

In preparation of the forthcoming UIMC medical conference on 30th September – 2nd October 2026, we launch a call for papers.

Please fill in the below form in English and kindly return it by **31st August 2026** by e-mail to the following address: UIMC_Lisbon_2026@ecosaude.pt

We appreciate your cooperation.

Scientific Presentation

UIMC medical conference Lisbon, 30th Sep. – 2rd Oct. 2026

Author Prof ☐ Dr/MD/PhD x ☐ Mr ☐ Ms ☐

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Title of presentation:

“Part-time reintegration at the workplace Act” in Austria

Abstract:

Early reintegration at the workplace after long sickness absence is beneficial for both employee/patient and employer. While returning to full-time would need longer recovery time, part time might be an option for an early come-back as an important form of rehabilitation. In Austria the application is a legally defined procedure with official forms and requires the explicit recommendation of the occupational physician with description of the physical and psychological requirements at work, necessary adjustments at the workplace, further occupational medicine support and the slow increase of the worktime. A successful outcome always depends on good teamwork between all involved parties, finding a possible solution within the boundaries of the operational conditions.

Presentations will be maximum of 20 minutes, allowing 10 minutes plus for Q&A. Please present in English language.

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Scientific Presentation

UIMC medical conference Lisbon, 30th Sep. – 2rd Oct. 2026

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Title of presentation:

Psychotechnical evaluation of railway workers in Belgium

Abstract:

This presentation gives an overview of the psychotechnical tests that are performed for railway workers in Belgium.

- Types of tests performed (with examples)
- Cutoff criteria en differences between professions
- Indications for extra testing
- Role of the medical doctor

In the Q&A I would like to hear how psychotechnical evaluation is performed in other countries and how medical doctors are involved.

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Scientific Presentation

UIMC medical conference Lisbon, 30th Sep. – 2rd Oct. 2026

Author Prof ☐ x Dr/MD/PhD ☐ Mr ☐ Ms ☐

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Title of presentation:

Beyond Fitness-for-Work Medical Assessment: The Role of Psychology in the Portuguese Public Railway Sector

Abstract:

The Clinical and Occupational Health Psychology Service at CP – Comboios de Portugal was established in response to the challenges faced by a public organisation operating in the portuguese railway sector, where workers are increasingly exposed to psychosocial risk factors and critical events.

CP employees are subject to high cognitive and emotional demands, shift work, significant levels of responsibility, and exposure to potentially traumatic incidents, including suicides and acts of violence. These occupational conditions increase the risk of developing stress-related disorders, fatigue, burnout and trauma-related symptoms.

Since 2017, the service has operated nationwide as part of the occupational health medicine service at Ecosaúde Portugal. It provides a multidisciplinary approach focused on promoting mental health, preventing psychosocial risks, intervening in crisis situations and providing occupational health support.

Over the past nine years, the service has been developed in collaboration with professionals from different areas and currently encompasses the following domains of clinical psychology practice: (1) psychological assessment integrated into pre-employment, periodic, and occasional medical examinations; (2) psychological intervention following occupational accidents; and (3) a psychological support helpline.

In 2025, the following indicators in Lisbon's area were particularly noteworthy: a) 100% of newly admitted workers underwent psychological assessment, with a focus on mental health literacy and strategies for professional integration and development; b) 3,123 professionals underwent mental health screening, enabling the identification of individuals at greater risk or vulnerability and of needs for psychological follow-up or specialised support; c) 100% of professionals referred for psychological consultation following railway-pedestrian collisions received psychological crisis support and were supported in a progressive return to work; d) all workers who contacted the psychological support helpline received an immediate response, with 40% of cases being resolved directly and the remaining 60% referred for further support.

These indicators demonstrate the essential contribution of Occupational Psychology to the monitoring and prevention of mental health problems among CP workers. Through its diverse modes of intervention, the service provides an immediate, effective, and sustained response to a range of occupational and psychological challenges, contributing to the prevention of sickness absence and unfitness for work. At the same time, it supports the development of safe and healthy working environments, ultimately contributing to the delivery of a safer and more resilient portuguese national railway service.

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Scientific Presentation

UIMC medical conference Lisbon, 30th Sep. – 2rd Oct. 2026

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Title of presentation:

Beyond the Device: the “Tennis Player Paradox” and Non-Mitigable Residual Risk in Fitness-for-Duty Assessment for Safety-Critical Railway Tasks in Workers with Diabetes Mellitus

Abstract:

Background. The Position Paper of the Direzione Sanità of Rete Ferroviaria Italiana states that advanced technologies for diabetes management — insulin pumps, continuous glucose monitoring (CGM) and closed-loop systems — reduce but do not eliminate the risk of sudden acute events, and therefore cannot be regarded as a sufficient basis for compatibility with safety-critical railway duties (Reg. (EU) 2019/773; Legislative Decree 247/2010; RFI Provision 55/2006). The present contribution submits that position to critical verification in the light of the most recent technological developments.

Aim. To propose an interpretative category of technologically mediated residual risk and to define its implications for the fitness-for-duty judgement and its follow-up.

Methods. Narrative review of the literature (ADA Standards of Care in Diabetes 2024 and 2026; AMD Annals 2024) and of the relevant European regulatory framework; critical analysis of a publicly documented index case, selected as a paradigmatic best-case scenario.

Results and discussion. In June 2026 a professional athlete with long-standing type 1 diabetes — optimally controlled, CGM-assisted for over a decade, and facing a well-characterised, reproducible performance-related risk — experienced a disabling acute hypoglycaemic event during competition,

following a falsely elevated sensor reading that prompted insulin overdosing. We propose the term “Tennis Player Paradox” to define the condition whereby, in the subject under maximal therapeutic and technological control, residual risk is not abolished but transformed: it migrates from the biological to the technological system, concentrates into a single point of failure, and becomes less predictable, as the device shifts from a monitoring tool to a determinant of therapeutic decision-making. Automation bias, blunting of subjective symptom perception through instrumental delegation, and false reassurance of the fitness judgement follow. The case provides empirical corroboration of the precautionary position expressed in the Position Paper.

Conclusions. What can be governed is not the event — statistically rare, yet not reducible to zero — but the assessment process. This requires: (i) a structured initial certification, extended to the reliability and redundancy of the technological system, hypoglycaemia awareness and history of severe events; (ii) dynamic follow-up based on downloaded metrics (TIR, TBR, alarms, sensor failure); (iii) ownership of the process by the transport medicine expert — the recognised doctor national and european laws — acting as a permanent interface with the scientific community and with the medical device vigilance system (Reg. (EU) 2017/745).

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UIMC medical conference Lisbon, 30th Sep. – 2nd Oct. 2026

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Title of presentation:

Revision of Chapter 4 on Diabetes Mellitus in the UIMC Railway Medical Guidelines: Integration of CGM and Automated Insulin Delivery

Abstract:

Diabetes mellitus is an important consideration in the assessment of medical fitness for safety-critical railway duties, mainly because of the potential impact of hypoglycemia and significant hyperglycemia on cognitive performance. Since the publication of the UIMC Railway Medical Guidelines in 2019, diabetes management has evolved considerably, particularly with the increasing use of continuous glucose monitoring (CGM) and automated insulin delivery (AID) systems. Chapter 4 on diabetes mellitus was therefore reviewed to integrate these developments and adapt the assessment of fitness for safety-critical railway duties.

The revision reinforces an individualized, risk-based approach to fitness assessment for both type 1 and type 2 diabetes. The updated criteria consider several dimensions relevant to operational safety, including glycemic stability, the risk and awareness of hypoglycemia, treatment-related risk, diabetes-related complications, glucose monitoring, therapeutic education and self-management abilities, as well as the need for periodic medical review. Particular attention is given to insulin-treated workers and to the use of diabetes monitoring and insulin delivery technologies.

The revised recommendations integrate CGM-derived information as a complement to conventional assessment based on clinical history, treatment and HbA1c. CGM provides objective information on glycemic stability, exposure to hypoglycemia and glucose variability, and may contribute to both initial fitness assessment and periodic medical follow-up. The use of real-time CGM with appropriate alarms and AID systems is also considered in the assessment of insulin-treated workers, together with their ability to understand and manage their disease, use these technologies appropriately, and respond to glucose abnormalities or alerts during safety-critical duties.

The revision of Chapter 4 reflects the evolution of diabetes management and supports a more individualized assessment of medical fitness. The integration of CGM and AID systems, together with clinical criteria, therapeutic education, self-management abilities and regular medical follow-up, may provide a more comprehensive assessment of individual risk while maintaining the high level of safety required for safety-critical railway duties.

Keywords : Diabetes mellitus; Railway medicine; Medical fitness; Continuous glucose monitoring (CGM); Automated insulin delivery (AID); Hypoglycemia; Therapeutic education.

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Title of presentation:

Annual rapport : Preparation for droughts and exacerbated heat waves

Abstract:

Deals with ongoing trials of individual solutions for acclimatization, rehydration, nutrition and protective equipment against thermal stress, as well as collective climate control solutions and work organization procedures for action levels of 35, 40, 45 and 50 degrees Celsius.

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Title of presentation: Implementing a Corporate Heat Risk Prevention Program in a Railway Company

Abstract

Introduction

The increasing frequency and intensity of extreme heat events driven by climate change pose a growing challenge to occupational health and safety. Workers exposed to hot environments, particularly during outdoor activities or in workplaces with high thermal loads, are at increased risk of heat stress, heat exhaustion, and heat stroke. In response to this challenge, Ferrocarrils de la Generalitat de Catalunya (FGC) developed and updated a corporate procedure for managing risks associated with high-temperature episodes.

Objectives

To describe the implementation of a comprehensive preventive procedure aimed at protecting workers' health during periods of intense heat and ensuring the organizational adaptations required to manage heat-related occupational risks effectively.

Materials and Methods

A corporate-wide procedure applicable to all areas of the FGC Group was developed in accordance with current legislation and the guidelines issued by the Government of Catalonia. The protocol includes a predictive heat alert system, technical and organizational preventive measures, worker training, health surveillance, awareness campaigns, and the integration of heat-related risks into occupational risk assessments and contractor coordination processes. Specific roles and responsibilities were defined for senior management, supervisors, occupational health and safety services, and employees.

Results

Implementation of the procedure provided a standardized framework for heat-risk management across the organization, enhancing preparedness for meteorological alerts, facilitating the adaptation of working conditions, and increasing workforce awareness. Key measures included the provision of drinking water, cooling equipment, recovery breaks, task rotation, work schedule adjustments, and specific training on the recognition of heat stress symptoms and emergency response procedures.

Conclusions

The implementation of a structured and organization-wide procedure represents an effective strategy for improving the prevention and management of occupational risks related to high temperatures. The combination of meteorological monitoring, organizational adaptation, information, training, and clearly defined responsibilities strengthens organizational resilience to extreme heat events while contributing to the protection of workers' health and safety.

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Title of presentation:

A criteria-based protocol for fundus examination in railway fitness assessment

Abstract:

Ophthalmologists have become difficult to recruit throughout the French health system, and our railway medical fitness centres have not been spared. For many years an ophthalmologist was based in each centre, and the fundus examination was carried out and interpreted on site, on the day of the visit, by the physician who issued the certificate. A systematic fundus examination consequently carried very little cost: it formed part of the ophthalmologist's routine examination, and a sufficient number of ophthalmologists were available. That organisation no longer exists, whereas our safety requirements are unchanged. Every indication for a fundus examination now results in an external appointment, a report returned several weeks later, and frequently a temporary fitness decision in the interval.

Our railway medical fitness centres see 66,149 visits per year in total. Ophthalmology is our leading cause of permanent unfitness. Of the 1 179 permanent unfitness decisions issued in France in 2023, 574 were ophthalmological, that is 48.7 %, almost as many as all other specialties combined. The proportion reaches 56 % at pre-employment assessment and falls to 20 % at periodic review, indicating that ocular conditions constitute above all a barrier to entering the profession rather than a cause of exclusion during a career.

We examined the composition of those 574 decisions. The majority concerned absent binocular vision (182), colour vision deficiency (166), astigmatism (62), keratoconus (35) and amblyopia (32). Six were glaucoma, the single category in which examination of the optic disc is central to the diagnosis. A further 18 were visual field defects, which are identified by perimetry and whose causes range from glaucoma to lesions that are not ocular at all. Neither retinal detachment nor degenerative retinal lesion appeared, although the latter is the finding our national regulation specifically requires us to seek.

This does not mean that the examination produced nothing. Precisely because it was performed on everyone, isolated fundus findings such as drusen or an enlarged optic cup did generate referrals and temporary fitness decisions. What they did not generate, over a full year, was a single permanent unfitness decision. In our service the fundus examination confirmed or explained a decision; it did not initiate one.

The regulatory position merits clarification. Directive 2007/59/EC and Regulation (EU) 2019/773 require only the absence of progressive eye disease. The French Order of 6 August 2010 adds a provision found in neither text: degenerative retinal lesions liable to cause detachment. That provision concerns the retinal periphery, which cannot be assessed without pupillary dilation, and dilation is incompatible with a return to duty on the same day.

The systematic fundus examination was accordingly replaced by an indication-based one. A complete and normal orthoptic assessment serves as the filter. Ten triggers, distributed between medical history and findings on examination, direct the candidate towards an ophthalmologist, or towards retinal photography interpreted by an ophthalmologist. All ten can be established within our centres, on the day of the visit, without an ophthalmologist present. Diabetes is treated separately and more strictly: a dilated examination performed externally, less than twelve months old, requested at the assessment itself and not deferred. Each threshold was arbitrated by Prof. A. Brézin (Cochin Hospital, Paris), who has long experience of railway fitness assessment, and ratified by our national medical committee.

We should welcome a comparison of practice with colleagues, on three points in particular: who performs the initial eye examination, who interprets it, and how each service obtains the specialist reports it needs. The third point is the one we find hardest.

Once routine screening stops, we depend on what the employee brings back to us. We do not have access to an online national health record during the consultation and our current regulations do not require the employee to provide us with ophthalmological medical information or a written specialist report: we can request it, but ultimately we are dependent on what the employee chooses to bring back to us.

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Scientific Presentation

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Title of presentation:

Outdated Dogmas and Modern Reality: A Medical and Occupational Safety Review of the Employment of Color-Blind Individuals in the Railway Industry

Abstract:

Introduction and Objective: Government Decree No. 203/2009 (IX. 18), which defines the medical fitness system for domestic rail transport, excludes color-blind applicants from positions within the color vision deficiency threshold with dogmatic rigor, without considering the varying degrees of deviation. The aim of this presentation is to review this outdated regulation, which is based on 19th-century technological and bureaucratic conditions, and to demonstrate the need for an immediate paradigm shift.

Methodology: The research is based on an interdisciplinary analysis. It examines the myth of the Lagerlunda accident (1875)—which has served as the global basis for the total exclusion of people with color vision deficiencies—and analyzes accident (SPAD) statistics from the past 100 years compiled by the European Railway Agency (ERA) and other international authorities. Furthermore, it compares the limitations of classical laboratory diagnostics (the Nagel anomaloscope) with the physical parameters of modern railway signaling equipment (high-density LED optics). Particular emphasis is placed on functional working mirror

analysis and a comparative study of international (e.g., British RSSB, Australian) rational suitability practices.

Results: The study highlights that, in the era of modern safety systems, no documented major railway disaster can be attributed to congenital anomalous trichromacy. Individuals with color vision deficiencies who fail subtle spectral clinical tests are able to safely identify high-intensity, high-contrast railway lights. The identification of practical hazards in shunting and track maintenance jobs (e.g., detecting an approaching rail vehicle) relies in reality not on color vision but on physical dimensions, silhouettes, and acoustic perception.

Conclusion and Recommendation: In light of the current demographic crisis and the critical sector-wide labor shortage affecting physically demanding jobs, the reflexive, administrative disqualification of color-blind individuals (approximately 8% of the male population) is unjustified and economically harmful. The study recommends revising the rigid ban to allow people with color blindness to work within the acceptable tolerance range, with or without restrictions.

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—

Title of presentation:

Annual rapport : health data of employees in railway companies in Belgium

Abstract:

As IDEWE is an external occupational health and safety service, we also advise our member companies on health-related topics they can address within their organisation.

The presentation covers general figures for a number of health indicators which we make available annually (figures for the year 2025) to our member companies.

They can then use these figures to identify action points aimed at improving their employees' health.

The second part consists of questions put to individual employees, asking for their subjective perception of their health. These figures also relate to the year 2025.

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Scientific Presentation

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Title of presentation:

Sleep and Epilepsy

Abstract:

The presentation will discuss a case study where the employees seizure condition was attributed to a underlying sleep disorder. This presentation will be a review of the literature and the role of sleep treatment to address seizure.

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Title of presentation:

Circadian rhythm and genes; Epigenetics

Abstract:

Almost all living organisms live according to a circadian rhythm of day and night. Non visual photoreceptors play an important role in the maintaining this rhythm and also in the secretion of melatonin, the hormone responsible for regulating the sleep-wake cycle.

Night shift work can disrupt the circadian cycle and lead to health problems, such as sleep disturbances, metabolic disorders, cardiovascular disease, cancer and mental health issues . We sought to identify some of the impacts of the impacts of shift work on employee s' health

Nowadays more than 100 clock genes are known and have been identified mutations on them. We will present the most important of these genes and discuss how epigenetic mechanisms can influence them in either a beneficial or detrimental way.



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Title of presentation:	National Occupational Health Program 2030			

Abstract:

Portugal's National Occupational Health Program 2030 (PNSOC 2030), under the motto “Occupational Health: value that transforms society”, aims to protect and promote the health, well-being, and work capacity of the working population throughout their professional lives.

Its main objectives are:

- Strengthen the prevention of occupational diseases and workplace accidents;
- Expand the coverage of Occupational Health Services (especially for enterprises with less than 10 workers);
- Strengthen worker health surveillance procedures (harmonizing surveillance procedures and publishing technical guidelines to guide the actions of professionals);
- Implement national worker health information systems;
- Promote occupational health literacy and a safety culture;
- Strengthen the response of Occupational Health Services to (re)emerging challenges and labour changes;
- Foster safe, healthy, dignified, and sustainable work environments.

The Program is based on the following strategic pillars:

1. Health surveillance
2. Occupational Health and Safety Services and professionals

3. Prevention, management and promotion
4. (Re)emerging challenges and changes in the labour market
5. Innovation, knowledge and governance

Through the activities to be developed, the main results expected by the PNSOC 2030 are the following:

- Increased coverage by Occupational Health Services;
- Improved quality of Occupational Health Services provided;
- Increased number of occupational health professionals in Occupational Health Services;
- Increased actions to promote health in the workplace;
- Improvement and harmonization of worker health surveillance procedures;
- Improvement of the knowledge of Occupational Health Service professionals regarding good occupational health practices;
- Increased appreciation of Occupational Health Services by employers;
- Increased culture of prevention in Occupational Health and Safety;
- Increased maintenance of the population's functional capacity throughout the life cycle;
- Development of a national occupational health information system;
- Development of a national worker health network;
- Strengthening and improvement of national worker health policies.

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Title of presentation:

NEW TECHNOLOGY COMMUNICATION IN NOISE ENVIRONMENT

Abstract:

Bluetooth, active noise cancellation, and new hearing aid technology is now intersecting with hearing protection technology. This technology allows hearing protection blocking out harmful noise yet allowing conversational speech to be better understood. New technology also offer hearing aids that also offer true noise protection, enabling it to be used in industrial setting. Case examples of successful use of these technologies will also be shown.

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Title of presentation:

Hearing criteria overview: railway sector worldwide, aviation and seafarers

Abstract:

The hearing criteria established by the UIMC are considered stringent or restrictive by some medical practitioners. To put the current UIMC criteria into perspective, hearing requirements for professional personnel in the railway, aviation, and maritime sectors are compared. An overview of the criteria for railway applied in different countries is also provided, highlighting the variation in approaches to hearing requirements for train drivers.

This presentation is part of the “hearing group” presentations.

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Scientific Presentation

UIMC medical conference Lisbon, 30th Sep. – 3rd Oct. 2026

Author Prof ☐ Dr/MD/PhD ☒ Mr ☐ Ms ☐

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Title of presentation:

Suitability of Hearing Assessments for Train Drivers

Abstract

Hearing fitness assessments for safety-critical rail staff have traditionally relied on pure tone audiometry, which measures hearing thresholds under controlled conditions. While this remains embedded in current rail medical standards and legislation, it does not fully assess whether a train driver can understand safety-critical communications in real-world operational environments. This paper reviews the limitations of threshold-based audiometry and considers the case for a more functional approach to hearing assessment in rail.

Presentations will be maximum of 20 minutes, allowing 10 minutes plus for Q&A. Please present in English language.

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Scientific Presentation

UIMC medical conference Lisbon, 30th Sep. – 2rd Oct. 2026

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Title of presentation: Beyond Track Maintenance: Uncovering Respirable Crystalline Silica Exposure in a Railway Company

Abstract

Introduction

Current scientific evidence and recent European regulatory developments have reinforced the need to control occupational exposure to respirable crystalline silica (RCS), a substance classified as a respiratory carcinogen. In the railway sector, exposure has traditionally been associated with track maintenance activities. However, the assessment of work processes at Ferrocarrils de la Generalitat de Catalunya (FGC) revealed potential RCS exposure in additional maintenance tasks, prompting a comprehensive review of worker exposure and health surveillance programs.

Objectives

To identify workers exposed or previously exposed to RCS, characterize individual exposure levels, implement preventive measures to reduce or eliminate the risk, and adapt health surveillance protocols according to cumulative exposure.

Materials and Methods

Based on industrial hygiene measurements and task analysis, exposure sources were identified in track maintenance activities, train sanding system refilling, and trackside electrical cabinet cleaning. Preventive measures included the progressive replacement of silica-containing sand with calcium silicate, revision of work procedures and personal protective equipment requirements, modification of cleaning methods, and the gradual replacement of ballast with concrete slab track in tunnel sections. In parallel, a questionnaire was developed to identify exposed workers, and an Individual Exposure Index (IEI) was created using self-reported exposure periods to estimate cumulative occupational exposure.

Results

A total of 52 workers were identified as exposed through track maintenance activities, 224 workers reported having performed train sanding system refilling, and 22 workers had been involved in trackside electrical cabinet cleaning. The IEI showed a maximum cumulative exposure of 5.75 years, with a mean exposure of 0.5 years. All exposed or previously exposed workers were included in specific health surveillance programs. To date, no health disorders related to RCS exposure have been detected.

Conclusions

The systematic identification of exposed workers, combined with individual exposure assessment and the implementation of preventive measures, has improved the management of RCS-related risks in the railway environment. The use of a specific exposure index enables health surveillance to be better tailored to actual risk levels and contributes to more effective prevention strategies.

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