
# New and emerging risks and work-related diseases

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# Occupational health risk-disease?

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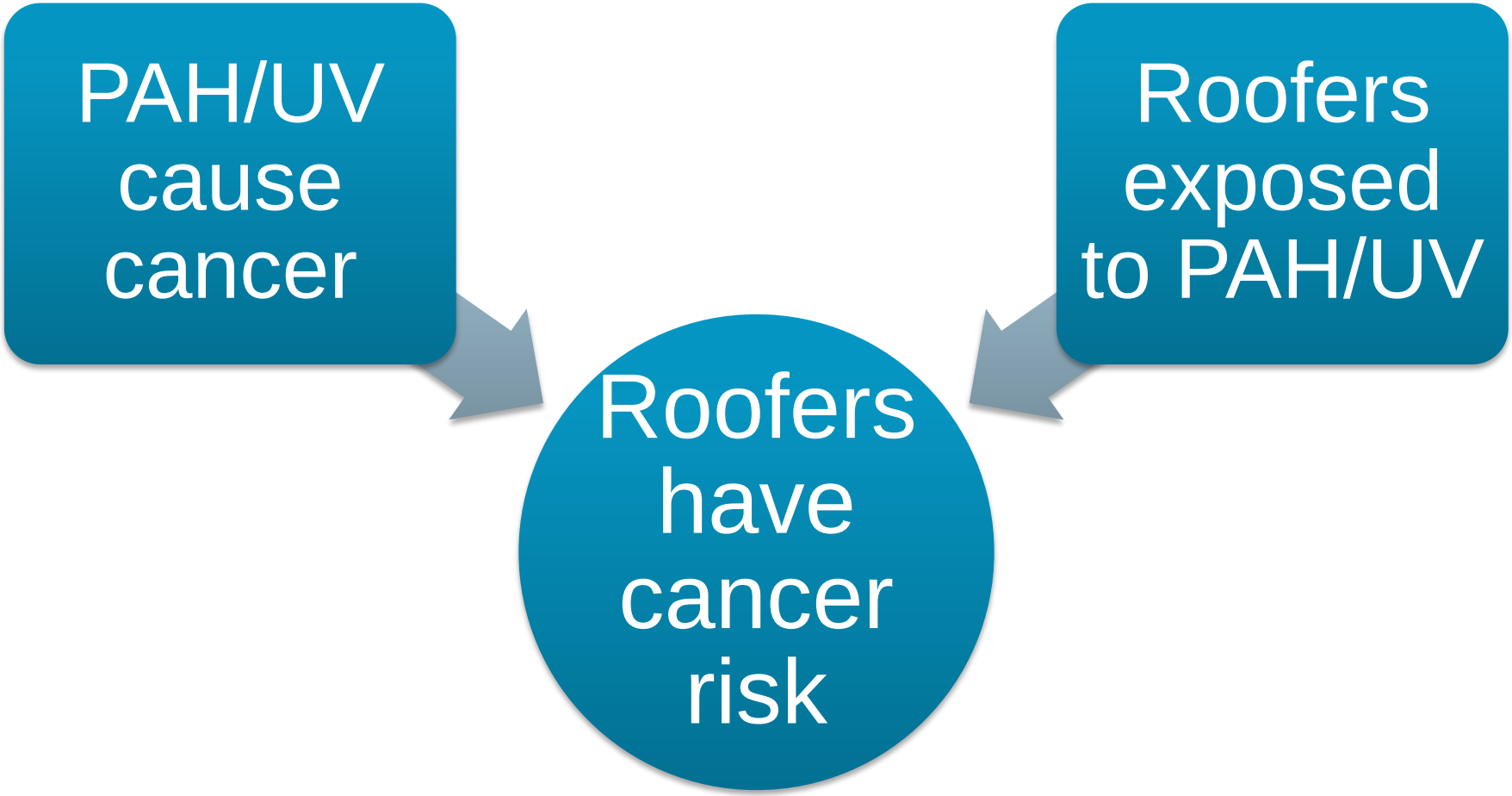
# Deduction

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# Occupational hazard, exposure and risk

- Hazard identification
  - IARC assessed 900 agents
  - 1000s agents unknown hazards
- Exposure assessment
  - 1 in 5  EU-workers exposed to carcinogens
  - Underestimate?
- Risk assessment
  - ‘Acceptable’ cancer risk: $10^{-5}$
  - Uncertainty

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**Differences in the carcinogenic evaluation of glyphosate between the International Agency for Research on Cancer (IARC) and the European Food Safety Authority (EFSA)**

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The International Agency for Research on Cancer (IARC) Monographs Programme identifies chemicals, drugs, mixtures, occupational exposures, lifestyles and personal habits, and physical and biological agents that cause cancer in humans and has evaluated about 1000 agents since 1971. Monographs are written by ad hoc Working Groups (WGs) of international scientific experts over a period of about 12 months ending in an eight-day meeting. The WG evaluates all of the publicly available scientific information on each substance and, through a transparent and rigorous process,[1] decides on the degree to which the scientific evidence supports that substance's potential to cause or not cause cancer in humans.

For Monograph 112,[2] 17 expert scientists evaluated the carcinogenic hazard for four insecticides and the herbicide glyphosate.[3] The WG concluded that the data for glyphosate meet the criteria for classification as a *probable human carcinogen*.

The European Food Safety Authority (EFSA) is the primary agency of the European Union for risk assessments regarding food safety. In October 2015, EFSA reported[4] on their evaluation of the Renewal Assessment Report[5] (RAR) for glyphosate that was prepared by the Rapporteur Member State, the German Federal Institute for Risk Assessment (BfR). EFSA concluded that ‘glyphosate is unlikely to pose a carcinogenic hazard to humans and the evidence does not support classification with regard to its carcinogenic potential’. Addendum 1 (the BfR Addendum) of the RAR[5] discusses the scientific rationale for differing from the IARC WG conclusion.

Serious flaws in the scientific evaluation in the RAR incorrectly characterise the potential for a carcinogenic hazard from exposure to glyphosate. Since the RAR is the basis for the European Food Safety Agency (EFSA) conclusion,[4] it is critical that these shortcomings are corrected.

**THE HUMAN EVIDENCE**

EFSA concluded ‘that there is very limited evidence for an association between glyphosate-based formulations and non-Hodgkin lymphoma (NHL), overall inconclusive for a causal or clear associative relationship between glyphosate and cancer in human studies’. The BfR Addendum (p. ii) to the EFSA report explains that ‘no consistent positive association was observed’ and ‘the most powerful study showed no effect’. The IARC WG concluded there is *limited evidence of carcinogenicity in humans* which means “A positive association has been observed between exposure to the agent and cancer for which a causal interpretation is considered by the Working Group to be credible, but chance, bias or confounding could not be ruled out with reasonable confidence.”[1]

The finding of *limited evidence* by the IARC WG was for NHL, based on high-quality case–control studies, which are particularly valuable for determining the carcinogenicity of an agent because their design facilitates exposure assessment and reduces the potential for certain biases. The Agricultural Health Study[6] (AHS) was the only cohort study available providing information on the carcinogenicity

For numbered affiliations see end of article.

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# Occupational diseases?

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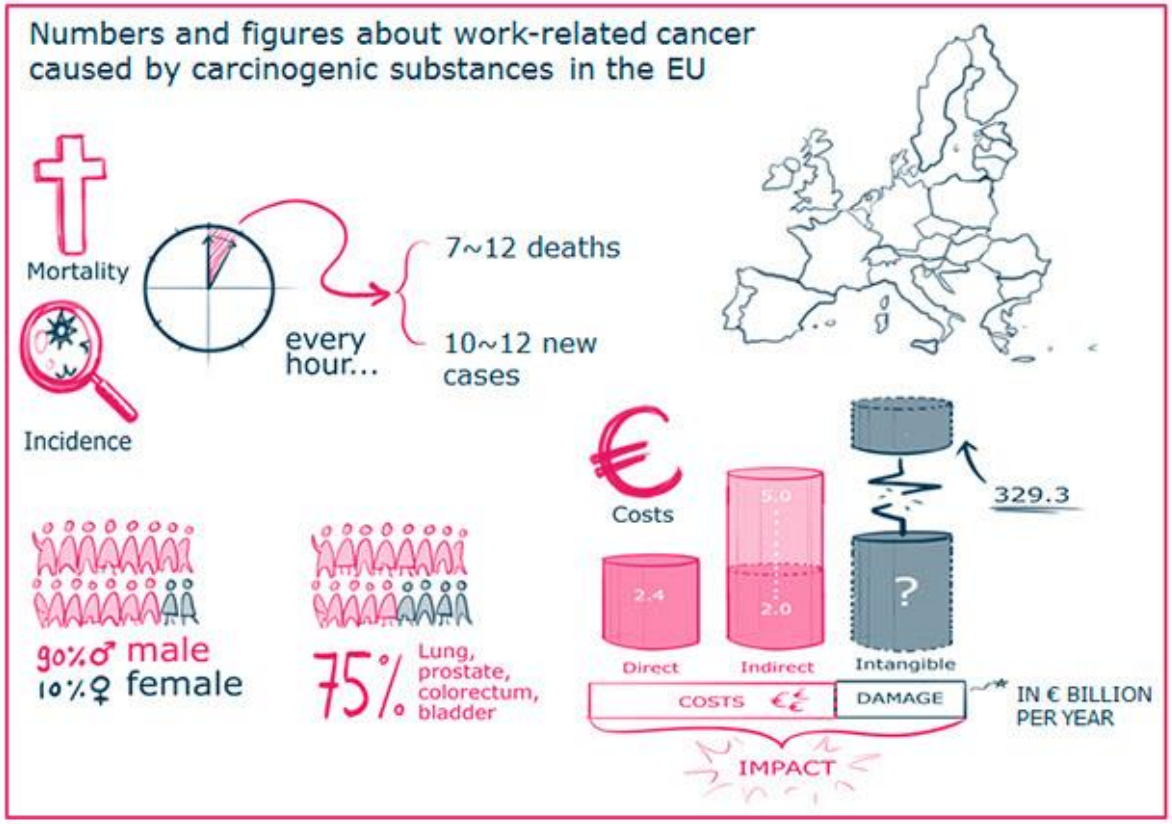
# 8% EU occupational cancers

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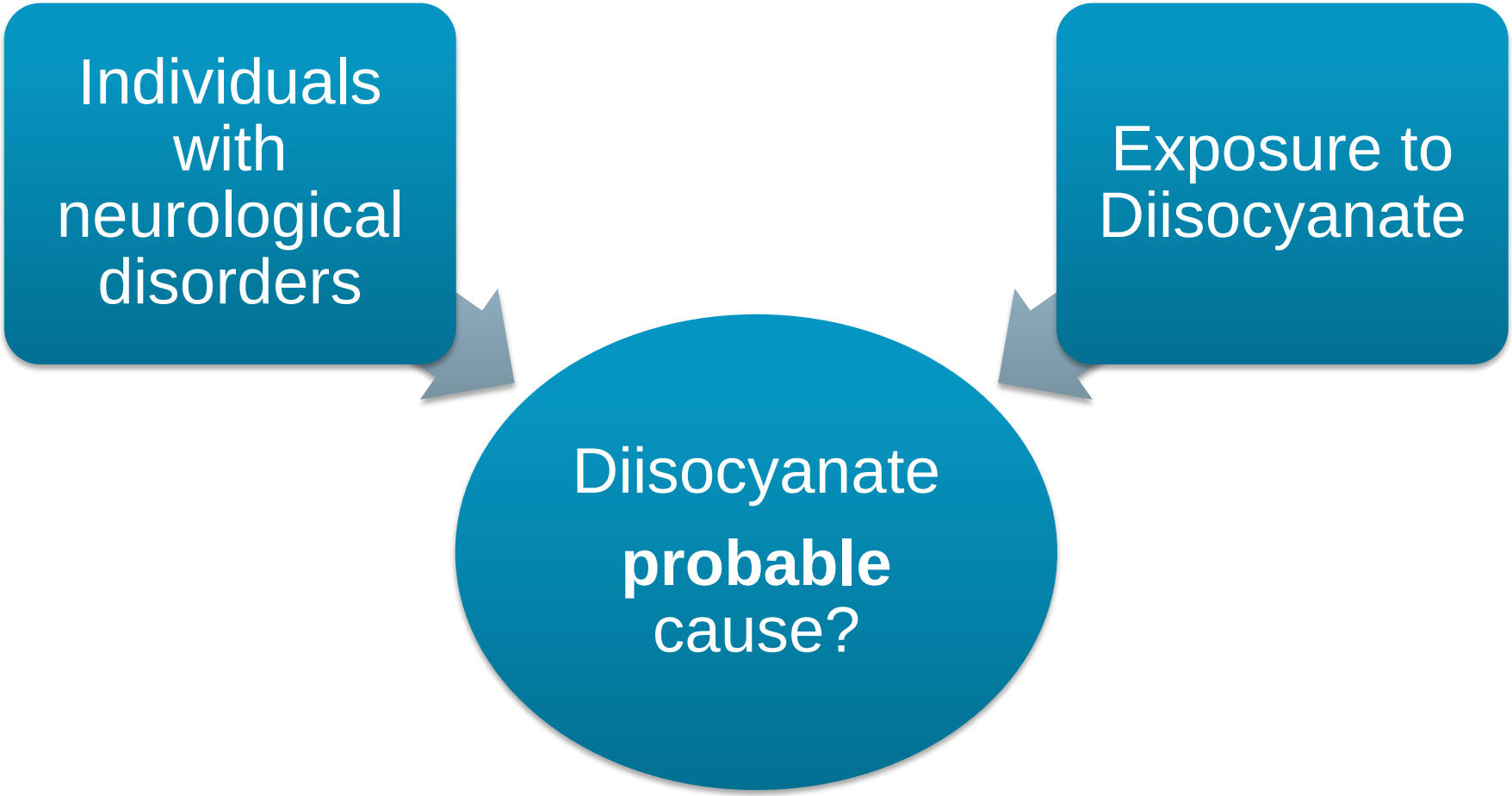
# Causes and risk

# Induction

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# Pharmaco-vigilance

Science and activities relating to the **detection, assessment, understanding** and **prevention** of **adverse effects** or any other **drug**-related problem

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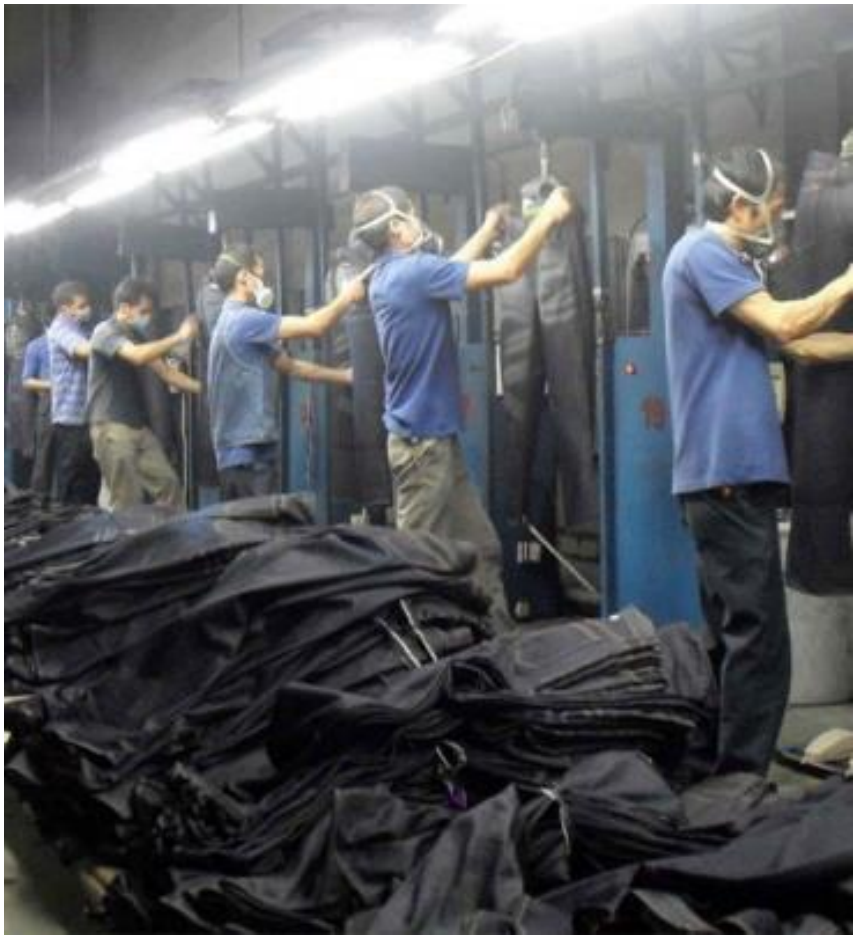
# OSH-vigilance

Science and activities relating to the **detection, assessment, understanding** and **prevention** of **adverse effects** or any other **occupational**-related problem



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| Product | Since | Industrial use | First reports on cancer | Important publications/reports | Regulatory steps |
|---|---|---|---|---|---|
| **Asbestos** | 1879 | Asbestos mining, insulation, building material etc. | 1935–49 Lung cancer cases reported in asbestos manufacturing workers; 1959–60 Mesothelioma cancer in workers and public identified in South Africa | 1955 Doll establishes high lung cancer risk in Rochdale asbestos workers; 1959–60 Mesothelioma cancer in workers and public identified in South Africa; | First asbestos ban 1989 Iceland and ongoing. |
| **Benzene** | 1900 | Solvent in production of artificial leather, rubber goods, glue, printing, paint, coatings, dry cleaning, automobile manufacturing, etc. | In 1928 first case of benzene-induced leukemia: acute lymphatic leukemia in a pharmaceutical worker with high benzene exposure levels | 1977 - Infante et al. publish the first cohort study of workers linking benzene exposure directly to leukemia | 1982 -IARC evaluated benzene as having “sufficient evidence that benzene is carcinogenic to man,” |
| **Radium** | 1898 | Among others, painting watches with radium containing paint | 1923 - first bone sarcoma recorded in this group of women in; there have been 55 cancers in a population of nearly 3000 women (incl leukaemia and breast cancer). | 1949 - International Committee on Radiological Protection (ICRP): no dose threshold for radiation-induced cancer | 1996 - EU Directive on Ionising Radiations based on ICRP 60 which will be mandatory on member states. |
| **Vinyl chloride** | 1930 | Production of vinyl chloride and derivatives; PVC processing, hairdressers and barbers using hairspray containing vinyl chloride | 1967 - 1973, 4 cases of angio sarcoma of the liver among men employed in the polyvinyl chloride polymerization section of tyre plant | Two cohort studies publishing in 1981 (USA) and 1991 (Europe) | Vinyl chloride was considered by previous IARC Working Groups in 1974, 1978, 1987, and 2007 (IARC, 1974, 1979, 1987, 2008). |

| Substance | Worker population/tasks | Observed health effect | Emerging risk (concern) |
|---|---|---|---|
| **Formaldehyde** | Hair dressers - use of hair straightening products | Irritation skin, eyes and respiratory tract, allergies | Increased/illegal use of the products |
| **Indium tin oxide** | Manufacture of flat-panel displays (LCD, plasma screen) | Pulmonary fibrosis | New technology |
| **Crystalline silica (sand)** | Sandblasting of textiles | Silicosis | New use, intensified exposure |
| **Synthetic polymeric fibres** | Textile workers from a nylon flocking plant | Interstitial lung disease (Flock worker's lung) | New risk |
| **Tricresyl phosphate** | Cockpit and cabin crew | 'Aerotoxic syndrome' (neurological symptoms) | New exposure scenario |
| **Diacetyl-containing flavorings** | flavoring production and application | Bronchiolitis obliterans | New risk |
| **5-Aminosalicylic acid** | Drug manufacturing | Occupational asthma | New risk |
| **Hexamethylene diisocyanate** | Paint quality controller | Acute life-threatening etrinsic allergic alveolitis | New risk<br>Dermal exposure is<br>New route of exposure |
| **Methylene diphenyl diisocyanate (MDI)** | Orthopedic plaster casts workers | Occupational asthma | exposure levels lower than OEL |

Detecting emerging risks for workers and follow-up actions, RIVM Rapport 601353004
*Palmen NGM, Salverda-Nijhof JGW, van Kesteren PCE, ter Burg W (2013)*

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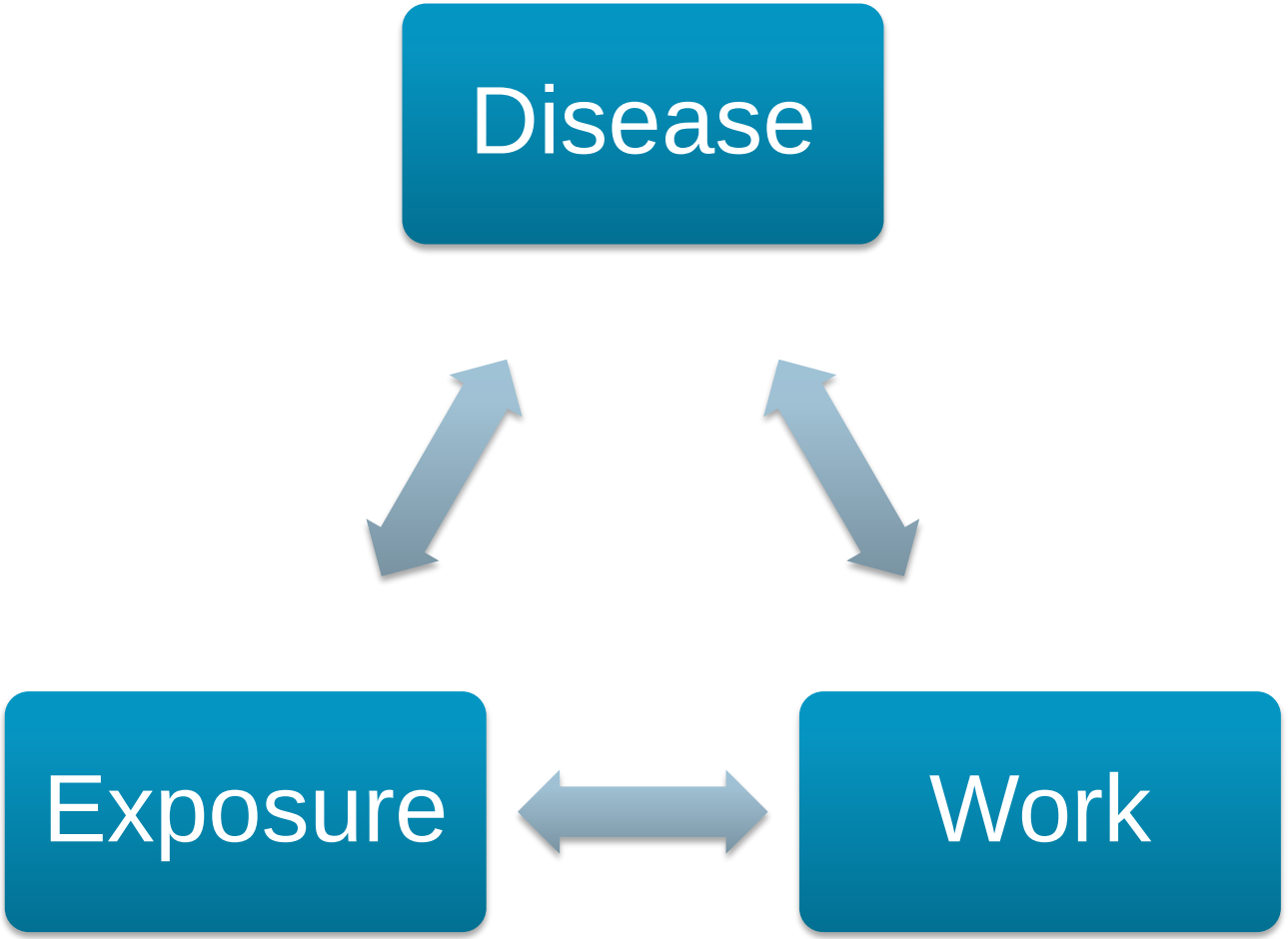
# New WRD

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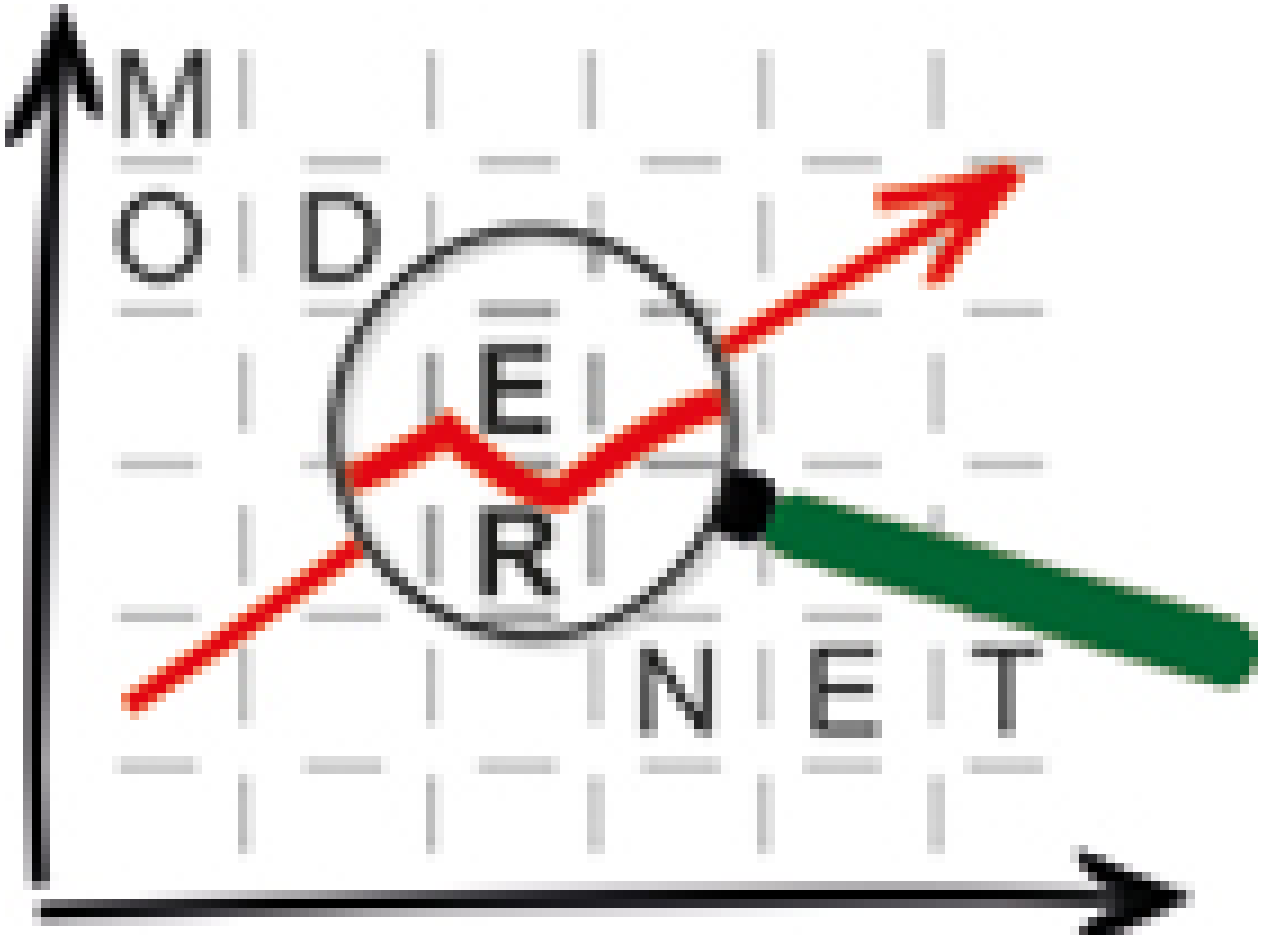
# Modernet.org

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# Early warning systems

- Detect adverse effects of occupational exposure
- Analysis of health effect-work association
- Case reporting
- Signals: early warning signs of adverse effect

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# Anosmia

- Male 46 year
- Floor replacement and repair: polyurethane, isocyanides, xylene, styrene
- 2012: sudden loss of sense of smell and taste
- NMR
  - 2012: normal
  - 2014: Atrophy R olfactory bulb and L
- No improvement in 3 years

Lenderink, A., Maleszka, S. & Godderis, L. TBV (2016) 24: 186.

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# Known or new?

Occup Environ Med. 2010 Jul; 67(7): 436–443.
Published online 2010 Jun 25. doi: 10.1136/oem.2008.044727
PMCID: PMC2989170

## Search strings for the study of putative occupational determinants of disease

Stefano Mattioli,[1] Francesca Zanardi,[1] Alberto Baldasseroni,[2] Frederieke Schaafsma,[3] Robin MT Cooke,[1] Gianpiero Mancini,[4] Mauro Fierro,[1] Chiara Santangelo,[1] Andrea Farioli,[1] Serenella Fucksia,[1] Stefania Curti,[1] Francesco S Violante,[✉1] and Jos Verbeek[5]

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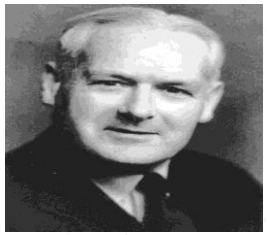

*Meeting January 14 1965*

# The Environment and Disease: Association or Causation?

by Sir Austin Bradford Hill CBE DSC FRCP(hon) FRS

(*Profe*

*Univer*

# President's Address

observed *association* to a verdict of *causation*? Upon what basis should we proceed to do so?

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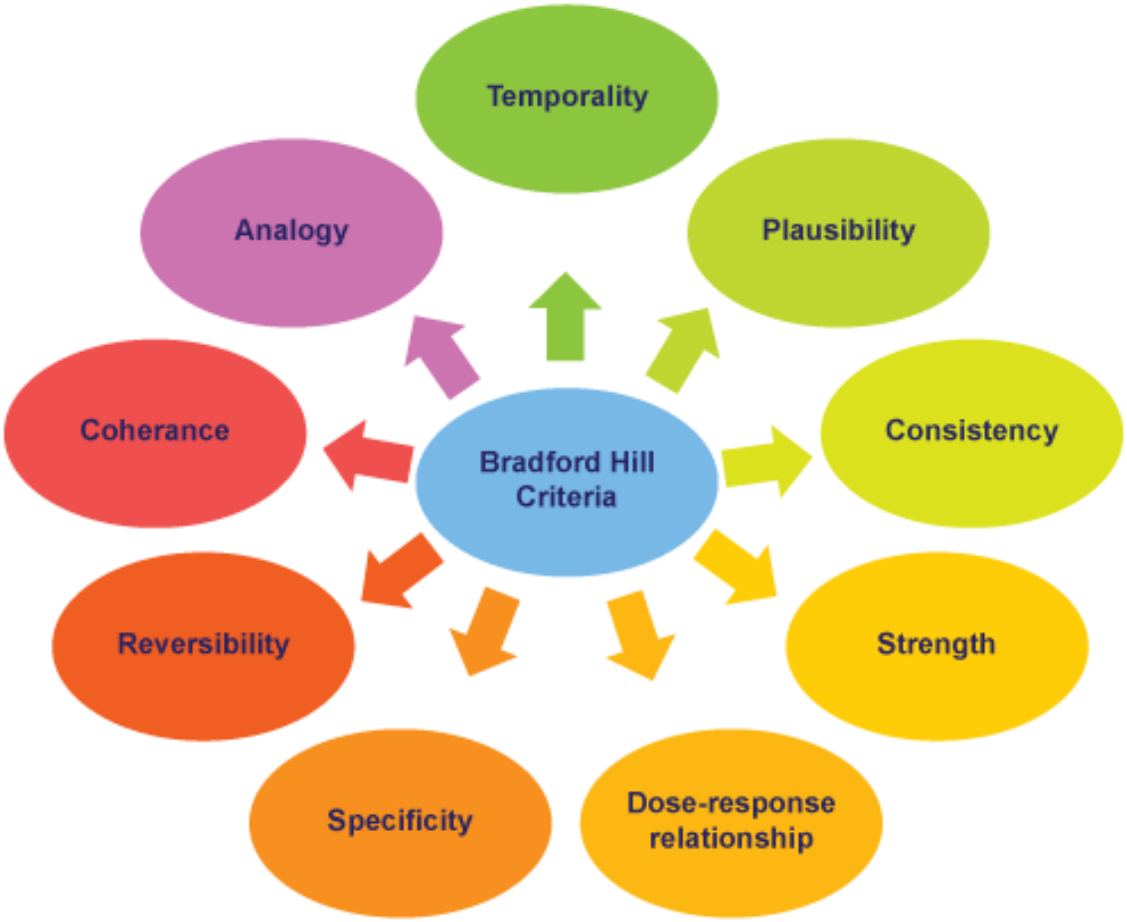
"In what circumstances can we pass from an observed association to a verdict of causation? Upon what basis should we proceed to do so?"

Nine 'aspects of an association' should be considered before deciding that the most likely interpretation is causation


Temporality
Plausibility
Consistency
Strength
Dose-response relationship
Specificity
Reversibility
Coherance
Analogy
Bradford Hill Criteria

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# 1. Strength of association

**Criterion**

- Strong associations less likely caused by chance
- No universal agreement ‘strong’ or ‘weak’ association
  - OR or RR > 2.0 ‘moderately strong’
  - OR or RR > 5.0 ‘strong’

**Diisocyanates**

- No randomized trials or longitudinal cohort studies
- No association in most studies weak association in one report
- One reported: PR of 1.7, (95% C.I. 1.1 – 2.7)

# 2. Consistency

**Criterion**

- Replication of findings
  - in different populations
  - under different circumstances
  - in different times
  - with different study designs

**Diisocyanates**

- Symptoms in case reports were variable
  - Memory (n=6)
  - Headaches (n=8)
  - Irritability (n=4)
  - Depression (n=6)
  - Paraesthesia (n=4)
  - Anosmia (n=1)

# 3. Specificity

**Criterion**

- Specific exposure associated with one disease
- Effect has one cause, not multiple causes
- CAVE
  - Many exposures are linked to multiple diseases
  - Many diseases have multiple causes

**Diisocyanates**

- None of symptoms or findings is specific
  - Anxiety: common in respiratory distressed patients
  - Memory loss and depression: associated with a wide variety of causes

# 4. Temporality

**Criterion**

- Exposure precedes disease
  - Latency and incubation period
- Levels of evidence
  - Randomized control trial (strong)
  - Cohort studies (moderate)
  - Case-control studies (moderate)
  - Cross-sectional studies (weak)

**Diisocyanates**

- Onset of symptoms preceded exposure to diisocyanates
- Cave: baseline comparison and exposure data are lacking in most cases

# 5. Biologic gradient

**Criterion**

- Dose-response or exposure-response curve with an expected shape
- Changes in exposure are related to trend in risk of disease

**Diisocyanates**

- There is no clear dose response demonstrated
- Biological gradient remains undefined but potentially exists.

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# 6. Plausibility

**Criterion**

- Proposed mechanism should be biologically plausible
- Reference to a “coherent” body of knowledge

**Diisocyanates**

- No mechanisms of toxicity described or proposed
- Biological plausibility remains undefined

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# 7. Coherence

**Criterion**

- Cause-effect interpretation for an association does not conflict with
  - Natural history
  - Biology of disease

**Diisocyanates**

- No early objective effects or other abnormalities
- No specific physiological or biological testing specific to diisocyanates
- Mostly subjective effects

# 8. Experiment

**Criterion**

- Cessation of exposure
- Cave
  - If the pathogenic process has started, removal of cause does not reduce disease risk
  - Reduction in disease frequency might not be for etiologic reason hypothesized

**Diisocyanates**

- Reversible?
- Animal studies have not demonstrated neurotoxicity from diisocyanate exposure

# 9. Analogy

**Criterion**

- Similar exposures can cause similar effects

**Diisocyanates**

- Diisocyanates are a group of low-molecular weight aromatic and aliphatic compounds
- No reports of similar compounds or agents that result in neurotoxicity

# Conclusion

| Hill's Criterion | Evidence Summary | Probability (%) of criterion being true | Product of discriminant function$^{\pm}$ and probability, (C1) | Product of discriminant function$^{\pm}$ and probability, (C2A) |
|---|---|---|---|---|
| Constant | | | − 14.7799 | − 10.0835 |
| 1. Strength | One study (Nijem) presented relative risk ratio of 1.7* | 60 | 3.7338 (0.06223 × 60) | 1.1538 (0.01923 × 60) |
| 2. Consistency | Studies varied in symptoms and findings** | 50 | 2.0305 (0.04061 × 50) | 0.9015 (0.01803 × 50) |
| 3. Specificity | No findings specific to diisocyanates | 40 | − 1.1148 (− 0.02787 × 0) | − 1.5508 (− 0.03877 × 0) |
| 4. Temporality | All case reports preceded by diisocyanates exposure | 100 | 7.657 (0.07657 × 100) | 8.281 (0.08281 × 100) |
| 5. Biologic gradient | Dose-response data lacking** | 50 | − 1.764 (− 0.03528 × 50) | − 1.767 (− 0.03534 × 50) |
| 6. Plausibility | No mechanism of toxicity found | 0 | 0.00 (0.23025 × 0) | 0.00 (0.21689 × 0) |
| 7. Coherence | No early objective effects or other abnormalities were measured as a result of exposures | 0 | 0.00 (0.009621 × 0) | 0.00 (− 0.00334 × 0) |
| 8. Experimental evidence | Animal studies have not demonstrated neurotoxicity from diisocyanate exposure | 0 | 0.00 (0.00843 × 0) | 0.00 (− 0.00659 × 0) |
| 9. Analogy | Data to similar class of agents lacking** | 50 | − 0.6470 (− 0.01294 × 50) | − 0.5055 (− 0.01011 × 50) |
| Probability of causality | | Sum $e^{C1}/(e^{C1}+e^{C2A})$ 21.2% | C1 = − 4.8844 | C2A = − 3.5705 |

Hughes MA, Carson M, Collins MA, Jolly AT, Molenaar DM, Steffens W, Swaen GM. Does diisocyanate exposure result in neurotoxicity? Clin Toxicol (Phila). 2014 Apr;52(4):242-57.

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# Conclusion

ELSEVIER

Journal of Clinical Epidemiology

Volume 62, Issue 3, March 2009, Pages 270–277


Original Article

## A weight of evidence approach to causal inference

Gerard Swaen[a], , , Ludovic van Amelsvoort[b]

Show more

http://dx.doi.org.kuleuven.ezproxy.kuleuven.be/10.1016/j.jclinepi.2008.06.013



Abstract

# Conclusion

- Diisocyanates: not sufficient evidence
- Solvents: influence on senses (reversible)
- Parkinson or Alzheimer disease?

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# Conclusion

*BMJ Case Reports* 2015; doi:10.1136/bcr-2015-212936

**CASE REPORT**

## Ear and vestibular symptoms in train operators after sudden air pressure changes in trains

**Hugues M A Francois**[1], **Luc Vantrappen**[1], **Vincent Van Rompaey**[2], **Lode Godderis**[3]

+ Author Affiliations

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Dr Hugues M A Francois, hugues.francois@hr-rail.be

**Accepted** 4 December 2015

**Published** 17 December 2015

### Summary

A healthy 31-year-old train operator presented to our occupational health clinic reporting ear aches, headaches, dizziness, unsteadiness and even slight tinnitus. These symptoms first appeared when the patient started operating from a new train cabin. He described a sudden pressure gradient, experienced on some parts of the trajectory, which might have caused these problems. Although the cabins were equipped with a pressure equalising device, this was usually switched off because of the device creating an uncomfortable feeling in the cabin. The literature describes sudden pressure gradients as possible factors for passenger discomfort.

TBV – Tijdschrift voor Bedrijfs- en Verzekeringsgeneeskunde

April 2016, Volume 24, Issue 4, pp 186–189

## Ruik je dat niet? Reukstoornissen door blootstelling in het werk

Authors | Authors and affiliations

Annet Lenderink, Sanne Maleszka, Lode Godderis

Beroepsziekten

**First Online:** 15 April 2016

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doi:10.1007/s12498-016-0072-2



### Samenvatting

Veel mensen ervaren wel eens dat ze minder goed kunnen ruiken, bijvoorbeeld na een verkoudheid. In zo'n periode is ook de smaak minder, maar gelukkig herstellen reuk en smaak zich meestal vanzelf weer, nadat de verkoudheid is verdwenen. Toch kan het reukvermogen door uiteenlopende oorzaken ook langdurig of blijvend worden aangetast en dat heeft grote invloed op het welbevinden en het functioneren van mensen.

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# Overall caveats to “criteria”

*“None of my ... [criteria] can bring undisputable evidence for or against the cause-and-effect hypothesis and none can be required as a sine qua non.”*

*Sir Austin Bradford Hill (1965)*

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# Other algorithms

## A study of agreement between the Naranjo algorithm and WHO-UMC criteria for causality assessment of adverse drug reactions

Mahesh N. Belhekar, Santosh R. Taur, and Renuka P. Munshi

Department of Clinical Pharmacology, Topiwala National Medical College and Bai Yamunabai Laxmanrao Nair Charitable Hospital, Mumbai Central, Mumbai, Maharashtra, India

**Correspondence to:** Dr. Renuka P. Munshi, E-mail: renuka.munshi@gmail.com

Received 2013 Aug 12; Revised 2013 Aug 24; Accepted 2013 Nov 27.

# Annual check-up?

## Should we abandon the periodic health examination?

Micheal Howard-Tripp MBChB CCFP

### YES

In 2009, IMS Health published a statistical snapshot of the top 10 reasons patients in Canada visit family physicians and other specialists.[1] Second only to visits for hypertension was "general medical exam" at 10.5 million visits per year. Assuming fee-for-service remuneration, and considering that on average a routine medical examination (also known as an annual physical or a periodic health examination [PHE]) takes up double the time of a regular appointment, this represents approximately 21.4 million appointments a year at an expense of $2 billion in consultation costs alone. Add to this the expense of all the unnecessary testing, investigations, and recalls, and I would estimate the total cost to be much greater. I believe that the Canadian Medicare system can no longer sustain this resource-intensive, non–evidence-based practice.

#### Outdated

Historically, the annual physical is a generalized head-to-toe examination, accompanied by comprehensive multiphasic investigation and laboratory screening. The roots of the annual physical date back to 1861, with economics being the prime motivating force for its continuance.[2] In the 1970s and 1980s, both the Canadian Task Force on the Periodic Health Examination and the United States Preventive Services Task Force recommended abandoning the comprehensive systemic examination in favour of case-finding maneuvers during regular visits. Scheduling appropriate evidence-based preventive care during regular visits is achievable, particularly with the increasing computerization of practices.

Efforts to streamline complete health assessments[3] and to focus on evidence-based interventions of known efficacy, while improving delivery of some recommended services, have failed to halt annual, non–evidence-based, head-to-toe examinations and multiphasic testing. Essentially, there is no difference between an annual physical and a PHE, except in the terminology. Patients and physicians alike still refer to it as an annual physical, and two-thirds of both physicians and patients still believe that it involves a head-to-toe examination and multiphasic testing.[4,5] I commonly see nonrecommended tests, such as complete blood count, liver function, thyroid-stimulating hormone, vitamin B12, and even international normalized ratio and troponin testing being routinely ordered for healthy individuals.

#### Better use of resources

Of particular importance is that patients who already regularly visit family physicians, and even patients who already have 4 extended chronic-disease visits per year, are also those most likely to schedule dedicated PHEs. There is no convincing evidence that having a dedicated appointment for a PHE, in place of case-finding maneuvers during regular visits, leads to better health outcomes, or that those who undergo this annual ritual are healthier or have decreased morbidity and mortality compared with those who do not. In fact, there is sufficient evidence to show that many of the investigations conducted during the PHE might be harmful and not in the best interests of the patient.[6] Advocating for patients includes not subjecting them to unnecessary medical interventions, and both the *CMA Code of Ethics*[7] and the College of Family Physicians of Canada's 4 principles of family medicine[8] make mention of a responsibility for the judicious use of health care resources.

A disturbing emerging trend is that of practices offering improved access and services for an annual user fee. One of the cornerstones of the "improved care" offered by these practices is a "comprehensive health assessment," which claims to be evidence-based. These assessments can take anywhere from 3 hours to 3 days and include non–evidence-based investigations, such as whole-body computed tomography scanning, and might in fact be more harmful than beneficial.[9]

One of the main arguments in favour of a PHE is that preventive care services are more likely to take place during a dedicated visit.[10] With the computerization of medical practices, it should not be difficult to schedule necessary preventive care at appropriate intervals and during regular visits. A substantial proportion of taxpayers' money is being spent on electronic medical records, and already the public is demanding a return on their investment. In essence, every acute care visit should also include a component of preventive care.

While physicians are spending a substantial amount of their time conducting PHEs, provincial governments are having to rely more on nurse practitioners, pharmacists, and other health professionals to provide acute care to those in need. Emergency departments are filled with patients who would be better served by family physicians, and most of these patients do not receive any preventive care.

Provincial funding agencies need to discontinue paying for dedicated PHEs and redirect those fees to primary care practices that are absorbing new patients, providing patients with medical homes, and using their

## Should we abandon the periodic health examination?

Cleo A. Mavriplis MD CCFP FCFP

### NO

It is often difficult to dedicate time for preventive care in a busy family practice. Patients seem to consult their family doctors more for specific health complaints than for advice on prevention. The periodic health examination (PHE) is a tradition in North America; however, it is not used in most other countries, such as the United Kingdom, where preventive care is still delivered. Do we really need the PHE in Canada?

The PHE can advance 2 critical elements of care for our patients: relationship building and preventive care. A large systematic review of studies on the value of periodic health evaluation found that the PHE was consistently associated with an improved delivery of Papanicolaou tests, cholesterol screening, and fecal occult blood testing.[1] The PHE was also found to decrease patient worry. A third of the studies reviewed were done before 1989, before large-scale dissemination of Canadian and American task force recommendations on preventive care. As the number of evidence-based preventive care recommendations grows, a PHE that offers a planned focus on preventive care might become even more valuable.

#### Time for prevention

Many provincial health care billing systems in Canada currently include a fee for an annual examination, a visit usually double the length of time of the average visit. Having more allotted time allows physicians to deal with their patients' immediate concerns as well as to pursue other issues that might be neglected over the course of a year. Many physicians appreciate a longer visit to obtain a more holistic view of their patients, via discussions about family, work, and social life. These conversations build relationships, give context to medical issues, and provide opportunities to screen for less obvious conditions, such as depression (an evidence-based recommendation). A longer visit also provides time to inquire about exercise and lifestyle issues, as symptom-driven discussions at other visits might preclude this. A regularly scheduled health examination helps build important rapport and understanding, while enabling the delivery of preventive care; for healthy individuals, this is often the only contact they have with their family physicians.

A certain proportion of our patient population is already used to receiving PHEs, and many physicians have been informing patients of the new focus on preventive care. Taking advantage of an established cultural habit, we can piggyback much-needed preventive care onto these visits. Unfortunately, patients in lower socioeconomic groups[2] and some other subsets of patients (eg, new immigrants,[3] men,[4,5] and African-American men[6]) are less likely to attend preventive care visits. Research is needed to ascertain how to reach these populations more effectively and include them in preventive care maneuvers. For those patients who do not welcome regularly scheduled PHEs, physicians should develop flexible approaches and pursue other opportunities for preventive screening and delivery of preventive care when appropriate

Some physicians feel overwhelmed or distracted by the long list of symptoms that patients often bring to the appointment. Learning to reframe the agenda with the patient has helped many learners manage these situations. Additionally, educating the patients in your practice with handouts explaining the PHE's focus on prevention might help raise the profile of that aspect of the visit. Providing questionnaires for patients to fill out in the waiting room can streamline the process. I worked in a clinic where the patients completed a lifestyle questionnaire as well as a short functional inquiry before being seen by the doctor. I found this to be a time-saving measure, as a quick look helped me to identify areas to focus on and general patterns pointing to problems, such as anxiety or mental health concerns.

Although it is true that preventive care can be delivered well without the PHE, or can be carried out by nonphysician members of primary care teams, it is nonetheless a valuable tool. If considering eliminating the PHE, physicians should review what else they have in place to meet the need for preventive care and health promotion. Similarly, physicians should consider what opportunities will be provided to ensure that building relationships and working to put patients' care issues into context are not continually overshadowed by the pressing concerns of that day.

#### Use what works

One size does not fit all. If a longer appointment for preventive services and holistic care does not work well for certain patients or family physicians, they should be free to use a different system. But don't throw out the baby with the bath water—if the PHE works for many patients and physicians, why abandon it? To improve delivery of the PHE, we need to educate patients on the importance of a dedicated visit for preventive maneuvers. We need

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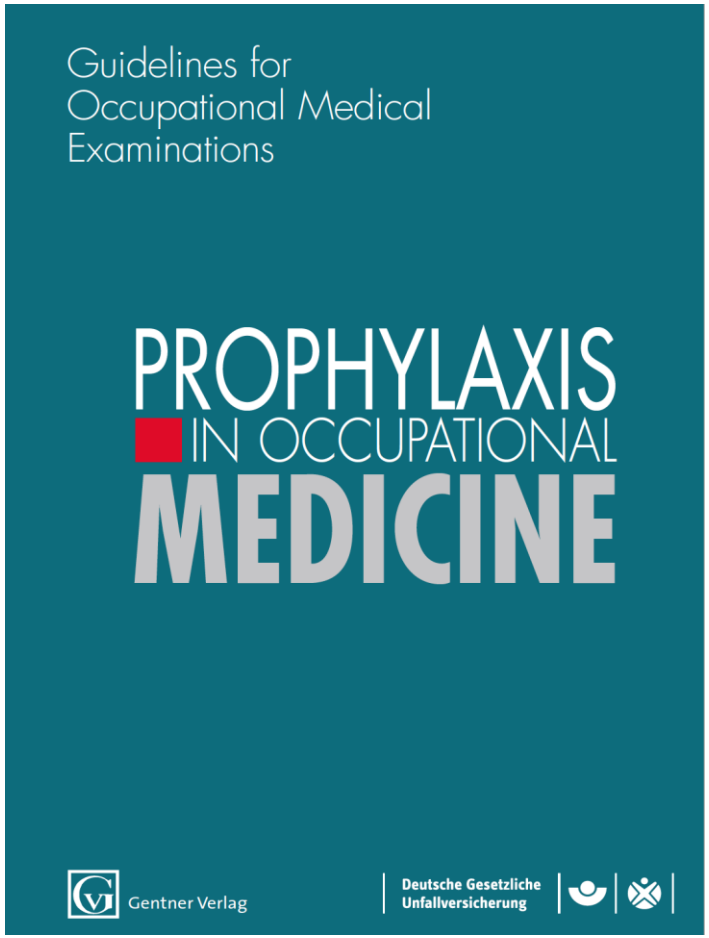
# Guidelines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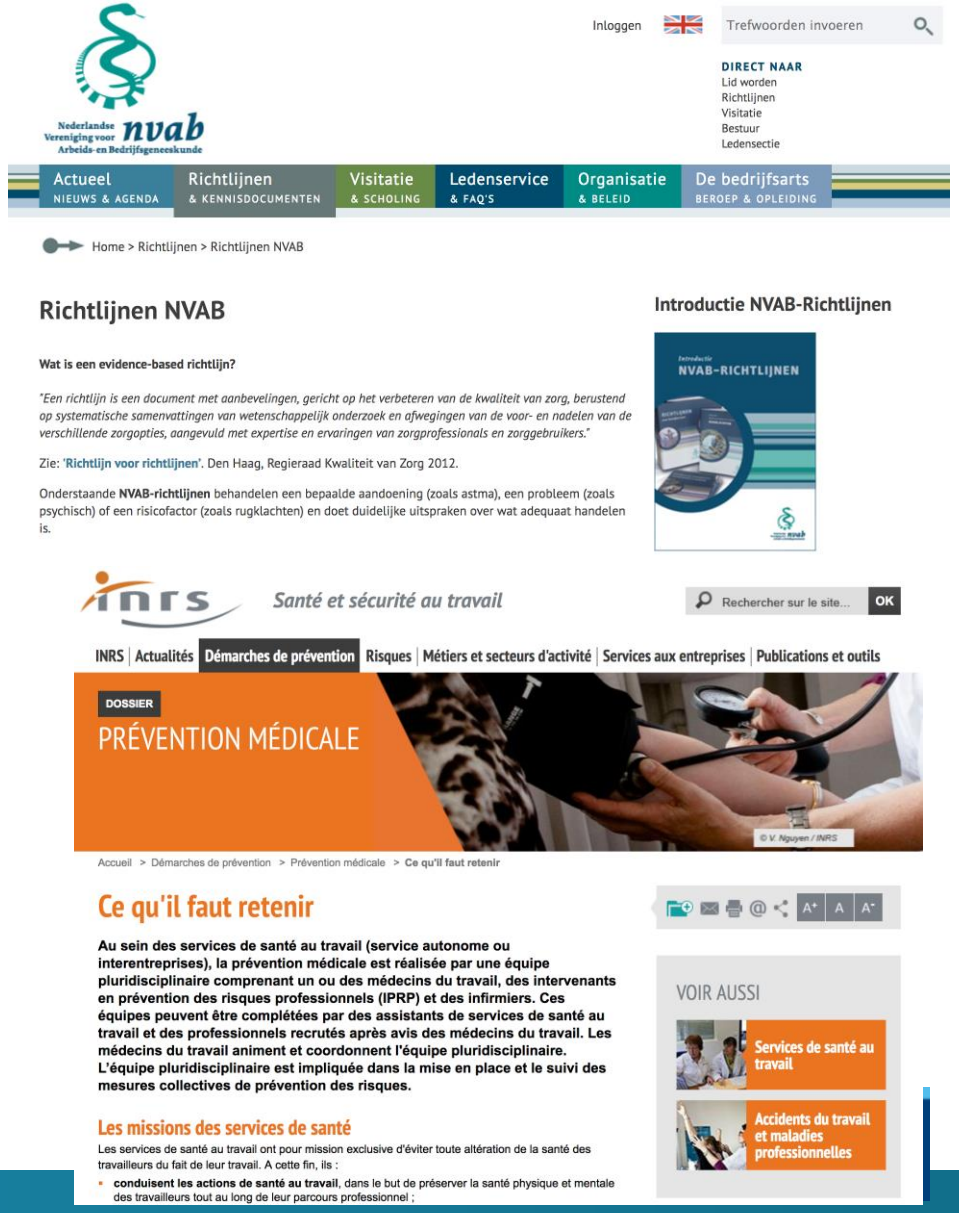
Nederlandse Vereniging voor Arbeids- en Bedrijfsgeneeskunde nvab
Inloggen
Trefwoorden invoeren
DIRECT NAAR
Lid worden
Richtlijnen
Visitatie
Bestuur
Ledensectie
Actueel NIEUWS & AGENDA
Richtlijnen & KENNISDOCUMENTEN
Visitatie & SCHOLING
Ledenservice & FAQ'S
Organisatie & BELEID
De bedrijfsarts BEROEP & OPLEIDING
Home > Richtlijnen > Richtlijnen NVAB
Richtlijnen NVAB
Introductie NVAB-Richtlijnen
NVAB-RICHTLIJNEN
Wat is een evidence-based richtlijn?
"Een richtlijn is een document met aanbevelingen, gericht op het verbeteren van de kwaliteit van zorg, berustend op systematische samenvattingen van wetenschappelijk onderzoek en afwegingen van de voor- en nadelen van de verschillende zorgopties, aangevuld met expertise en ervaringen van zorgprofessionals en zorggebruikers."
Zie: 'Richtlijn voor richtlijnen'. Den Haag, Regieraad Kwaliteit van Zorg 2012.
Onderstaande NVAB-richtlijnen behandelen een bepaalde aandoening (zoals astma), een probleem (zoals psychisch) of een risicofactor (zoals rugklachten) en doet duidelijke uitspraken over wat adequaat handelen is.
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PRÉVENTION MÉDICALE
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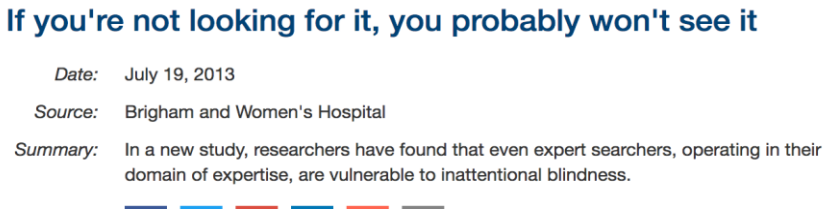
Accueil > Démarches de prévention > Prévention médicale > Ce qu'il faut retenir
Ce qu'il faut retenir
Au sein des services de santé au travail (service autonome ou interentreprises), la prévention médicale est réalisée par une équipe pluridisciplinaire comprenant un ou des médecins du travail, des intervenants en prévention des risques professionnels (IPRP) et des infirmiers. Ces équipes peuvent être complétées par des assistants de services de santé au travail et des professionnels recrutés après avis des médecins du travail. Les médecins du travail animent et coordonnent l'équipe pluridisciplinaire. L'équipe pluridisciplinaire est impliquée dans la mise en place et le suivi des mesures collectives de prévention des risques.
Les missions des services de santé
Les services de santé au travail ont pour mission exclusive d'éviter toute altération de la santé des travailleurs du fait de leur travail. A cette fin, ils :
conduisent les actions de santé au travail, dans le but de préserver la santé physique et mentale des travailleurs tout au long de leur parcours professionnel ;
VOIR AUSSI
Services de santé au travail
Accidents du travail et maladies professionnelles

# Conclusion

- Easy access to OSH for all
- Regular contact
- Periodicity depends on age, work, objective and outcome of surveillance
- Periodicity should not hinder to tackle problems
- Surveillance is an important means in preventing Work related diseases



**If you're not looking for it, you probably won't see it**

*Date:* July 19, 2013

*Source:* Brigham and Women's Hospital

*Summary:* In a new study, researchers have found that even expert searchers, operating in their domain of expertise, are vulnerable to inattentional blindness.

**“Scientists believe in proof without certainty; most people believe in certainty without proof.”**

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