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Workplace Interventions for Employee Health and Well-Being in Hungary: A Narrative Review and Policy Framework for Integrated Occupational Health Promotion

Thomas Edward

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Abstract

Workplaces are important settings for preventing disease, promoting healthy behaviours, reducing psychosocial risks and supporting employees with health problems. Hungary provides a useful case study because its workforce is experiencing demographic ageing, changing patterns of work organization, digitalization and persistent health inequalities, while national and institutional initiatives increasingly use the workplace as a platform for health promotion. This narrative review examines workplace interventions relevant to Hungary, with emphasis on physical-activity promotion, healthy ageing, mental-health and stress interventions, ergonomic measures, work-time organization, flexible and hybrid work, occupational-health services, and organizational approaches to health promotion. Hungarian evidence includes the Semmelweis Caring University Model Program, which was developed around a preventive-services centre for approximately 8,500 university employees, and subsequent Semmelweis–EUniWell workplace interventions targeting physical activity and healthy ageing. A recent randomized controlled trial within this programme compared face-to-face motivational interviewing combined with email motivation, email motivation alone and a control condition to increase daily physical activity. Other Hungarian evidence includes an intervention addressing work-related stress through coping-skills training, research on workplace well-being and organizational strategy, and recent qualitative work examining health-promotion implementation among blue-collar employees in manufacturing. International evidence indicates that organizational interventions involving working-time arrangements, work organization and psychosocial conditions can improve aspects of worker health and well-being, while individual interventions may be useful when combined with broader organizational measures. Hungary also maintains a formal occupational-health framework under which employers have responsibilities for safe working conditions and occupational-health provision, although recent legislative changes have modified when compulsory health assessments are required. The review proposes a Hungarian workplace-intervention framework organized around risk assessment, organizational change, physical activity, mental health, ergonomic design, work-time quality, occupational-health integration, employee participation and continuous evaluation. The evidence suggests that workplace interventions are most likely to be sustainable when they are embedded in organizational systems rather than delivered as isolated wellness activities.

Keywords: Workplace interventions; occupational health; workplace health promotion; employee well-being; mental health

1. Introduction

The workplace is one of the most important social environments for adult health. Most working-age adults spend a substantial proportion of their lives in employment, meaning that occupational conditions can influence physical activity, diet, sleep, stress, social relationships, musculoskeletal health, mental health and access to preventive services. Workplace interventions can therefore extend beyond conventional occupational safety and include organizational strategies that create healthier conditions for employees.

Workplace health promotion has traditionally included health education, screening and individual behaviour-change programmes. Increasingly, however, evidence and international guidance have emphasized interventions that modify the conditions in which work is performed. Working-time arrangements, job demands, autonomy, managerial support, workload, participation, physical work environments and organizational culture can shape health outcomes alongside individual behaviour [7–10]. This distinction is important because an employee cannot always compensate for a chronically unhealthy work environment through individual lifestyle choices.

Hungary provides a relevant setting for examining this transition. The country faces a substantial burden of non-communicable disease and an ageing population, while its labour market is undergoing changes associated with digitalization, demographic change and evolving employment practices. The European Working Conditions Survey monitors physical and psychosocial risks, work organization, working time, work-life balance and health across Europe, providing a comparative framework within which Hungary can be considered [13]. Eurofound's 2024 country profile also describes Hungarian working life in relation to health and well-being, working time, equality, employment relations and social dialogue [14].

Hungary has developed institutional workplace-health initiatives. The Semmelweis Caring University Model Program was established as a workplace-based preventive-health model for approximately 8,500 employees. Its central element was a Center of Preventive Services providing health-risk assessment and consultations involving preventive medicine, public health, dietetics, physiotherapy and health psychology [1]. Subsequent work under the Semmelweis–EUniWell Workplace Health Promotion Model Program has included randomized evaluation of physical-activity interventions [3].

There is also evidence for targeted approaches. Hungarian research has examined stress-management training [4], organizational well-being strategies [5], blue-collar health-promotion implementation [6] and workplace physical-activity programmes [2,3]. These initiatives demonstrate that workplace intervention in Hungary is not limited to occupational injury prevention; it increasingly encompasses chronic-disease prevention, healthy ageing and psychological well-being.

The concept of workplace intervention nevertheless requires careful definition. An intervention may operate at the individual level, such as motivational interviewing; the interpersonal level, such as peer support; the physical-environment level, such as ergonomic redesign; or the organizational level, such as flexible working-time arrangements or workload changes. These levels interact. An employee may receive stress-management training but remain exposed to excessive workload, or may be offered a gym while working a schedule that prevents participation.

This review therefore focuses on integrated workplace interventions relevant to Hungary. It asks five broad questions: (1) what types of workplace interventions have been studied in Hungary; (2) what outcomes have been reported; (3) what organizational and legal conditions shape implementation; (4) which intervention components have stronger evidence internationally; and (5) how could Hungary develop a scalable, equitable workplace-health framework?

2. Review Approach and Scope

This article is a narrative review and policy synthesis rather than a systematic review or original intervention study. Evidence was identified from peer-reviewed publications, Hungarian institutional sources, Eurofound reports, WHO resources and official Hungarian occupational-health information. Priority was given to evidence directly involving Hungary and to systematic reviews that help interpret the effectiveness of intervention categories.

The review considers workplace interventions broadly, including health-promotion programmes, physical-activity interventions, stress and mental-health programmes, ergonomic interventions, organizational changes, work-time arrangements and occupational-health services. Breastfeeding-specific workplace interventions were not treated as a separate primary topic because the present manuscript addresses employee health promotion more broadly.

Hungarian studies differ substantially in sample size, sector, methodology and outcome measures. Consequently, this review does not pool their findings or present them as nationally representative. Instead, individual Hungarian programmes are used as case examples, while systematic reviews are used to assess the wider evidence base.

For policy interpretation, the manuscript distinguishes between three levels of intervention: individual-level measures, which change knowledge or behaviour; work-environment measures, which change physical or psychosocial exposures; and organizational measures, which change how work is designed or managed. This ecological structure is consistent with evidence showing that organizational interventions can affect working conditions and worker health and that individual interventions are more sustainable when supported by organizational change [7–10].

3. Workplace Health and Employment Context in Hungary

Hungarian workers operate within a European regulatory environment that combines national labour and occupational-safety legislation with EU requirements. The national occupational-health framework places responsibilities on employers to provide safe and healthy working conditions and occupational-health services. Hungary's public health information service states that employers must establish and maintain conditions for safe work and provide occupational-health care for employees, with the precise content of occupational-health examinations determined by work-related risks and regulatory requirements [11].

The legal environment has also changed in recent years. In December 2023, Hungary amended the Labour Safety Act framework so that general compulsory occupational-health assessments for physical aptitude were removed for most occupations, while specific occupations can continue to require assessments and employers can initiate examinations [12]. This change reduces administrative requirements in many settings but does not eliminate the employer's broader responsibility for occupational health and safety.

Work organization is another important component. Eurofound's assessment of Hungarian working life covers working time, health and well-being, equality, employment relations and other dimensions of job quality [14]. The 2024 European Working Conditions Survey provides a broader European framework that examines work organization, psychosocial risks, health and safety, work-life balance and work-related health [13].

Recent European evidence shows that flexible working arrangements have become more established, but flexibility has both benefits and risks. Telework and flexitime can improve autonomy and work-life balance,

while long hours, work outside normal hours and blurred boundaries can undermine recovery [15]. Therefore, a Hungarian workplace intervention programme should not treat telework as inherently healthy. Its effect depends on workload, autonomy, management practices and the worker's ability to disconnect.

The Hungarian context also contains important differences between sectors. Office workers may be exposed primarily to sedentary behaviour, psychosocial demands and screen-related strain. Manufacturing workers may face shift work, noise, ergonomic risks and physical workload. Healthcare employees may experience emotional demands, irregular schedules and burnout risk. Retail and service workers may face low schedule control and customer-related stress. Consequently, interventions should be based on occupational risk profiles rather than a single national package.

Table 1. Major workplace intervention domains relevant to Hungary

Intervention domain	Examples	Primary outcomes	Relevant Hungarian context
Physical activity	Walking programmes, motivational interviewing, micro-gyms, active breaks	Steps, activity, fitness, cardiometabolic risk	Semmelweis–EUniWell programme [2,3]; WHO identifies national workplace physical-activity promotion [16]
Mental health and stress	Stress-management training, psychological support, manager training	Stress, anxiety, depression, well-being, work ability	Hungarian stress-management intervention [4]; workplace mental-health guidance [17]
Work organization	Workload redesign, autonomy, participation, job/task modification	Stress, burnout, work-life balance, retention	International evidence supports organizational approaches [7–10]
Flexible work	Flexitime, hybrid work, schedule autonomy, reduced commuting	Work-life balance, autonomy, recovery	Relevant to post-pandemic Hungarian work organization [15]
Ergonomics	Workstation redesign, ergonomic training, physical-risk assessment	Musculoskeletal risk, discomfort, work ability	Should be integrated with occupational-health services [11]
Occupational health	Risk assessment, preventive consultation, referral, health surveillance	Early detection, prevention, work ability	Formal employer occupational-health responsibilities [11,12]
Health literacy	Individual counselling, screening, health education	Knowledge, behaviour, preventive-service uptake	Semmelweis preventive-services model [1]
Healthy ageing	Multicomponent prevention, physical activity, lifestyle support	Functional capacity, chronic-disease risk, work ability	Semmelweis–EUniWell model [1–3]

Source: Compiled from Hungarian programmes, WHO resources and international evidence [1–17].

4. The Semmelweis Workplace Health Promotion Model

One of the most developed Hungarian examples of integrated workplace health promotion is the Semmelweis Caring University Model Program. Semmelweis University established a Center of Preventive Services as a core component of a workplace-based personalized public-health model for approximately 8,500 employees

[1]. The programme was designed in response to concerns about health behaviour, chronic disease and unhealthy ageing among the Hungarian population.

The model is important because it moves beyond isolated health-promotion activities. Employees could receive health-risk assessment and, when necessary, consultations with specialists in preventive medicine and public health, dietetics, physiotherapy and health psychology [1]. This multidisciplinary design recognizes that employee health is multidimensional.

A major advantage of this approach is integration. Physical activity may be addressed through physiotherapy or exercise promotion, nutrition through dietetic consultation, and psychological needs through health psychology. Occupational and primary-care professionals can also be connected to the programme [1]. Such integration can reduce fragmentation and improve referral pathways.

The model subsequently developed into the Semmelweis–EUniWell Workplace Health Promotion Model Program, which explicitly addresses healthy ageing [2,3]. In 2024, a randomized controlled trial compared face-to-face motivational interviewing combined with email-based motivation, email-based motivation alone and a control group for increasing daily steps among university employees [3]. The study design is particularly valuable because it moves beyond descriptive workplace wellness and tests scalable intervention components.

The programme also illustrates an important principle for Hungarian workplaces: interventions should be evaluated rather than assumed to work. A workplace may offer a health programme that employees like but that produces little measurable change. Randomized or quasi-experimental designs can identify whether changes exceed those occurring naturally over time.

The model nevertheless has contextual limitations. A large university with medical, public-health and allied-health expertise can provide resources that small and medium-sized enterprises cannot easily reproduce. Therefore, the most transferable element may not be the exact institutional structure but the principle of integrated prevention, risk assessment, multidisciplinary support and measurable outcomes.

Future Hungarian workplace-health programmes could adapt the model into regional occupational-health hubs that serve clusters of small employers. Shared preventive services could provide screening, counselling, physiotherapy, psychological support and physical-activity programmes without requiring every small employer to establish a complete internal health department.

5. Physical-Activity Interventions

Physical inactivity is an important modifiable risk factor for chronic disease, and the workplace is a practical setting for increasing movement. Employees may spend long periods sitting, particularly in office and digitally intensive occupations. At the same time, physical activity interventions need to be designed differently for sedentary workers and physically demanding occupations.

The Semmelweis–EUniWell programme provides a Hungarian example. The 2024 randomized trial compared motivational interviewing, email-based motivation and control conditions with the aim of increasing daily step count [3]. A related 2024 conference report described a three-arm randomized trial involving 153 employees: 49 received motivational interviews, 51 received motivational emails and 53 served as controls [2]. The programme illustrates how low-cost behavioural interventions can be embedded in occupational settings.

More recent work from the same research programme reported a randomized controlled trial comparing face-to-

face and email-based motivational approaches with a control condition, assessing daily step count and total weekly physical activity and sustainability over six months [3]. Such work is relevant to Hungary because email-based interventions may be easier for organizations with limited occupational-health resources to scale.

The WHO's 2024 Hungary physical-activity country profile also identifies a national programme supporting physical activity at workplaces. It reports that the Association for Healthier Work supports companies with evidence-based health-enhancing programmes and that an Active Workplace Ambassador training programme was launched in 2024 [16]. These developments provide an institutional pathway for workplace physical-activity promotion.

However, physical activity should not be reduced to voluntary exercise after work. Organizational design can influence movement through active breaks, walking meetings, stair accessibility, workstation layout, commuting support and job rotation. For sedentary workers, changing the structure of the workday may be more sustainable than relying solely on gym membership.

For physically demanding workers, the objective may be different. Increasing physical activity may not be appropriate when workers already experience high physical load. In such occupations, interventions should focus on recovery, ergonomic design, lifting techniques, job rotation and workload management.

The distinction between physical activity and physical workload is therefore essential in Hungary's manufacturing, construction, logistics and healthcare sectors. Workplace programmes should use occupational risk assessments to determine whether employees need more movement, less static sitting, reduced physical strain, or better recovery.

6. Mental Health and Psychosocial Interventions

Work-related stress, burnout, anxiety and depressive symptoms can affect well-being, work ability, absenteeism and retention. Psychosocial risks include excessive workload, low autonomy, job insecurity, adverse social behaviour, poor managerial support and difficulties separating work from personal life. Eurofound has emphasized that psychosocial risks require prevention at their source rather than relying exclusively on individual coping strategies [18].

Hungarian research provides an example of individual-level stress intervention. Stauder, Cserháti and Konkolÿ Thege evaluated a 12-hour standardized coping-skills training among 89 working individuals from diverse occupational backgrounds [4]. The intervention did not change work-related stress or overcommitment, but coping skills improved and anxiety, depressive symptoms and somatic symptoms decreased, while well-being, meaning in life and life satisfaction increased [4]. These findings demonstrate both the potential and limitation of individual interventions: employees can benefit even when the underlying work environment remains unchanged, but the intervention does not necessarily eliminate the source of occupational stress.

Hungarian public health guidance recommends workplace measures including access to workplace psychologists, communication-skills training for employees and managers, activities that promote supportive workplace relationships, and stress-management training [17]. These recommendations provide a practical foundation for employers.

International evidence suggests that organizational interventions may be particularly important. An overview of 52 systematic reviews covering 957 primary studies found strong evidence for interventions involving working-

time arrangements and moderate evidence for changes in work tasks or organization, healthcare approaches and psychosocial work-environment improvements [7]. Evidence was strongest for some outcomes including burnout and various health and well-being outcomes [7].

A 2024 systematic review of organizational mental-health interventions among healthcare workers found evidence for job and task modifications and moderate evidence for flexible work and scheduling and changes in the physical work environment [9]. This is relevant to Hungary because healthcare is a major occupational setting in which high demands, emotional work and irregular schedules can combine.

The implication is that Hungarian organizations should adopt a stepped approach. Universal interventions can improve work design for everyone; selective interventions can support groups at higher risk; and indicated interventions can provide clinical or psychological support to employees with symptoms. These levels should be connected rather than operated separately.

A practical workplace mental-health system might therefore include workload review, supervisor training, psychological consultation, confidential referral, peer-support options, flexible scheduling, return-to-work support and monitoring of psychosocial risks. Importantly, mental-health interventions should not become mechanisms for blaming workers for stress caused by poor job design.

Table 2. Workplace mental-health intervention levels

Level	Intervention examples	Target group	Expected outcomes
Universal	Workload review, manager training, participation, communication norms, work-time design	All employees	Lower psychosocial risk; improved work climate
Selective	Targeted support for high-demand departments, shift workers or high-risk occupations	Employees with elevated exposure	Reduced stress and improved work ability
Indicated	Psychological consultation, evidence-based therapy referral, return-to-work planning	Employees with symptoms or health-related work impairment	Improved symptoms and work participation
Organizational	Job redesign, staffing changes, autonomy, schedule changes	Work units or organizations	Reduction of stressors at source
Digital/supportive	E-mental-health resources, digital self-management, online counselling	Employees with access to digital tools	Accessible support and early intervention

Source: Authors' synthesis based on Hungarian evidence [4,17] and international reviews [7–10,18].

7. Ergonomics and Musculoskeletal Health

Musculoskeletal disorders remain an important occupational-health concern because work can involve repetitive movement, awkward posture, manual handling, prolonged sitting or prolonged standing. Ergonomic interventions seek to modify the interaction between worker, task, equipment and environment.

In office environments, ergonomic interventions can include adjustable chairs and desks, monitor positioning, keyboard and mouse configuration, workstation assessment, training and opportunities to change posture. In manufacturing and logistics, interventions may involve lifting aids, mechanical assistance, task redesign, job rotation and reduction of repetitive strain.

The strongest approach is usually participatory ergonomics. Employees should be involved in identifying problems because they often understand the practical constraints of a task better than external assessors. Supervisors can then work with occupational-health and safety professionals to implement modifications.

Hungary's occupational-health system provides an institutional route for identifying work-related risks [11]. However, recent changes to compulsory health assessments make it increasingly important that employers do not equate occupational health with periodic medical examination alone. Prevention requires risk identification and control at the source.

International evidence also indicates that organizational interventions can improve work conditions when changes are made to tasks and work organization [7,9]. Ergonomics should therefore be connected to broader organizational improvement rather than treated as a one-off training course.

For Hungarian workplaces, an ergonomic programme could include baseline risk mapping, employee reporting channels, workstation assessment, prioritized modifications, follow-up measurement and integration with occupational-health services. Indicators could include musculoskeletal symptoms, reported discomfort, work ability, lost workdays and completion of corrective actions.

8. Flexible Work, Working Time and Work-Life Balance

Working time is itself a health exposure. Long hours, unpredictable schedules, night work, insufficient recovery and work-related communication outside scheduled hours can affect sleep, stress and work-life balance. Conversely, flexible schedules and telework can increase autonomy and reduce commuting burdens.

Recent Eurofound evidence indicates that flexible work has become a structural feature of European working life, with telework and flexitime increasingly common [15]. However, flexible work can also increase work intensity, overtime and work during personal time. The health effects therefore depend on how flexibility is implemented.

Hungarian employers should distinguish flexibility from availability. An employee who can choose when to work may have greater autonomy, but an employee expected to respond to messages at any time may experience greater work-life interference. Policies should therefore define working hours, response expectations and rest periods.

A four-day workweek has also attracted attention in Hungary. A qualitative study of a small Hungarian company examined subjective well-being before and after a four-day-week change [19]. Such evidence is exploratory and cannot establish a national causal effect, but it illustrates growing interest in working-time

redesign.

Working-time interventions should be evaluated using multiple outcomes. Productivity alone is insufficient because an arrangement may increase short-term output while reducing recovery and increasing burnout. Relevant measures include sleep, stress, sickness absence, turnover intentions, work engagement, work-life balance, productivity and perceived autonomy.

For shift workers, schedule predictability is particularly important. Advance notice, rotation design, rest periods and opportunities to influence schedules can reduce disruption. Healthcare, manufacturing, transportation and hospitality should receive particular attention.

Flexible work should also be equitable. Workers whose tasks cannot be performed remotely should not be treated as receiving a lower-quality form of workplace health promotion. For them, flexibility may mean shift swapping, predictable schedules, compressed hours, task autonomy or additional recovery opportunities.

9. Occupational-Health Services and Preventive Care

Occupational-health services can serve as a bridge between workplace risk management and healthcare. Hungary's occupational-health system includes employer-supported occupational-health provision, and public guidance describes its role in preventing work-related illness and evaluating health risks related to specific jobs [11].

The Semmelweis Caring University Model Program demonstrates how occupational settings can also become platforms for broader prevention. Its Center of Preventive Services combined risk assessment with specialist consultations in preventive medicine, dietetics, physiotherapy and health psychology [1]. This model suggests that occupational health can move beyond compliance toward proactive health promotion.

An integrated occupational-health programme should include at least four functions: risk assessment, prevention, early detection and referral. Risk assessment identifies hazards; prevention modifies exposure; early detection identifies emerging health problems; and referral connects employees to appropriate medical or psychological care.

Confidentiality is crucial. Employees must trust that participation in health programmes will not affect promotion, pay or job security. Employers should generally receive aggregated programme indicators rather than individual medical information unless disclosure is legally required or explicitly authorized.

Occupational-health professionals can also contribute to return-to-work planning. Employees recovering from illness may need temporary workload modifications, reduced hours, ergonomic changes or gradual reintegration. Such measures can protect both health and employment.

Hungary's recent changes to mandatory physical-aptitude assessments make this broader role particularly relevant [12]. If routine assessment is no longer required for many occupations, occupational-health services should emphasize risk-based prevention, workplace surveillance where indicated, health promotion and organizational consultation rather than simply periodic certification.

10. Workplace Health Promotion Among Blue-Collar Workers

Workplace health promotion can be more difficult to implement among blue-collar employees because of shift work, production targets, limited schedule autonomy and physical demands. A 2026 Hungarian qualitative study in a manufacturing company interviewed seven senior and middle-level managers and identified six areas relevant to health-promotion implementation: leadership commitment, workers' health status, health behaviour and health literacy, the nature of work, communication and priority areas [6].

The study proposed recommendations based partly on the Health Action Process Approach and emphasized active employee involvement and review of shift work [6]. These findings are consistent with a broader principle: interventions should be adapted to the work process rather than added on top of it.

For example, an office-based step-count campaign may be inappropriate for factory workers who already walk extensively but have limited opportunities for recovery. Conversely, a factory programme may need to focus on smoking cessation, nutrition, sleep, shift-work adaptation, ergonomic risk and hypertension screening.

Leadership commitment is important because employees may interpret health promotion as either genuine support or an additional demand. Programmes should therefore avoid requiring workers to participate outside paid hours whenever possible. Integrating activities into the working day can improve access and signal organizational commitment.

Communication also matters. Health information should be understandable and available in formats appropriate to the workforce. For employees with lower health literacy, brief practical messages, demonstrations and peer champions may be more effective than lengthy written materials.

The Hungarian manufacturing case reinforces the need for co-design. Employees should participate in identifying priorities, selecting feasible interventions and evaluating results. This can increase relevance and reduce resistance.

11. Integrated Workplace Wellness Programmes

Integrated workplace health promotion combines several intervention components rather than targeting a single behaviour. A programme may include physical activity, nutrition, smoking cessation, stress management, ergonomic assessment, preventive screening and organizational changes.

The advantage of integration is that health behaviours interact. An employee experiencing chronic stress may sleep poorly and become less physically active. A shift worker may have difficulty maintaining regular meals. An employee with musculoskeletal pain may avoid exercise. Interventions that address only one behaviour may therefore have limited effect.

However, integration should not mean intervention overload. Employees can become fatigued by repeated surveys, training sessions and campaigns. A good programme should identify a small number of high-priority risks and implement interventions with adequate intensity and duration.

The Semmelweis model demonstrates how integrated services can be organized around risk assessment and multidisciplinary support [1]. The STAFÉTA workplace health promotion programme provides another contemporary Hungarian example. Its 2024–2025 first-year evaluation included 1,381 adults and assessed sociodemographic characteristics, health status and health behaviours using standardized and programme-

specific measures [20]. Such large programme datasets can help identify which employee groups require targeted interventions.

International evidence warns that implementation intensity matters. A cluster randomized trial of an integrated workplace health-promotion programme found no between-condition differences in targeted physical-activity and nutrition outcomes after 12 months, although moderate physical activity increased within the intervention condition; the authors noted that small sample size and minimal, irregular implementation may have contributed to the results [21]. This is an important caution for Hungary: a programme label does not guarantee effectiveness.

Programmes should therefore specify dose, fidelity and exposure. Researchers should record how many sessions were offered, how many employees participated, whether managers supported participation, whether organizational changes were implemented, and how long employees were exposed to the intervention.

Table 3. Proposed integrated workplace-health package for Hungarian employers

Component	Example intervention	Core indicator	Implementation requirement
Risk assessment	Annual employee health and psychosocial-risk assessment	Risk profile and priority risks	Occupational-health and employee input
Physical activity	Walking/step programme, active breaks, motivational interviewing	Steps or weekly activity	Paid-time access and tailored targets
Nutrition	Healthy cafeteria standards, dietetic counselling	Dietary indicators or programme uptake	Food-environment changes
Mental health	Manager training, confidential counselling, stress intervention	Stress, well-being, burnout	Confidentiality and referral pathways
Ergonomics	Workstation/task assessment and redesign	Musculoskeletal risk/symptoms	Employee participation
Working time	Schedule redesign, flexitime, predictable shifts	Work-life balance, overtime, recovery	Management commitment
Healthy ageing	Preventive screening, physical function, lifestyle support	Work ability and functional health	Multidisciplinary services
Return to work	Graduated duties and workplace adjustment	Time to sustainable return	Occupational-health coordination
Evaluation	Baseline, follow-up and process indicators	Effect sizes and implementation fidelity	Data governance and continuous improvement

Source: Authors' proposed framework based on Hungarian programmes [1–6,20] and international evidence [7–10,21].

12. Implementation Framework for Hungary

A scalable Hungarian workplace-intervention strategy should use a stepped implementation framework.

Step 1 is organizational diagnosis. Employers should identify physical, psychosocial, behavioural and organizational risks using employee surveys, occupational-health data, sickness absence, turnover, incident reports and direct observation. Risk assessment should be stratified by occupation because average organizational results can conceal high-risk groups.

Step 2 is employee participation. Workers should be involved in choosing priorities and designing interventions. Participation can occur through employee representatives, health committees, focus groups or anonymous surveys.

Step 3 is intervention selection. Evidence-based interventions should be chosen according to the identified risk. For sedentary office workers, activity and ergonomic interventions may be prioritized. For manufacturing workers, shift-work, ergonomic and cardiovascular-risk interventions may be more appropriate. For healthcare staff, psychosocial and scheduling interventions may be central.

Step 4 is organizational integration. Interventions should be embedded in HR, occupational safety, occupational health and management systems. A stress-management workshop without workload changes should not be considered a complete mental-health strategy.

Step 5 is implementation support. Managers need training, budgets and accountability. Employees need protected time to participate. Occupational-health professionals need access to relevant organizational information while maintaining medical confidentiality.

Step 6 is evaluation. Programmes should measure both outcomes and implementation. Outcomes may include physical activity, blood pressure, stress, well-being, musculoskeletal symptoms, sickness absence, work ability and turnover. Implementation measures should include participation, intervention dose, fidelity and employee satisfaction.

Step 7 is adaptation and scale-up. Successful interventions should be modified for other departments or organizations. Small enterprises can use shared services or regional health-promotion providers rather than duplicating infrastructure.

This framework is consistent with the direction of current Hungarian workplace-health initiatives, including the Semmelweis–EUniWell model, Active Workplace initiatives and STAFÉTA [2,16,20].

13. Equity and Small and Medium-Sized Enterprises

Workplace health promotion can unintentionally increase inequalities if it primarily benefits employees with high autonomy and organizational resources. Large corporations may provide gyms, health coaches and psychological services, while employees in small businesses or low-autonomy occupations may have fewer opportunities.

Hungary's economy includes many small and medium-sized enterprises, making scalability important. A national strategy should therefore provide low-cost intervention packages that can be delivered through occupational-health providers, chambers, municipalities, regional health-promotion services or shared employer networks.

Intervention access should also be monitored by occupation, sex, age, income, contract type, working hours and geographic region. Employees who work nights, in physically demanding jobs or with irregular schedules may have different barriers from office workers.

Equity also concerns digital health. Email-based interventions can be inexpensive and scalable, as illustrated by the Semmelweis programme [3], but they may be less suitable for workers without regular computer access. Manufacturing workers, drivers and service workers may need mobile, face-to-face or supervisor-supported approaches.

Health-promotion programmes should therefore offer multiple delivery channels. Digital resources can supplement, rather than replace, workplace sessions and occupational-health services.

A further concern is voluntariness. Employers should avoid using health data to penalize employees or create incentives that pressure workers to disclose sensitive information. Programmes should emphasize confidentiality and supportive participation.

Finally, workplace interventions should address structural conditions. A worker cannot be expected to manage stress successfully if staffing is inadequate, nor can an employee compensate for unsafe ergonomics through personal exercise. Equity requires that organizational risks are addressed alongside individual behaviours.

14. Evaluation and Research Priorities

The Hungarian evidence base is developing, but several methodological gaps remain. First, more randomized and quasi-experimental evaluations are needed outside universities and highly resourced organizations. The Semmelweis programme provides an important research platform, but results from university employees may not generalize to manufacturing, retail, agriculture, logistics or small businesses.

Second, studies should use longer follow-up. Behavioural improvements can disappear when active intervention ends. Six-month and 12-month outcomes are useful, but multi-year follow-up is needed for chronic-disease prevention and retention outcomes.

Third, economic evaluation should be incorporated. Employers and policymakers need information on programme cost per employee, cost per case of sickness absence avoided, cost per improvement in work ability and return on investment. Economic outcomes should not replace health outcomes but can inform resource allocation.

Fourth, implementation science should become a stronger part of Hungarian workplace-health research. Researchers should examine barriers, facilitators, leadership commitment, employee participation, fidelity and sustainability.

Fifth, outcome measurement should extend beyond self-reported satisfaction. Objective step counts, sickness-absence records, validated mental-health scales, ergonomic risk scores and occupational-health indicators can strengthen evaluation.

Sixth, more attention is needed to psychosocial risks at organizational level. Hungary-specific evidence on workload, autonomy, managerial support, job insecurity and digital work should be connected with intervention research.

Seventh, future studies should compare delivery models. For example, researchers could compare face-to-face counselling, digital interventions, blended models and peer-led programmes. This is particularly relevant to small employers with limited occupational-health resources.

Finally, research should examine how workplace interventions interact with national health services. Occupational-health providers, primary care, public-health services and employers can form referral networks, but roles and data-sharing arrangements need clear definition.

Table 4. Priority research agenda for workplace interventions in Hungary

Research question	Suggested design	Key outcomes
Do integrated workplace-health programmes improve health and work ability?	Cluster randomized or stepped-wedge trial	Work ability, sickness absence, health behaviours, well-being
Which physical-activity intervention is most scalable?	Three-arm randomized comparison of digital, face-to-face and blended approaches	Steps, activity, adherence, cost
How can psychosocial risks be reduced at source?	Organizational intervention with controlled comparison	Stress, burnout, autonomy, workload, absence
What works in SMEs?	Implementation-effectiveness study across small employers	Reach, feasibility, cost, sustainability
How does shift work modify intervention effects?	Prospective stratified intervention study	Sleep, fatigue, activity, cardiometabolic indicators
Do workplace interventions reduce inequalities?	Equity-focused longitudinal evaluation	Outcomes by occupation, income, sex, age and region
What is the economic return?	Cost-effectiveness and return-on-investment analysis	Programme cost, absence, retention, productivity
How sustainable are benefits?	Long-term follow-up	12–36 month health and employment outcomes

Source: Authors' synthesis from the Hungarian and international evidence reviewed [1–21].

15. Discussion

The evidence reviewed indicates that Hungary has a foundation for a more integrated model of workplace health promotion. The Semmelweis Caring University and Semmelweis–EUniWell programmes demonstrate that workplace prevention can combine health assessment, counselling, physical activity and healthy ageing [1–3]. Hungarian stress-management research demonstrates potential benefits from structured psychological skills training [4]. Recent blue-collar research highlights the importance of leadership, communication, work characteristics and employee involvement [6]. National initiatives also support workplace physical activity [16].

The central challenge is implementation at scale. A successful programme in a large university or research institution cannot simply be copied into a manufacturing plant. Intervention design must match work organization, occupational hazards and employee autonomy.

International evidence provides useful guidance. Organizational-level interventions involving working-time arrangements and work organization have stronger evidence than many isolated wellness activities [7]. Workplace mental-health reviews also support organizational approaches such as job and task modification and

flexible scheduling [9]. The implication is that Hungary should avoid defining workplace health promotion as a collection of optional wellness benefits.

This does not mean individual interventions are ineffective. Hungarian stress-management research found improvements in psychological symptoms and well-being following coping-skills training [4]. The Semmelweis physical-activity programme demonstrates the feasibility of motivational approaches [3]. The appropriate conclusion is that individual and organizational interventions serve different functions and should be combined.

Another important issue is the quality of evidence. Some Hungarian studies are observational, qualitative or based on relatively small samples. These studies are valuable for understanding feasibility and context but cannot establish population-level causal effects. Large controlled evaluations are needed.

Workplace interventions should also avoid creating a surveillance culture. Health assessments can be beneficial when confidential and voluntary where appropriate, but employees may resist if they fear that health information will influence employment decisions. Governance, confidentiality and clear communication are therefore essential.

A mature Hungarian workplace-health system should ultimately be evaluated using both health and employment outcomes. If interventions reduce stress but increase workload, they may not be sustainable. If a physical-activity programme increases steps but is accessible only to office staff, it may increase inequality. If flexible work improves autonomy but increases unpaid overtime, its net health effect may be negative.

The most promising direction is therefore integrated, participatory and evidence-based intervention. Organizations should identify risks, modify work where possible, provide individual support where needed, and measure whether changes produce sustained improvements.

16. Limitations

This review has limitations. It is a narrative synthesis rather than a systematic review with a registered protocol and quantitative meta-analysis. The Hungarian evidence base includes studies with different populations, settings and methodologies, limiting direct comparison. Some recent Hungarian programmes are still undergoing evaluation, so long-term effectiveness is not yet established. International evidence was used to interpret intervention categories, but results from other countries may not transfer directly to Hungarian organizations. Finally, current labour and occupational-health regulations can change, and employers should verify the applicable legal requirements with official Hungarian authorities before implementing compliance-sensitive policies.

17. Conclusions

Workplace interventions can play an important role in improving employee health and well-being in Hungary, but their effectiveness depends on how closely they are connected to the organization of work. Hungary already has valuable examples, including the Semmelweis Caring University Model Program, Semmelweis–EUniWell workplace-health interventions, national workplace physical-activity initiatives, stress-management research and emerging programmes for blue-collar workers [1–6,16].

The evidence supports a multi-level approach. Individual interventions such as motivational interviewing, counselling and stress-management training can improve selected outcomes. Physical and organizational

interventions can modify the environments in which employees work. Working-time arrangements, workload, autonomy, supervisor support and ergonomic conditions are therefore as important as traditional wellness activities.

For Hungary, the recommended framework is based on nine principles: risk assessment, employee participation, organizational change, physical-activity promotion, mental-health support, ergonomic prevention, healthy working-time design, occupational-health integration and continuous evaluation. Particular attention should be given to small and medium-sized enterprises, shift workers, blue-collar employees and workers with limited autonomy.

The next stage of Hungarian workplace-health policy should emphasize implementation and evaluation. National and institutional programmes should measure not only participation but also health, work ability, sickness absence, retention, equity and cost. Such evidence can guide the development of scalable interventions appropriate for different sectors.

Ultimately, workplace health promotion should not be understood as an optional collection of employee benefits. It is a component of prevention and healthy working life. By combining occupational safety, health promotion, mental-health support and better work organization, Hungary can develop workplace interventions that are more sustainable, equitable and responsive to the changing nature of work.

18. Declarations

18.1 Funding

No specific external funding was received for preparation of this review.

18.2 Conflict of Interest

The author declares no conflict of interest.

18.3 Ethics

No new human-participant data were collected for this narrative review; therefore, institutional ethical approval was not required for the preparation of the manuscript.

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