment once they got to understand its purpose and usefulness. Preventive measures aiming at reducing musculoskeletal disorders should become part of employees' everyday life both in the workplace and at home. Given the positive reception of the implemented workshops among workers, it is safe to say that employees are aware they themselves can contribute the most to maintaining their own health. Let us conclude with a quote from the health promotion corner: *"Don't feel embarrassed if you do stretching exercises in the workplace; embarrassed should be those that don't!"* **With this project, we laid the ground for active workplace health promotion activities in the Slovenian construction industry. The next step is for employers and employees to continue performing them!**

Dear reader,

**We will be happy to receive your feedback on the presented activities and measures related to musculoskeletal disease prevention in the construction industry. In Slovenia, focused activities with national co-funding in this field began in 2015. We are aware that a great deal of work still lies ahead of us, and we would like to continue developing WHP activities on a European level. This is why we are interested in project proposals and ideas directed at preventive measures for reducing musculoskeletal disorders with the intention of exchanging good practices, verifying the effectiveness of specific activities and measures, systematically regulate workplace health promotion on a national level, and above all, present construction employers with concrete workplace health solutions. You are welcome to contact us if you are interested in collaboration.**









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