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Volume 21, Issue 1 supplement

April 2026

8th International Conference on the History of Occupational and Environmental Health (ICOH History 2026), Recognizing the rich history of occupational and environmental health

Meeting abstracts

Publication of this supplement was funded by KU Leuven.

Leuven, Belgium | 15-17 April 2026 | Conference website

1 article in this issue

8th International Conference on the History of Occupational and Environmental Health (ICOH History 2026), Recognizing the rich history of occupational and environmental health

Meeting abstracts | Open access | 06 April 2026 | Article: 12

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SJR 2025
0.877 Q1

H-Index
55

Publication type
Journals

ISSN
17456673

Coverage
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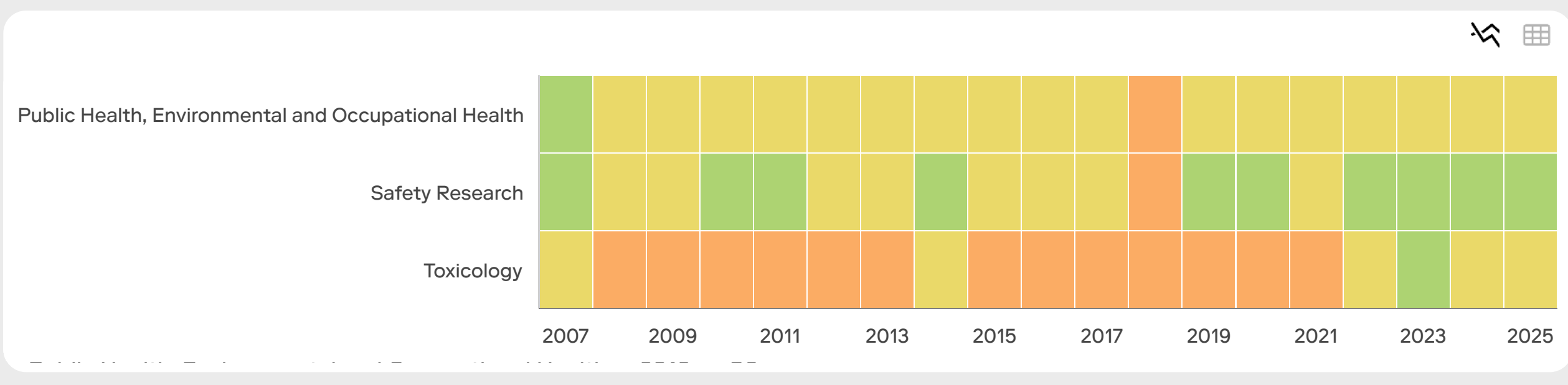

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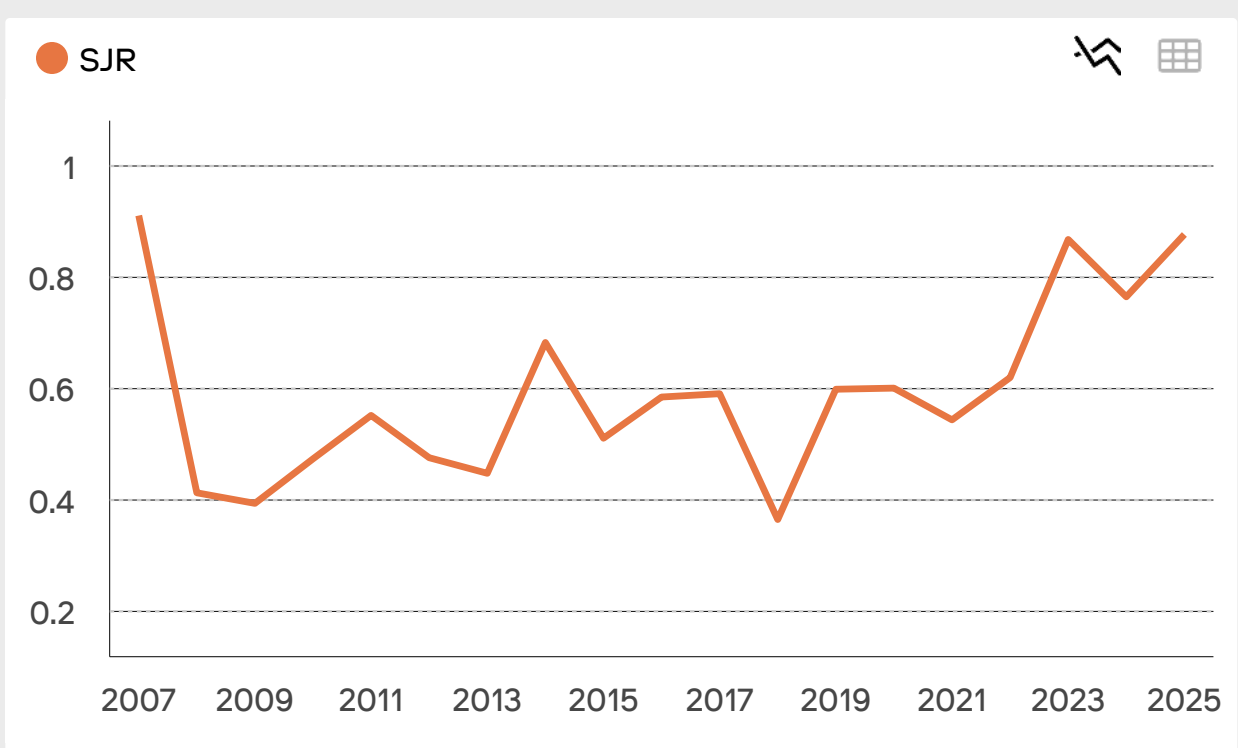

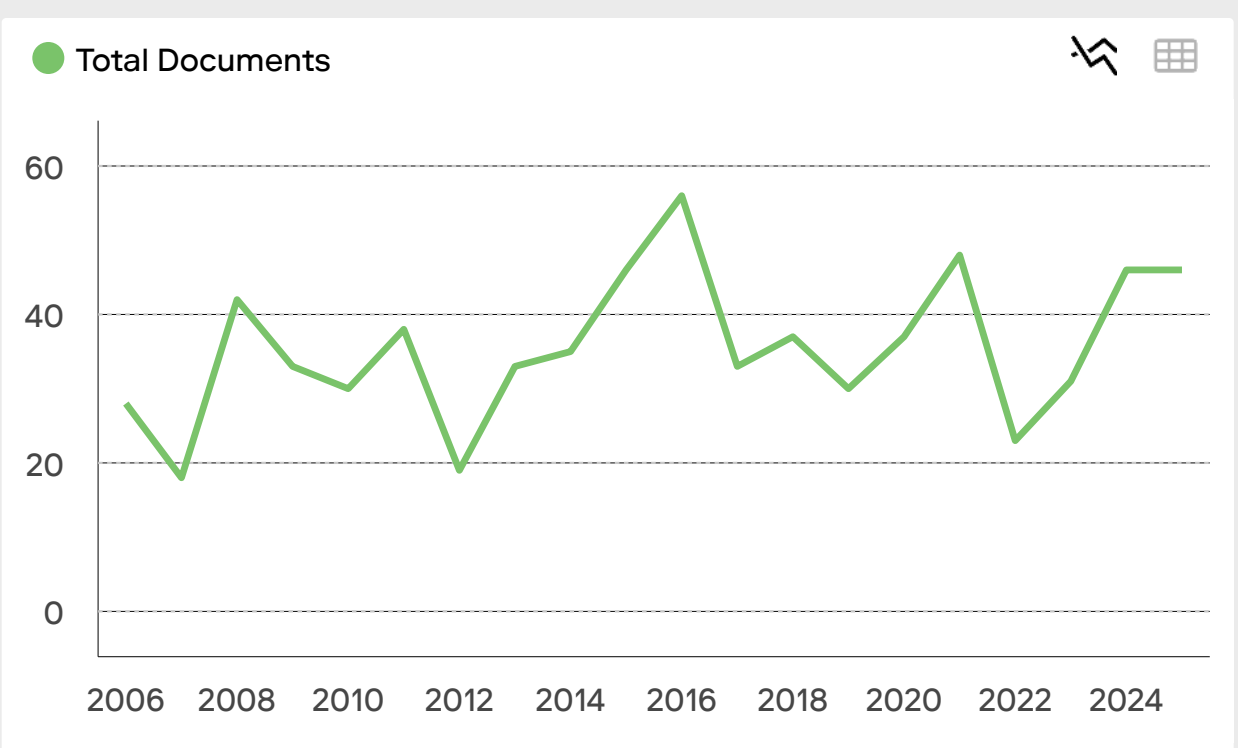

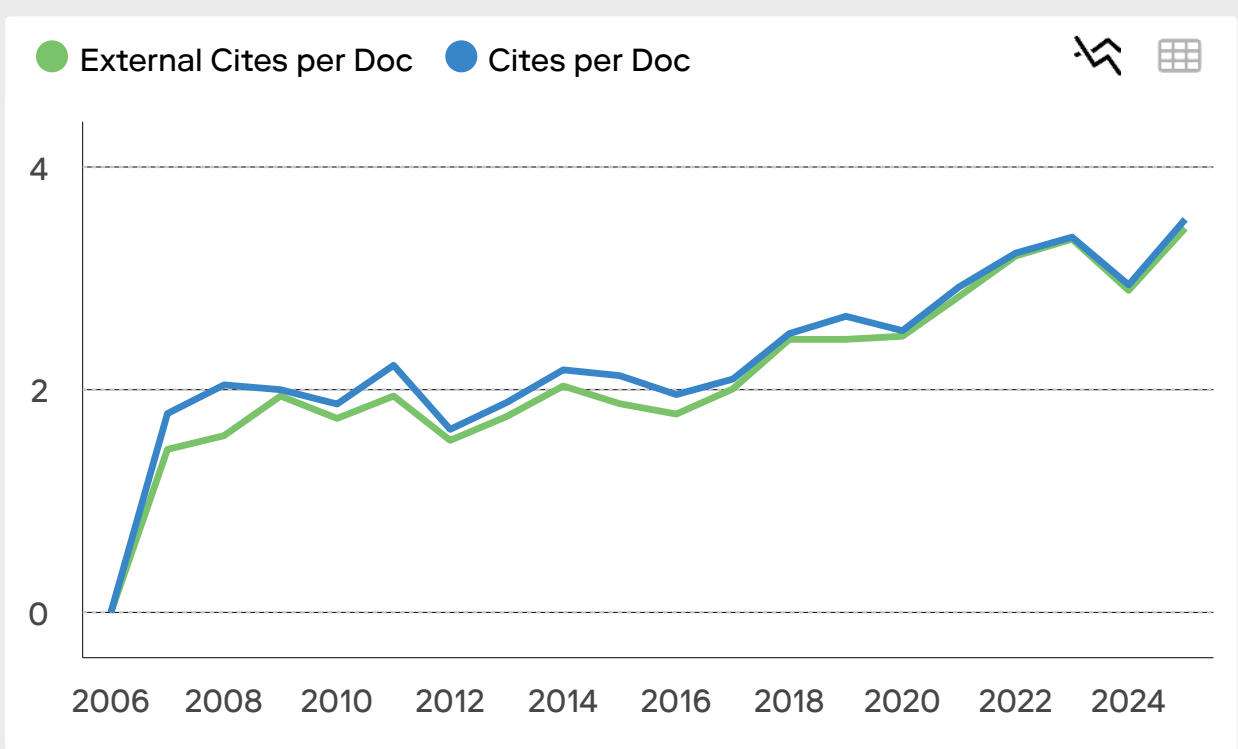

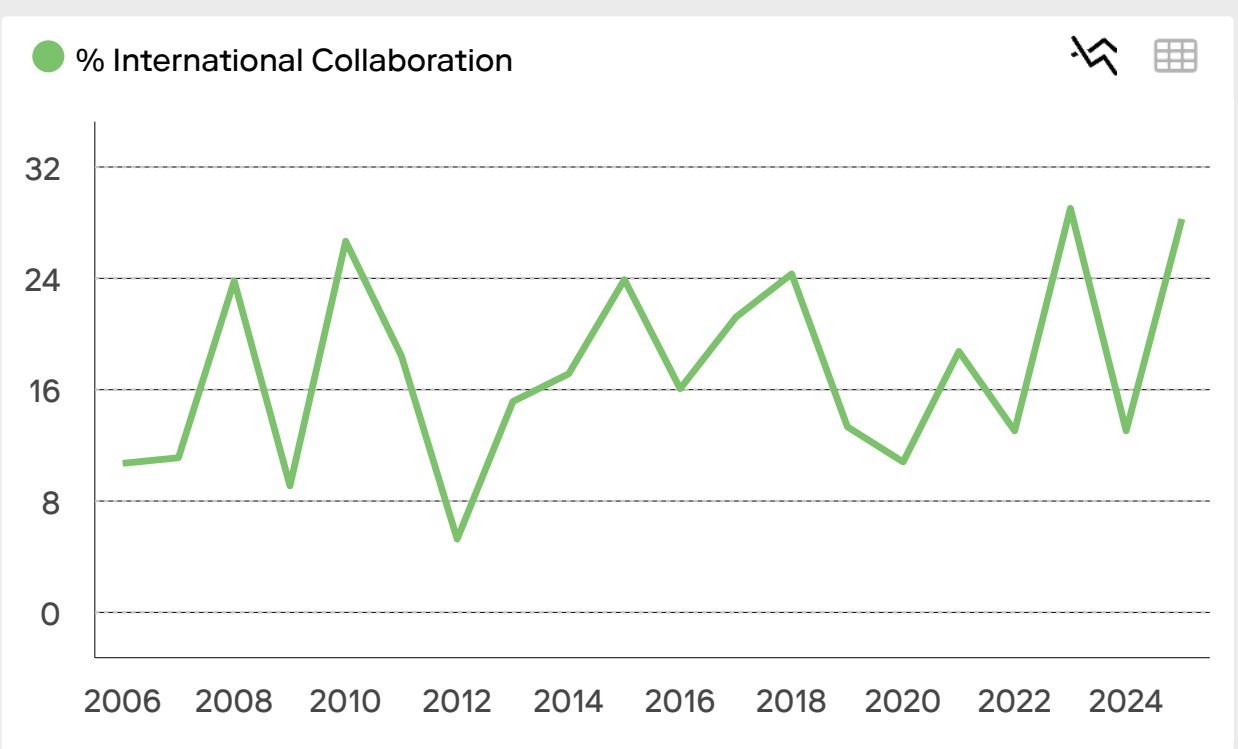

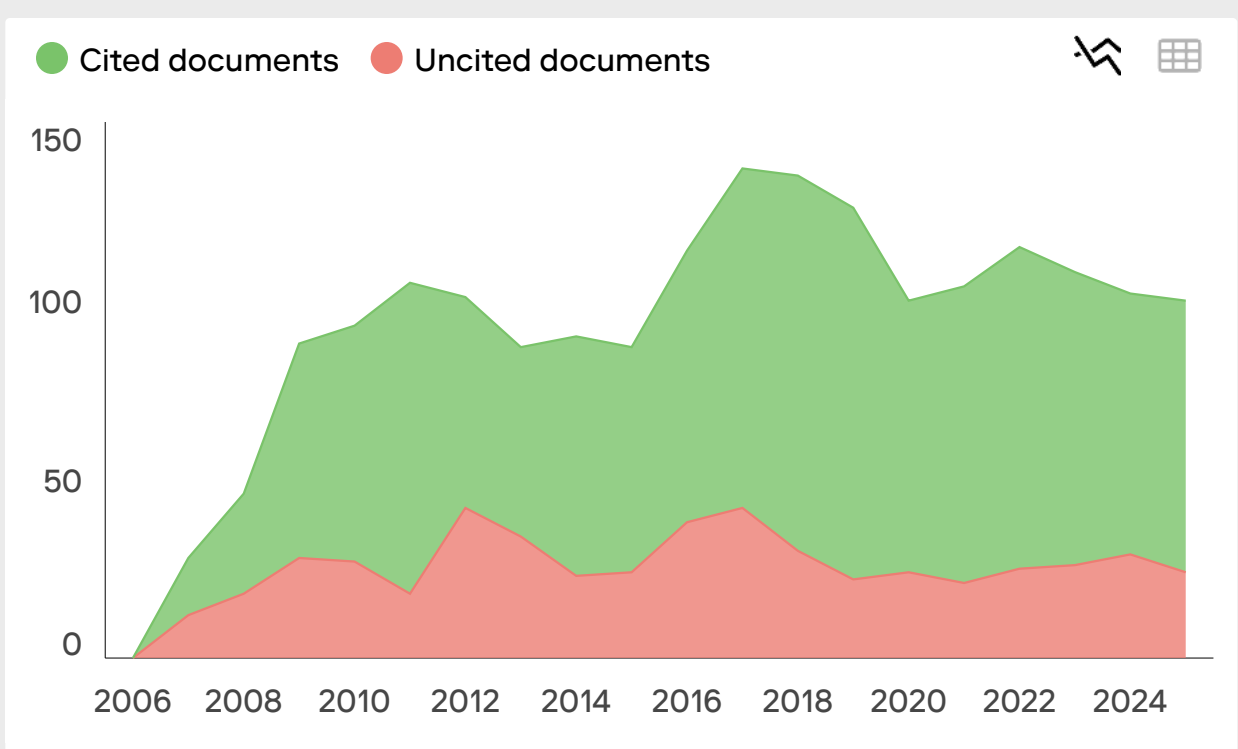

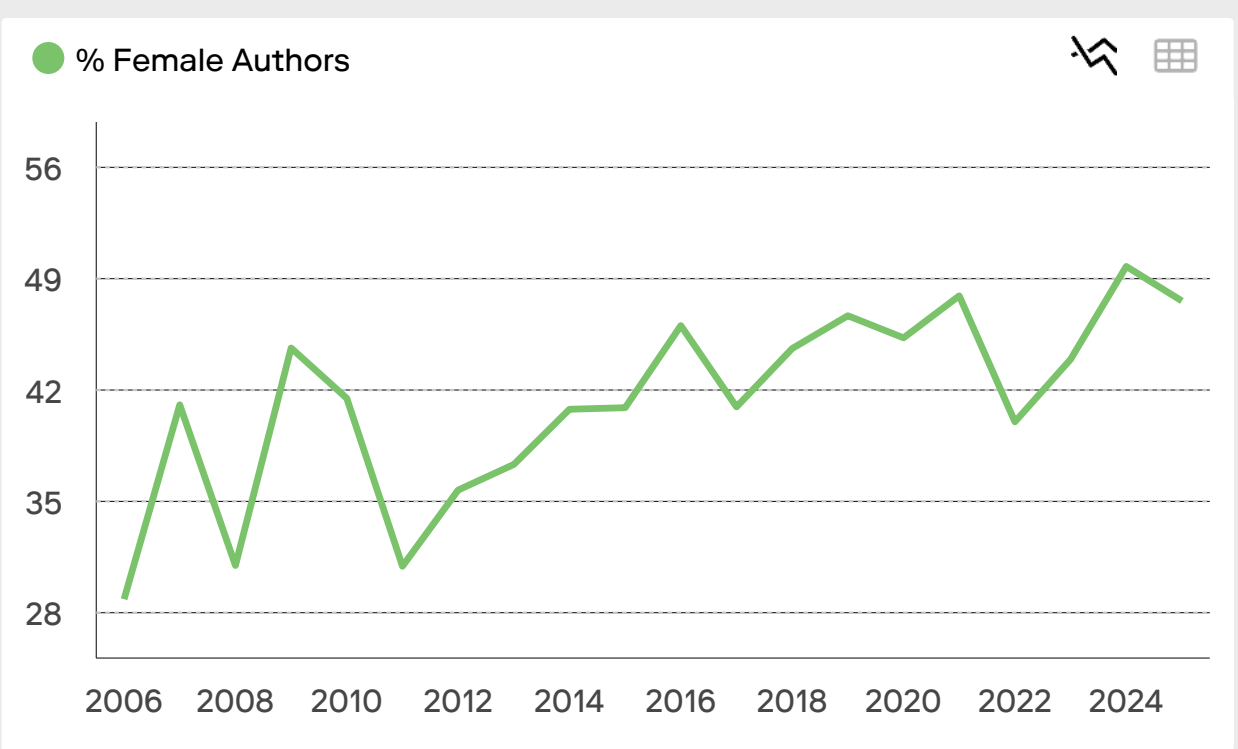

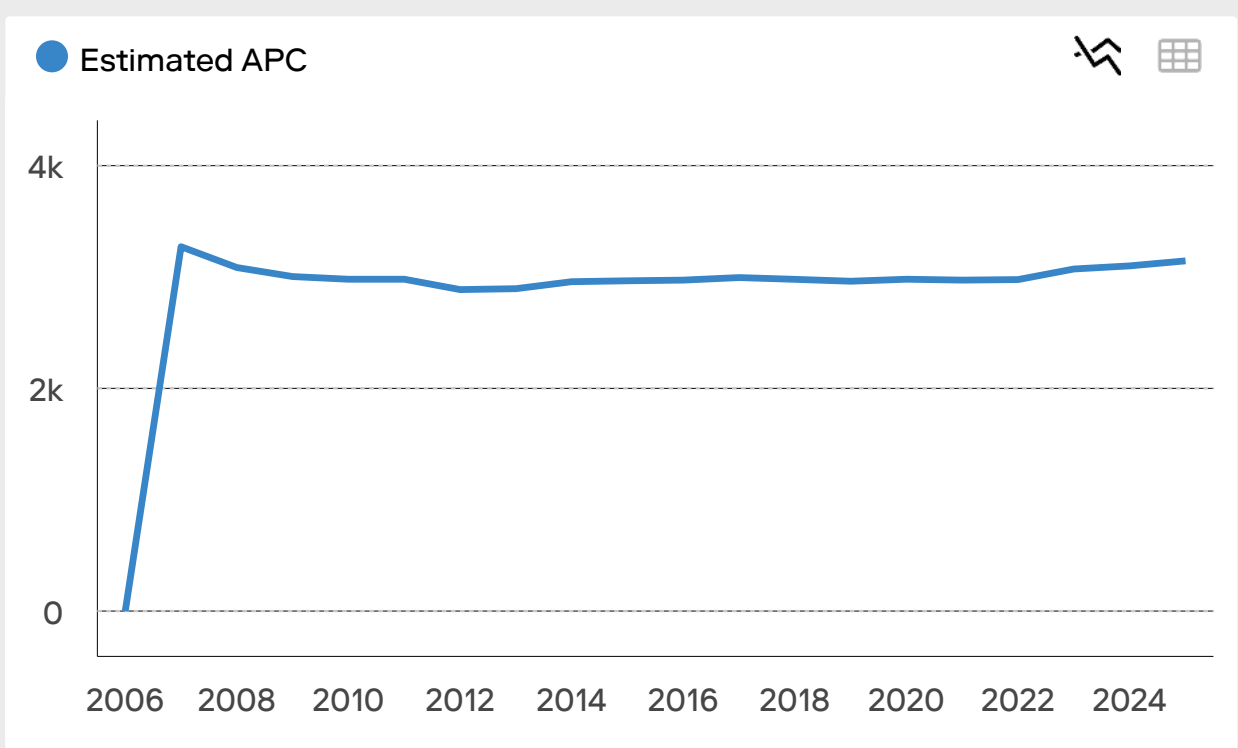

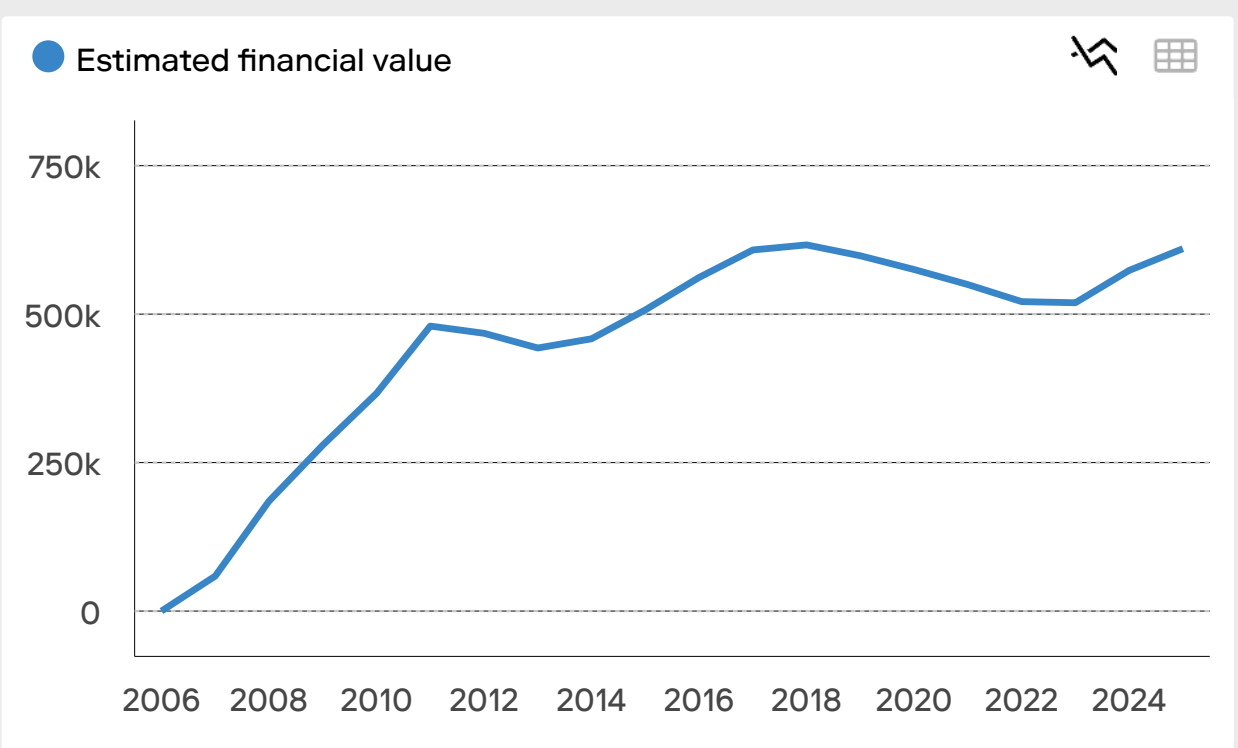

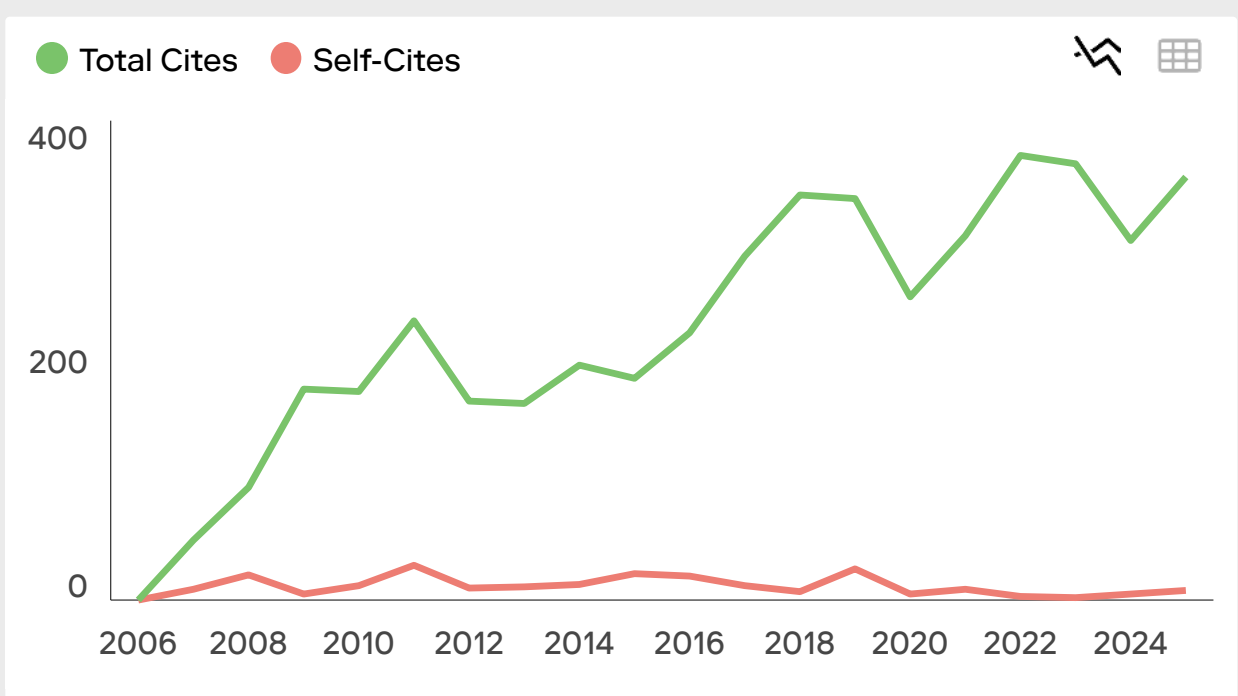

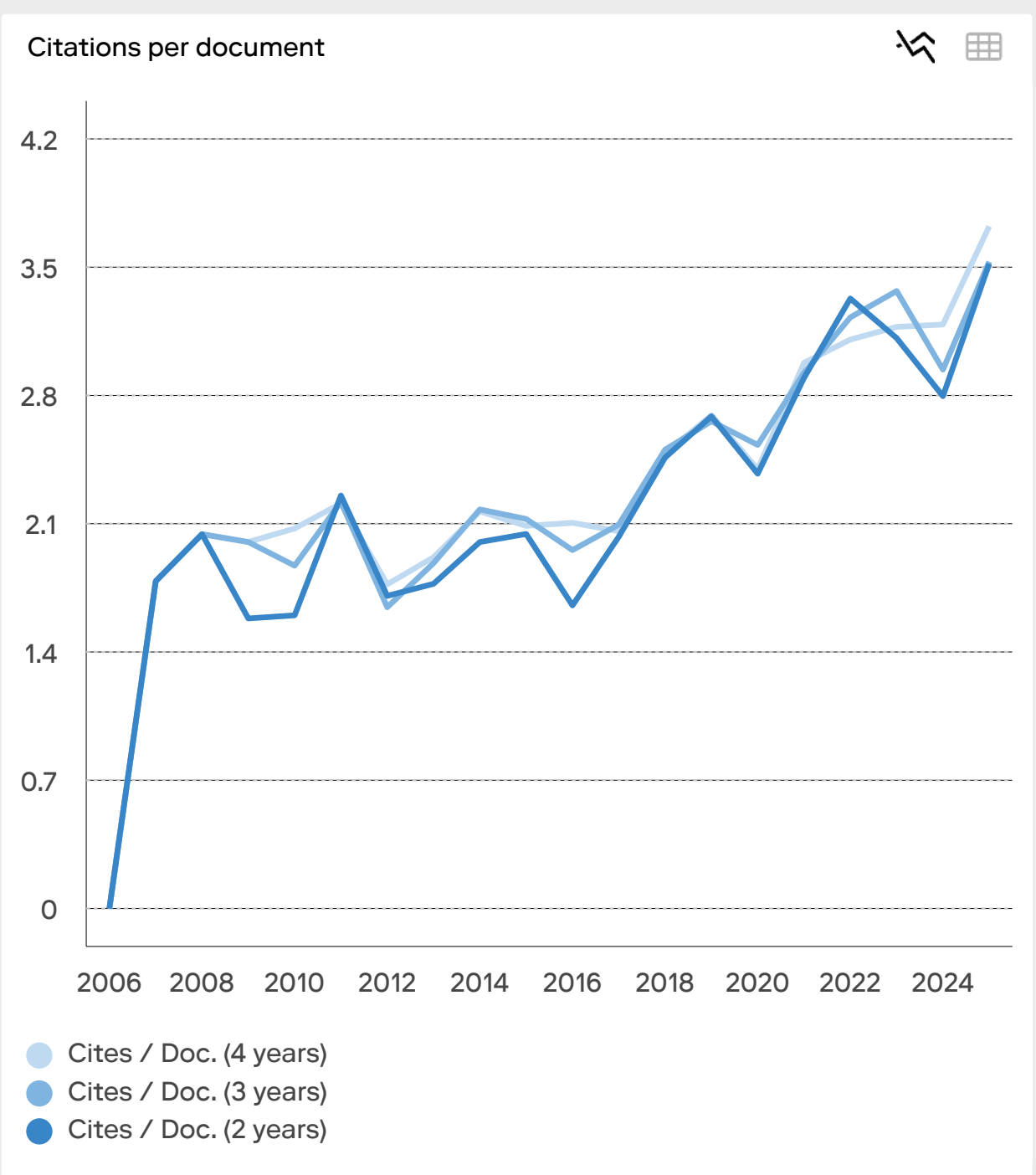

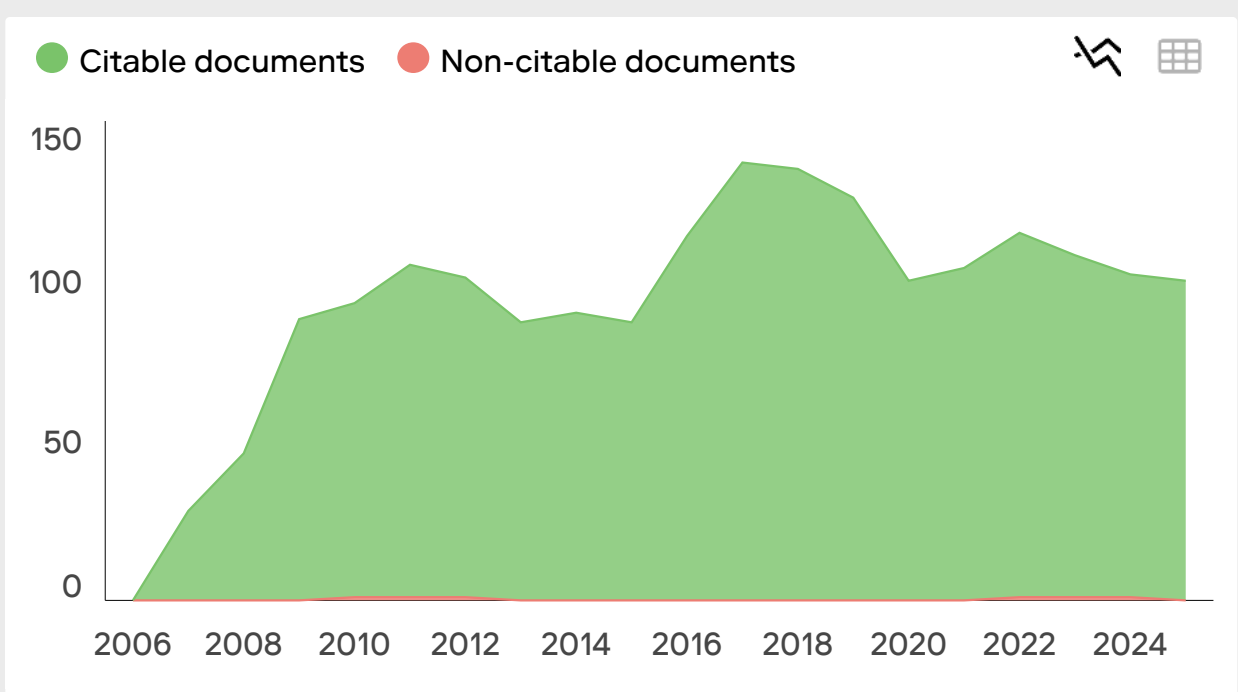

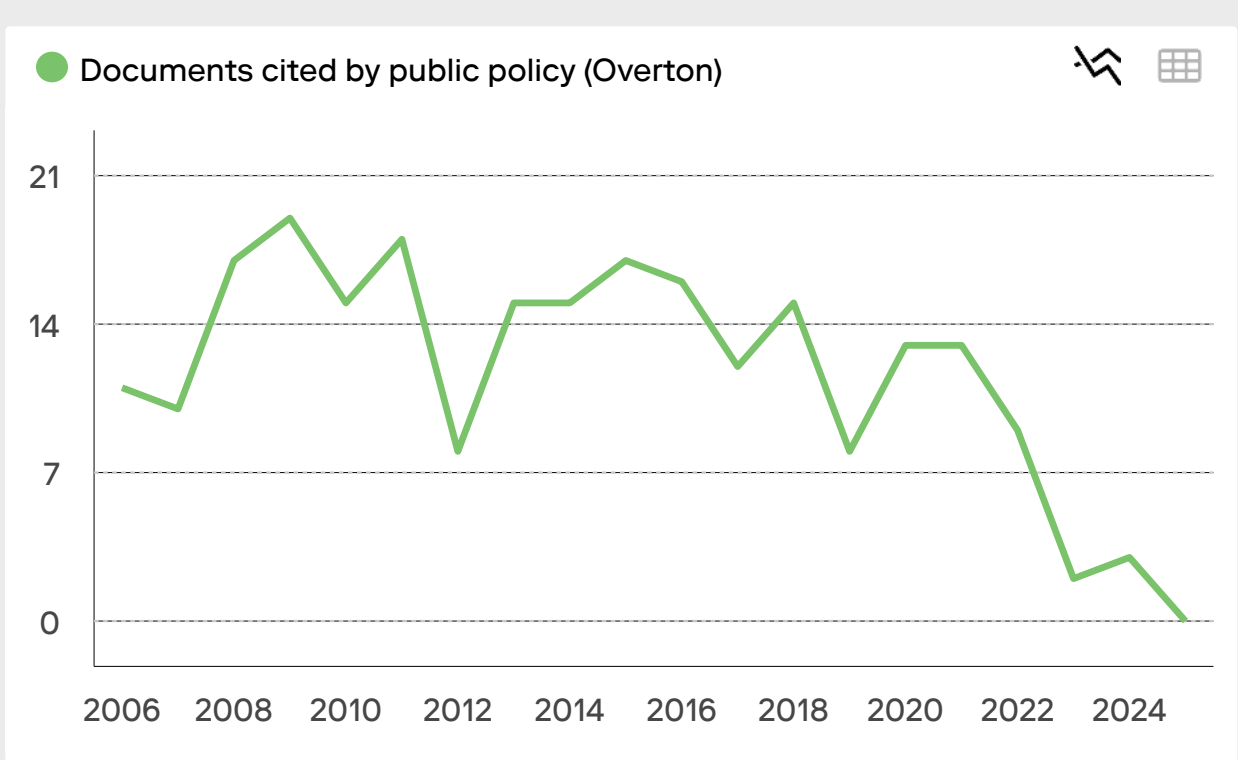

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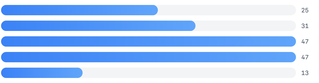

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Journal of Occupational Medicine and Toxicology

MEETING ABSTRACTS

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8th International Conference on the History of Occupational and Environmental Health (ICOH History 2026), Recognizing the rich history of occupational and environmental health

Leuven, BE, 15-17 April 2026

Published Online: 06 April 2026

I1

Introduction

Steven Ronsmans[1], Jason Glaser[2], Rajen Naidoo[3], Paul Blanc[4], Michele Riva[5], Robin Debo[6], Catherine Cavalin[7], Alfredo Menéndez Navarro[8], Benoit Nemery[9], Kjell Torén[10], Kristina Jakobson[10], Julia Moses[11], Lidia Casas[12]
[1]KU Leuven, University of Leuven, Belgium, [2]La Isla Network, [3]University of KwaZulu-Natal, South Africa, [4]University of California - San Francisco, USA, [5]University of Milano-Bicocca, Italy, [6]ETWIE, Expertise Center for Technical, Scientific and Industrial Heritage, Ghent, Belgium, [7]CNRS, France, [8]University of Granada, Spain, [9]KU Leuven, Belgium, [10]University of Gothenburg, Sweden, [11]University of Sheffield, UK, [12]UAntwerpen, University of Antwerp, Belgium
Correspondence: Steven Ronsmans (steven.ronsmans@kuleuven.be)
Journal of Occupational Medicine and Toxicology 2026, **21(Suppl 1):**I1

The Scientific Committee on the History of Prevention of Occupational and Environmental Diseases, part of the International Commission on Occupational Health (ICOH), is pleased to organise the 8th International Conference on the History of Occupational and Environmental Health. The conference is arranged by the Centre for Environment and Health, KU Leuven, Belgium and the Research group of Social Epidemiology & Health Policy, UAntwerpen, Belgium.
The scientific program focuses on the importance of taking into account the history of occupational and environmental health. Throughout history, occupational and environmental health has been influenced by a wide range of factors. Technological advances and socio-economic changes have introduced new hazards, altered the patterns of established diseases, and given rise to entirely novel conditions. Occupational health practitioners, researchers, workers' and other social movements have been instrumental in recognizing sentinel health events, identifying disease causes, and advancing prevention efforts. However, progress has often faced delays due to vested interests. Historical insights might play an important role in shaping current and future practices in occupational and environmental health.
The conference intends to promote interconnections among historians, social scientists and occupational and environmental practitioners/researchers.

The conference is supported by the Collegium Ramazzini, KU Leuven, the City of Leuven, ICOH, La Isla Network, ETWIE - Museum of Industry Ghent, and the Research Foundation – Flanders (FWO grant K702626N).
This is the 8th edition of the conference with previous meetings held in Rome (Italy) 1998, Norrköping (Sweden) 2001, Birmingham (UK) 2007, San Francisco (US) 2010, Rotterdam (The Netherlands) 2014. Gothenburg (Sweden) 2017, and Durban (South Africa) 2023.

Wednesday 15 April 2026: 13h00–13h50
KEYNOTE LECTURE

01

Mine Workers and the Study of Silicosis by Medical and Social Experts in Japan from the 1920s to the 1960s

Bernard Thomann[1]
[1]Institut français de recherches sur l'Asie de l'est (Inalco/Université Paris Cité/CNRS), France
Presenting author: Bernard Thomann (bernard.thomann@inalco.fr)
Journal of Occupational Medicine and Toxicology 2026, **21(Suppl 1):**01

Abstract

The history of mining labor in twentieth-century Japan has largely been framed through three dominant narratives: the miner as a heroic agent of national economic growth; the miner as a victim of industrial accidents, exploitation, or colonial domination; and the miner as a beneficiary of rising living standards and social modernization. While these approaches have significantly enriched our understanding of miners' social worlds, they have largely overlooked silicosis and pneumoconiosis—occupational diseases that caused more deaths than any other hazard in Japan's industrial history. This striking absence is evident not only in historical scholarship, but also in museums, artistic representations, and literary or oral accounts of mining communities.
This lecture investigates the social, cultural, and historiographical mechanisms that contributed to the long-term invisibility of silicosis in Japan's mining history. It first argues that the disease's specific characteristics—its long latency period, slow and insidious progression, frequent association with tuberculosis, and strong social stigma—made it difficult to recognize as a collective industrial problem. Unlike accidents or mine closures, silicosis often affected workers after they had

influenza-related causes and to assess whether—and how—these profiles changed across successive pandemic waves. We further identify the key factors shaping occupational inequalities in influenza mortality during this critical period.

Acknowledgments: This research was funded by FWO-Flemish Research Foundation (SOS Antwerpen) and BRAIN-BELSPO (Epibel).

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Work On A Heated Planet

Denise Brennan[1]
[1]Professor, Department of Anthropology, Georgetown University and Harvard Radcliffe Institute 2025-26 Fellow
Presenting author: Denise Brennan (brennade@georgetown.edu)
Journal of Occupational Medicine and Toxicology 2026, **21(Suppl 1):**39

Keywords: *Trafficking, Worker organizing, Undocumented, Climate change*

Abstract

Extreme heat, drought, floods, fires, and hurricanes are transforming working conditions. As climate-in[illegible]kers in increasingly hazardous condi[illegible]he line between everyd[illegible]ms of exploitation and extre[illegible]ms of abuse is blurring, transform[illegible] many workplaces int[illegible]s that meet the legal definition of traffic[illegible]ing. As an anthrop[illegible]st, I have been interviewing workers acros[illegible] U.S. to docume[illegible]eir struggles against new forms of coercion th[illegible] pressure wo[illegible]s to remain working, for example, through toxic wildfires smok[illegible]d the terror of encroaching fire. This publicly-engaged and worker-informed ethnographic project situates these climate-altered work sites within abolitionist conversations about immigration policing and mass incarceration (including immigrant prisons). Climate change, in conjunction with a racial capitalist order premised on low-priced production by "disposable" workers – often undocumented or incarcerated – has created a dangerous labour system in occupations that previously were simply arduous. It also has led to a new category of work, "disaster work," that largely relies on the most vulnerable workers to prepare for or clean up after disasters. Employers must effectively conscript workers to extract labour under these noxious conditions, by leveraging threats built into the U.S. immigration policing, prison, and deportation regimes. This paper recounts worker-led organizing campaigns and individual strategies to stay safe and hold employers accountable for these new climate-related forms of coercion.

Acknowledgments: This research was funded by an Eco Impact Grant at Georgetown University and supported by a year-long residential fellowship at the Harvard Radcliffe Institute.

POSTERS

[All posters are displayed throughout the entire conference]

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Good Neighbor Medicine" Policy for Occupational and Environmental Health: Legacy of Dr. A. W. Schoenleber

Charles Yarborough[1]
[1]CYHealthAssociates, LLC, Bethesda MD, USA
Presenting author: Charles Yarborough (cyarborough@cyhealthassociates.com)
Journal of Occupational Medicine and Toxicology 2026, **21(Suppl 1):**40

Keywords: *Policy, Preventive medicine, Medical services, Natural resources exploitation, Population health*

Abstract

Over one hundred years ago emerging companies established industrial operations in remote areas of the world to exploit natural resources such as oil and minerals. Although Virchow argued for the advent of social medicine in Europe in 1848 as a response to epidemics, this concept arrived in Latin America at the beginning of the twentieth century resulting in new hygiene, sanitation, and health facilities in rural areas. Little is recalled now about the contribution of Good Neighbor Medicine as a social medicine approach of industry to improve indigenous population health. It was practiced quietly without fanfare or publicity and was not a patronizing gift.

Alvin Willis Schoenleber, M.D. (1889-1972) entered the Medical Corps of the U.S. Army in 1913 and served in the Canal Zone where his experience demonstrated the fundamental principle that preventive medicine is a profitable investment provided it reaches the entire community and not only a small segment of the population. He became medical director of Tropical Oil Company in Columbia, a subsidiary of Standard Oil, in 1920. But until that time, no industry had taken full advantage of the lessons learned during the construction of the Panama Canal. Because of his background of tropical experience and an interest in preventive medicine, he proposed to his management a novel medical policy called Good Neighbor Medicine, which was unlike that of any other industry, to apply these lessons. Indeed, it was an early model of social medicine and medical anthropology funded by industry. In his book, he describes his indirect sales approach, lists milestones, gives a typical worker example, and emphasizes data collection. He demonstrated that the right kind of industrial medical service works in subtle but significant ways to extend its benefits to many people in the countries where it functions.

Acknowledgments: This research received no funding. I relied heavily [illegible] "Doctors in Oil," a book by Alvin Willis Schoenleber, M.D., copyright [illegible]50, Standard Oil Co. (N.J.), supplemented by my own past experienc[illegible]s an occupational and environmental health physician employed [illegible]ultinational companies and an article by Arachu Castro of Tulane [illegible]rsity in PanAmerican Journal of Public Health 48, 2024 (translated [illegible]lish).

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The Historical Evolution of Occupational Exposure to Asbestos, Silica, and Inorganic Dusts in Indonesia: Regulation, Industry Influence, and Shifting Recognition of Occupational Disease (1950–2025)

Nany Hairunisa[1], Ade Dwi Lestari[1], Hindiyati Nuriyah[1], Alvin Mohamad Ridwan[1], Lie T. Merijanti[1], Diana Samara[1], Magdalena Wartono[1]
[1]Occupational Medicine Department, Faculty of Medicine, Universitas Trisakti, Jakarta, Indonesia
Presenting author: Nany Hairunisa (nanyhairunisa@trisakti.ac.id)
Journal of Occupational Medicine and Toxicology 2026, **21(Suppl 1):**41

Keywords: *Indonesia, Asbestos history, Silica, Pneumoconiosis, Occupational exposure, Regulation timeline, Industrial hazards, Historical occupational health*

Abstract

Background

Occupational exposure to asbestos, crystalline silica, and other inorganic dusts in Indonesia has evolved over seven decades, shaped by industrial development, political-economic priorities, and changing global scientific understanding. While many countries enacted asbestos bans beginning in the 1980s, Indonesia's continued use of chrysotile and late recognition of dust-related occupational diseases reflect a unique regulatory and historical trajectory.

Objective

To analyse the historical development of inorganic dust exposure in Indonesia and examine how scientific knowledge, regulatory frameworks, industrial interests, and occupational health priorities evolved from the 1950s to the present.

Methods

A historical narrative review was conducted using labour laws, industrial policy documents, Ministry of Manpower archives, WHO/ILO reports, Indonesian occupational disease registries (where available), and peer-reviewed publications from 1950 to 2025. Sources were analysed using a chronological framework and thematic coding focused on policy evolution, disease recognition, surveillance practices, and socio-political influences.

Results

Three significant historical periods were identified:

1. **Industrial Expansion and Lack of Awareness (1950–1985)**: Early asbestos-import and silica-intensive industries operated with minimal regulation, and pneumoconiosis cases were rarely recorded.
2. **Scientific Evidence and Partial Regulatory Response (1986–2010)**: International bans and advocacy influenced Indonesian

regulations, including the first national exposure limits, but enforcement was limited, and chrysotile was defended under "controlled use" narratives.

3. **Modern Policy Debate and Persistent Exposure (2011–2025):** Improved surveillance efforts, research growth, and civil-society pressure revived discussions on national asbestos prohibition and silicosis prevention; however, Indonesia remains one of Asia's largest asbestos consumers, and reporting of silica-related diseases remains inconsistent.

Conclusion

The persistence of dust-related hazards in Indonesia is rooted in historical regulatory inertia, competing industrial interests, and delayed medical recognition. Understanding this evolution provides critical context for future policy reform, improved disease surveillance, and alignment with global occupational health protection standards.

Acknowledgments: The authors express sincere gratitude to the Center for Occupational Medicine Studies, Faculty of Medicine, Universitas Trisakti, for academic guidance and technical input during manuscript preparation.

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The Eye as a Forgotten Organ: Historical Trajectories of Ocular Surface Damage from Asbestos, Silica, and Inorganic Dust Exposure in Indonesian Workers

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Journal of Occupational Medicine and Toxicology 2026, **21(Suppl 1):42**

Keywords: *History of occupational health, Ocular surface disease, Silica, Asbestos, Inorganic dust, Worker protection, Indonesia*

Abstract

Background

Historically, occupational exposure to asbestos, silica, and inorganic dust has been primarily associated with respiratory diseases such as asbestosis and silicosis. Since the early 20th century, international literature has documented irritation, conjunctivitis, and degenerative ocular changes from dust exposure; however, these effects received limited attention in occupational medicine frameworks, which largely conceptualized the lung—not the eye—as the primary target organ. In Indonesia, industrial expansion beginning in the 1970s increased the use of asbestos and silica in construction, mining, ceramics, and brick manufacturing. Yet, routine surveillance and policy discussions rarely included visual health despite recurring worker complaints.

Objective

To examine the historical evolution of scientific recognition, surveillance practices, and policy responses related to ocular surface disease caused by occupational dust exposure globally and in Indonesia, while identifying persistent gaps in prevention and regulation.

Methods

A narrative historical review was conducted using PubMed, Scopus, Google Scholar, Indonesian regulatory archives, and grey literature from 1920 to 2024. The material included early industrial hygiene reports, evolving clinical classifications, historical policy documents, and contemporary epidemiological evidence on asbestos- and silica-related ocular surface damage.

Results

Historical evidence shows early ophthalmologic symptoms among dust-exposed workers were described as far back as 1930–1955 in mining and cement industries, yet they were framed as minor irritations rather than occupational disease. By the late 20th century, advancements in tear film physiology and microscopy revealed mechanistic pathways including oxidative stress, epithelial microtrauma, and meibomian gland dysfunction. Despite these developments, ocular outcomes remained absent from most occupational surveillance programs globally. In Indonesia, the introduction of asbestos-based industrial products in the 1980s and the expansion of silica-exposed manufacturing did not lead to parallel regulatory recognition of ocular hazards. The Indonesian Occupational Health Standards emphasize respiratory monitoring, while uptake of protective eyewear remains low. Recent studies report high prevalence of dry eye symptoms, pterygium, and conjunctival degeneration among exposed workers, reflecting a lag between scientific understanding and policy implementation.

Conclusion

The history of asbestos and silica hazards demonstrates a long-standing under-recognition of the eye as a vulnerable target organ. Although scientific understanding has evolved, regulatory and clinical practice—particularly in Indonesia—has not yet fully integrated ocular protection or surveillance. A historical reassessment of occupational health priorities may support more substantial prevention efforts and help correct decades of omission.

Acknowledgments: The authors would like to express their sincere gratitude to the Faculty of Medicine, Universitas Trisakti, and the Center for Occupational Medicine Studies for their continuous support throughout the development of this paper.

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Environmental Pollution and the Rising Burden of Hay Fever (Allergic Rhinitis): A Historical Analysis of Occupational and Industrial Health Impacts

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Journal of Occupational Medicine and Toxicology 2026, **21(Suppl 1):**43

Keywords: *Hay fever, Allergic rhinitis, Industrial pollution, Occupational health history, Environmental health*

Abstract

The history of Hay Fever (Allergic Rhinitis) provides a compelling lens through which to examine the evolution of occupational and environmental health concerns from the Industrial Revolution to the present day. Originally documented as a "disease of the elite" in the nineteenth century, hay fever's epidemiological transformation into a widespread public health crisis reflects profound socio-economic and environmental changes driven by industrialization, urbanization, and occupational exposures.

This study traces the historical trajectory of hay fever from its early clinical recognition to its contemporary status as a pollution-linked respiratory disorder, examining how occupational hazards and industrial emissions have shaped epidemiological patterns across different historical periods. The research employs historical analysis through archival medical records, industrial safety reports, public health surveys, and epidemiological datasets. Case studies focus on heavily industrialized zones in Punjab, particularly around the Buddha Nallah industrial corridor in Ludhiana and water canal settlements in Jalandhar, where industrial workers and nearby communities have demonstrated disproportionately high rates of respiratory disease.

Results indicate that the prevalence of hay fever escalated dramatically with industrial expansion. Workers in textile mills, chemical plants, metal processing units, and mining environments faced chronic exposure to coal dust, chemical vapors, textile fibers, and metallic particles, leading to markedly elevated rates of allergic rhinitis, bronchitis, and long-term respiratory complications. Post-World War II public health research established definitive causal links between industrial emissions, air pollution, and hypersensitivity respiratory disorders. Responses evolved from pharmacological treatments to include complementary interventions such as Indian Neurotherapy, emphasizing immune strengthening, lymphatic drainage, and respiratory rehabilitation.

This historical perspective highlights essential lessons for contemporary public health policy: the need to integrate occupational safety measures with environmental protection, prioritize early medical surveillance among industrial populations, and recognize the long-term societal burden of unchecked industrial expansion.

Acknowledgments: The author acknowledges informal academic guidance received from public health researchers in Punjab and local environmental documentation groups.

April 15-17, 2026, Leuven, Belgium

8th International Conference on the History of Occupational and Environmental Health

Recognizing the rich history of occupational and environmental health

The Historical Evolution of Occupational Exposure to Asbestos, Silica, and Inorganic Dusts in Indonesia: Regulation, Industry Influence, and Shifting Recognition of Occupational Disease (1950–2025)

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Abstract

Background

Occupational exposure to asbestos, crystalline silica, and other inorganic dusts in Indonesia has evolved over seven decades, shaped by industrial development, political-economic priorities, and changing global scientific understanding. While many countries enacted asbestos bans beginning in the 1980s, Indonesia's continued use of chrysotile and late recognition of dust-related occupational diseases reflect a unique regulatory and historical trajectory.

Objective

To analyse the historical development of inorganic dust exposure in Indonesia and examine how scientific knowledge, regulatory frameworks, industrial interests, and occupational health priorities evolved from the 1950s to the present.

Methods

A historical narrative review was conducted using labour laws, industrial policy documents, Ministry of Manpower archives, WHO/ILO reports, Indonesian occupational disease registries (where available), and peer-reviewed publications from 1950 to 2025. Sources were analysed using a chronological framework and thematic coding focused on policy evolution, disease recognition, surveillance practices, and socio-political influences.

Results

Three significant historical periods were identified:

1. **Industrial Expansion and Lack of Awareness (1950–1985):** Early asbestos-import and silica-intensive industries operated with minimal regulation, and pneumoconiosis cases were rarely recorded.
2. **Scientific Evidence and Partial Regulatory Response (1986–2010):** International bans and advocacy influenced Indonesian regulations, including the first

national exposure limits, but enforcement was limited, and chrysotile was defended under "controlled use" narratives.

3. **Modern Policy Debate and Persistent Exposure (2011–2025):** Improved surveillance efforts, research growth, and civil-society pressure revived discussions on national asbestos prohibition and silicosis prevention; however, Indonesia remains one of Asia's largest asbestos consumers, and reporting of silica-related diseases remains inconsistent.

Conclusion

The persistence of dust-related hazards in Indonesia is rooted in historical regulatory inertia, competing industrial interests, and delayed medical recognition. Understanding this evolution provides critical context for future policy reform, improved disease surveillance, and alignment with global occupational health protection standards.

Acknowledgments: The authors express sincere gratitude to the Center for Occupational Medicine Studies, Faculty of Medicine, Universitas Trisakti, for academic guidance and technical input during manuscript preparation.

Keywords: Indonesia, asbestos history, silica, pneumoconiosis, occupational exposure, regulation timeline, industrial hazards, historical occupational health

Background

Occupational exposure to asbestos, crystalline silica, and other inorganic dusts remains one of the most important occupational health challenges worldwide despite decades of scientific evidence demonstrating their carcinogenicity and association with chronic respiratory diseases. Current estimates from the World Health Organization (WHO) indicate that occupational asbestos exposure alone causes more than 200,000 deaths annually, accounting for over 70% of work-related cancer deaths globally. Similarly, occupational exposure to crystalline silica continues to contribute substantially to the burden of pneumoconiosis, silicosis, chronic obstructive pulmonary disease, and lung cancer, particularly in rapidly industrializing countries where mining, construction, and manufacturing remain major economic sectors.[1,2]

The recognition of mineral dust hazards has evolved through a complex historical process involving scientific discoveries, industrial development, occupational health advocacy, and regulatory responses. Although the causal relationship between asbestos, silica, and occupational diseases became increasingly evident during the second half of the twentieth century, regulatory responses differed considerably across countries depending on political priorities, economic dependence on mineral industries, institutional capacity, and industry influence. Consequently, the history of occupational disease recognition reflects not only advances in medical knowledge but also broader interactions between science, government policy, and industrial interests.[2]

Indonesia presents a unique example of this historical evolution. Since the early years of national development following independence, industrialization has been accompanied by expanding use of asbestos-containing materials and silica-generating industries, particularly in mining, cement production, construction, ceramics, foundries, and manufacturing. During the New Order era (1966–1998), industrial growth became a

national priority, while occupational disease surveillance, workplace exposure monitoring, and diagnostic capacity remained relatively limited. As a result, many occupational respiratory diseases were likely under-recognized or underreported despite continued worker exposure. The historical trajectory of occupational health in Indonesia therefore reflects a gradual transition from prioritizing industrial productivity toward increasing recognition of occupational health protection.[3]

Indonesia's regulatory framework has likewise evolved progressively. The enactment of Law No. 1 of 1970 concerning Occupational Safety established the legal foundation for workplace safety, and subsequent regulations addressed occupational health management systems, workplace environmental standards, and occupational disease prevention. Nevertheless, unlike more than fifty countries that have completely prohibited asbestos use, Indonesia continues to permit the controlled use of chrysotile asbestos, illustrating the continuing influence of economic considerations, industrial interests, and regulatory challenges on occupational health policy.[1,2]

Recent systematic reviews conducted for the WHO/ILO Joint Estimates have demonstrated that occupational exposure to asbestos, silica, and coal dust remains widespread globally, particularly among workers in construction, mining, manufacturing, and informal sectors. These findings suggest that although scientific understanding has substantially advanced, effective exposure prevention and disease recognition continue to lag in many low- and middle-income countries.[2]

Despite increasing research on the toxicological effects of asbestos and silica, relatively little attention has been given to the historical development of occupational exposure and disease recognition in Indonesia. Most available studies focus on exposure assessment, clinical manifestations, or regulatory compliance, whereas the long-term evolution of industrial practices, regulatory milestones, scientific evidence, and occupational disease recognition has not been comprehensively documented. Such historical analysis is important because present-day occupational health policies are products of decades of interactions among industrialization, scientific advances, governmental regulation, and occupational health advocacy.

Therefore, this historical review aims to examine the evolution of occupational exposure to asbestos, crystalline silica, and other inorganic dusts in Indonesia from 1950 to 2025. Specifically, it explores the historical development of industrial exposure, regulatory changes, industry influence, and the shifting recognition of occupational diseases. By reconstructing this historical trajectory, the study seeks to provide a comprehensive understanding of how occupational health policies have evolved and to identify lessons that may inform future prevention of dust-related occupational diseases in Indonesia.

Methods

A historical narrative review was conducted to examine the evolution of occupational exposure to asbestos, crystalline silica, and other inorganic dusts in Indonesia from 1950 to 2025. Evidence was collected from multiple sources, including labour laws, occupational safety regulations, industrial policy documents, Ministry of Manpower archives, Ministry of Health publications, reports from the World Health Organization (WHO) and International Labour Organization (ILO), Indonesian occupational disease registries where available, and peer-reviewed articles retrieved from PubMed, Scopus, and Google Scholar. Both English- and Indonesian-language publications were included

to capture the historical development of occupational health policies, industrial practices, and disease recognition.

The collected sources were analyzed using a chronological historical framework complemented by thematic content analysis. Information was organized according to major periods of industrial and regulatory development in Indonesia and coded into four key themes: (1) evolution of occupational health regulations, (2) industrial expansion and patterns of dust exposure, (3) recognition and reporting of asbestos-, silica-, and other inorganic dust-related diseases, and (4) socio-political and economic influences on occupational health policy. Findings from different document types were compared and synthesized to reconstruct the historical trajectory of occupational exposure and occupational disease recognition in Indonesia over the past seven decades.

Results

Three major historical periods characterized the evolution of occupational exposure to asbestos, crystalline silica, and other inorganic dusts in Indonesia between 1950 and 2025 (Table 1).

Table 1. Historical Timeline of Occupational Exposure to Asbestos, Silica, and Other Inorganic Dusts in Indonesia (1950–2025)

Year	Historical milestone
1970	Law No. 1/1970 on Occupational Safety
1985	First regulation restricting crocidolite asbestos
1998	Reform era and expansion of occupational health policy
2012	Government Regulation No. 50/2012 (OSH Management System)
2016	Ministry of Health Regulation No. 70/2016 on Industrial Work Environment Standards
2023	WHO/ILO Joint Estimates highlighted the continuing burden of occupational exposure to asbestos and silica
2025	Indonesian Ministry of Health renewed discussions on phasing out asbestos and strengthening prevention policies (BKPK Kemenkes)

1. Industrial Expansion and Limited Occupational Health Recognition (1950–1985)

The first period coincided with Indonesia's post-independence industrialization, during which national development prioritized infrastructure, mining, and manufacturing to accelerate economic growth. Asbestos-containing materials were increasingly imported for roofing, cement sheets, insulation, brake linings, and other construction products, while silica-intensive industries—including mining, quarrying, ceramics, foundries, and glass manufacturing—expanded considerably. Occupational health policies during this period primarily emphasized accident prevention and labour productivity, whereas chronic occupational diseases resulting from long-term dust exposure received little attention. Diagnostic facilities for occupational respiratory diseases were scarce, workplace dust monitoring was uncommon, and no comprehensive occupational disease surveillance system had yet been established. Consequently, pneumoconiosis, silicosis, and asbestos-related diseases were rarely diagnosed or officially recorded, resulting in substantial under-recognition of the true disease burden.[6–8]

2. Scientific Evidence and Partial Regulatory Response (1986–2010)
The second period reflected the growing influence of international scientific evidence demonstrating the carcinogenicity of asbestos and the irreversible health effects of crystalline silica exposure. During the late 1980s and 1990s, increasing recommendations from the WHO and ILO encouraged improvements in occupational exposure standards, industrial hygiene practices, and workplace environmental monitoring. Indonesia gradually strengthened its occupational health framework through the implementation of occupational exposure limits and occupational safety management policies; however, enforcement remained inconsistent because of limited inspection capacity, inadequate industrial hygiene expertise, and variable compliance among industries. While more than 60 countries progressively prohibited all forms of asbestos, Indonesia continued permitting chrysotile asbestos under the concept of "controlled use," reflecting the continuing influence of industrial interests and economic considerations. During this period, recognition of occupational respiratory diseases improved slowly, but reporting remained fragmented and compensation systems for occupational diseases were still limited.[6,7,9]
3. Modern Policy Debate and Persistent Occupational Exposure (2011–2025)
The most recent period demonstrated substantial progress in occupational health governance alongside continuing policy challenges. Increased research output, greater collaboration with international organizations, and advocacy from professional societies and civil society organizations contributed to renewed public discussion regarding asbestos prohibition and silicosis prevention. National regulations strengthened occupational health management systems, while occupational disease surveillance and reporting mechanisms gradually improved. Nevertheless, important implementation gaps persisted. Trade data indicate that Indonesia remains one of the largest importers and consumers of chrysotile asbestos in Southeast Asia, with imports continuing primarily from Russia, China, Brazil, and Kazakhstan for use in roofing materials and other construction products. Although awareness of asbestos-related diseases has increased, Indonesia has not adopted a complete asbestos ban, unlike many neighbouring countries. Recent policy discussions by the Ministry of Health have emphasized that no safe level of asbestos exposure exists and have called for stronger preventive measures and a transition toward safer substitute materials.

Despite improvements in occupational health regulations, surveillance of silicosis, pneumoconiosis, and other dust-related occupational diseases remains inconsistent because of underdiagnosis, limited access to occupational medicine specialists, inadequate workplace exposure assessment, and incomplete reporting systems. These findings indicate that Indonesia has experienced considerable progress in scientific understanding and occupational health policy over the past seven decades; however, translating scientific evidence into effective prevention, comprehensive surveillance, and stronger regulatory control remains an ongoing challenge. The historical evolution demonstrates that occupational disease recognition has been shaped not only by advances in medical knowledge but also by economic priorities, industrial development, regulatory capacity, and political commitment to worker protection.[6,7,10]

Conclusion

The historical evolution of occupational exposure to asbestos, crystalline silica, and other inorganic dusts in Indonesia demonstrates a gradual transition from limited awareness and weak regulatory oversight to increasing recognition of occupational diseases and stronger occupational health governance. Over the past seven decades, scientific evidence has progressively influenced national policies and workplace health practices; however, the translation of evidence into effective prevention has remained uneven because of industrial dependence, regulatory limitations, and inconsistent implementation.

Despite important advances in occupational health legislation, surveillance systems, and research capacity, Indonesia continues to face significant challenges in controlling occupational exposure to hazardous mineral dusts. Persistent asbestos consumption, fragmented reporting of silicosis and other pneumoconioses, and limited occupational disease surveillance indicate that the burden of dust-related diseases is likely underestimated. This historical review highlights that the recognition of occupational diseases is shaped not only by scientific progress but also by political commitment, economic priorities, and institutional capacity. Strengthening surveillance, improving enforcement of occupational health regulations, promoting safer industrial alternatives, and enhancing multidisciplinary collaboration are essential to reducing future occupational disease burden and advancing worker protection in Indonesia.

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Steven Ronsmans <steven.ronsmans@kuleuven.be>
to ICOH

Jan 20, 2026, 5:28 AM

Dear colleague,

Thank you very much for the submission of your abstract to the 8th International Conference on the History of Occupational and Environmental Health.
All abstracts have been reviewed by the members of our Scientific Organizing Committee.

We are pleased to inform you that your abstract has been **accepted**.

Within the coming week you will be notified:

- Whether your abstract has been selected for an **oral presentation or a poster** + the instructions to prepare your contribution.
- To which **thematic session** your abstract has been allocated.

We are also pleased to inform you that all the conference abstracts will be **published in a supplement of the *Journal of Occupational Medicine and Toxicology*** (https://link.springer.com/journal/12995).

We would like to ask you to register as soon as possible, so we can arrange the programme and the abstract publication process.
Early bird registration is open till Monday 2 February 2026 (23:59 CET). **The authors of accepted abstracts are expected to register before this early bird deadline of 2nd Feb:** via the website or via this link: https://www.kuleuven.be/register/nl/8th-international-conference-on-the-history-of-occupational-and-environmental-health-icoh-history-2026/step1
If you experience any **difficulties with meeting this registration deadline**, please feel free to contact us at: info@icohhistory2026.org

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Kind regards,
Steven Ronsmans
ICOH History 2026 Conference chair
On behave of the Scientific Organizing Committee.

The 8th International Conference on the History of Occupational and Environmental Health

From April 15-17, 2026, Leuven, Belgium

CERTIFICATE OF ORAL PRESENTATION

Dr. Nany Hairunisa

Faculty of Medicine Universitas Trisakti (INDONESIA)

The Historical Evolution of Occupational Exposure to Asbestos, Silica, and Inorganic Dusts in Indonesia: Regulation, Industry Influence, and Shifting Recognition of Occupational Disease (1950–2025)

presented at the 8th International Conference on the History of Occupational and Environmental Health 2026, which took place in Leuven, Belgium from 15 – 17 April 2026

Prof. Steven Ronsmans

On behalf of the Scientific and Organising Committee

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by Nany Hairunisa

Submission date: 17-Jul-2026 08:53PM (UTC+0700)
Submission ID: 2746569287
File name: full_artikel_ICOH_History_2026_Dr._Nany_H.pdf (468.02K)
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History of asbestos

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[1] Occupational Medicine Department, Faculty of Medicine, Universitas Trisakti, Jakarta, Indonesia

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Abstract

Background

Occupational exposure to asbestos, crystalline silica, and other inorganic dusts in Indonesia has evolved over seven decades, shaped by industrial development, political-economic priorities, and changing global scientific understanding. While many countries enacted asbestos bans beginning in the 1980s, Indonesia's continued use of chrysotile and late recognition of dust-related occupational diseases reflect a unique regulatory and historical trajectory.

Objective

To analyse the historical development of inorganic dust exposure in Indonesia and examine how scientific knowledge, regulatory frameworks, industrial interests, and occupational health priorities evolved from the 1950s to the present.

Methods

A historical narrative review was conducted using labour laws, industrial policy documents, Ministry of Manpower archives, WHO/ILO reports, Indonesian occupational disease registries (where available), and peer-reviewed publications from 1950 to 2025. Sources were analysed using a chronological framework and thematic coding focused on policy evolution, disease recognition, surveillance practices, and socio-political influences.

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Conclusion

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1. Industrial Expansion and Limited Occupational Health Recognition (1950–1985)

The first period coincided with Indonesia's post-independence industrialization, during which national development prioritized infrastructure, mining, and manufacturing to accelerate economic growth. Asbestos-containing materials were increasingly imported for roofing, cement sheets, insulation, brake linings, and other construction products, while silica-intensive industries—including mining, quarrying, ceramics, foundries, and glass manufacturing—expanded considerably. Occupational health policies during this period primarily emphasized accident prevention and labour productivity, whereas chronic occupational diseases resulting from long-term dust exposure received little attention. Diagnostic facilities for occupational respiratory diseases were scarce, workplace dust monitoring was uncommon, and no comprehensive occupational disease surveillance system had yet been established. Consequently, pneumoconiosis, silicosis, and asbestos-related diseases were rarely diagnosed or officially recorded, resulting in substantial under-recognition of the true disease burden.[6–8]

2. Scientific Evidence and Partial Regulatory Response (1986–2010)

The second period reflected the growing influence of international scientific evidence demonstrating the carcinogenicity of asbestos and the irreversible health effects of crystalline silica exposure. During the late 1980s and 1990s, increasing recommendations from the WHO and ILO encouraged improvements in occupational exposure standards, industrial hygiene practices, and workplace environmental monitoring. Indonesia gradually strengthened its occupational health framework through the implementation of occupational exposure limits and occupational safety management policies; however, enforcement remained inconsistent because of limited inspection capacity, inadequate industrial hygiene expertise, and variable compliance among industries. While more than 60 countries progressively prohibited all forms of asbestos, Indonesia continued permitting chrysotile asbestos under the concept of "controlled use," reflecting the continuing influence of industrial interests and economic considerations. During this period, recognition of occupational respiratory diseases improved slowly, but reporting remained fragmented and compensation systems for occupational diseases were still limited.[6,7,9]

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The most recent period demonstrated substantial progress in occupational health governance alongside continuing policy challenges. Increased research output, greater collaboration with international organizations, and advocacy from professional societies and civil society organizations contributed to renewed public discussion regarding asbestos prohibition and silicosis prevention. National regulations strengthened occupational health management systems, while occupational disease surveillance and reporting mechanisms gradually improved. Nevertheless, important implementation gaps persisted. Trade data indicate that Indonesia remains one of the largest importers and consumers of chrysotile asbestos in Southeast Asia, with imports continuing primarily from Russia, China, Brazil, and Kazakhstan for use in roofing materials and other construction products. Although awareness of asbestos-related diseases has increased, Indonesia has not adopted a complete asbestos ban, unlike many neighbouring countries. Recent policy discussions by the Ministry of Health have emphasized that no safe level of asbestos exposure exists and have called for stronger preventive measures and a transition toward safer substitute materials.

Despite improvements in occupational health regulations, surveillance of silicosis, pneumoconiosis, and other dust-related occupational diseases remains inconsistent because of underdiagnosis, limited access to occupational medicine specialists, inadequate workplace exposure assessment, and incomplete reporting systems. These findings indicate that Indonesia has experienced considerable progress in scientific understanding and occupational health policy over the past seven decades; however, translating scientific evidence into effective prevention, comprehensive surveillance, and stronger regulatory control remains an ongoing challenge. The historical evolution demonstrates that occupational disease recognition has been shaped not only by advances in medical knowledge but also by economic priorities, industrial development, regulatory capacity, and political commitment to worker protection.[6,7,10]

Conclusion

The historical evolution of occupational exposure to asbestos, crystalline silica, and other inorganic dusts in Indonesia demonstrates a gradual transition from limited awareness and weak regulatory oversight to increasing recognition of occupational diseases and stronger occupational health governance. Over the past seven decades, scientific evidence has progressively influenced national policies and workplace health practices; however, the translation of evidence into effective prevention has remained uneven because of industrial dependence, regulatory limitations, and inconsistent implementation.

Despite important advances in occupational health legislation, surveillance systems, and research capacity, Indonesia continues to face significant challenges in controlling occupational exposure to hazardous mineral dusts. Persistent asbestos consumption, fragmented reporting of silicosis and other pneumoconioses, and limited occupational disease surveillance indicate that the burden of dust-related diseases is likely underestimated. This historical review highlights that the recognition of occupational diseases is shaped not only by scientific progress but also by political commitment, economic priorities, and institutional capacity. Strengthening surveillance, improving enforcement of occupational health regulations, promoting safer industrial alternatives, and enhancing multidisciplinary collaboration are essential to reducing future occupational disease burden and advancing worker protection in Indonesia.

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