KU LEUVEN

idewe
Externe Dienst voor Preventie
en Bescherming op het Werk vzw

Signalering van beroepsziekten: Beter vroeg dan laat en beter laat dan nooit

Lode Godderis (Md, Phd)[1,2]

[1] KULeuven, Center Environment and Health, Leuven
[2] Idewe, External Service for Prevention and Protection at Work, Heverlee

Disclosure

- KULeuven, Center Environment and Health, Leuven
- Idewe, External Service for Prevention and Protection at Work, Heverlee

- Mysignal.be is financed by Fedris, Brussels
- Sentinel and alert systems is financed by EU-OSHA, Bilbao
- Economic evaluation of OHS is financed by BBVAG, Brussels

KU LEUVEN

From old and novel exposures to effective preventive strategies

- Occupational diseases ↓
  - Exposure ↓ and TLV ↓
  - Introduction → **case report** → research → policy

- Work and conditions change →
  - New hazards & risks
  - Research on « known »WRD

Cullinan P et al. Lancet Respir Med. 2017

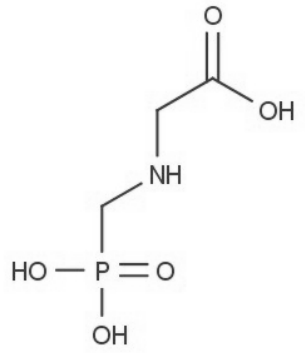
KU LEUVEN

Substance identity

EC / List no.: 213-997-4

CAS no.: 1071-83-6

Mol. formula: C3H8NO5P



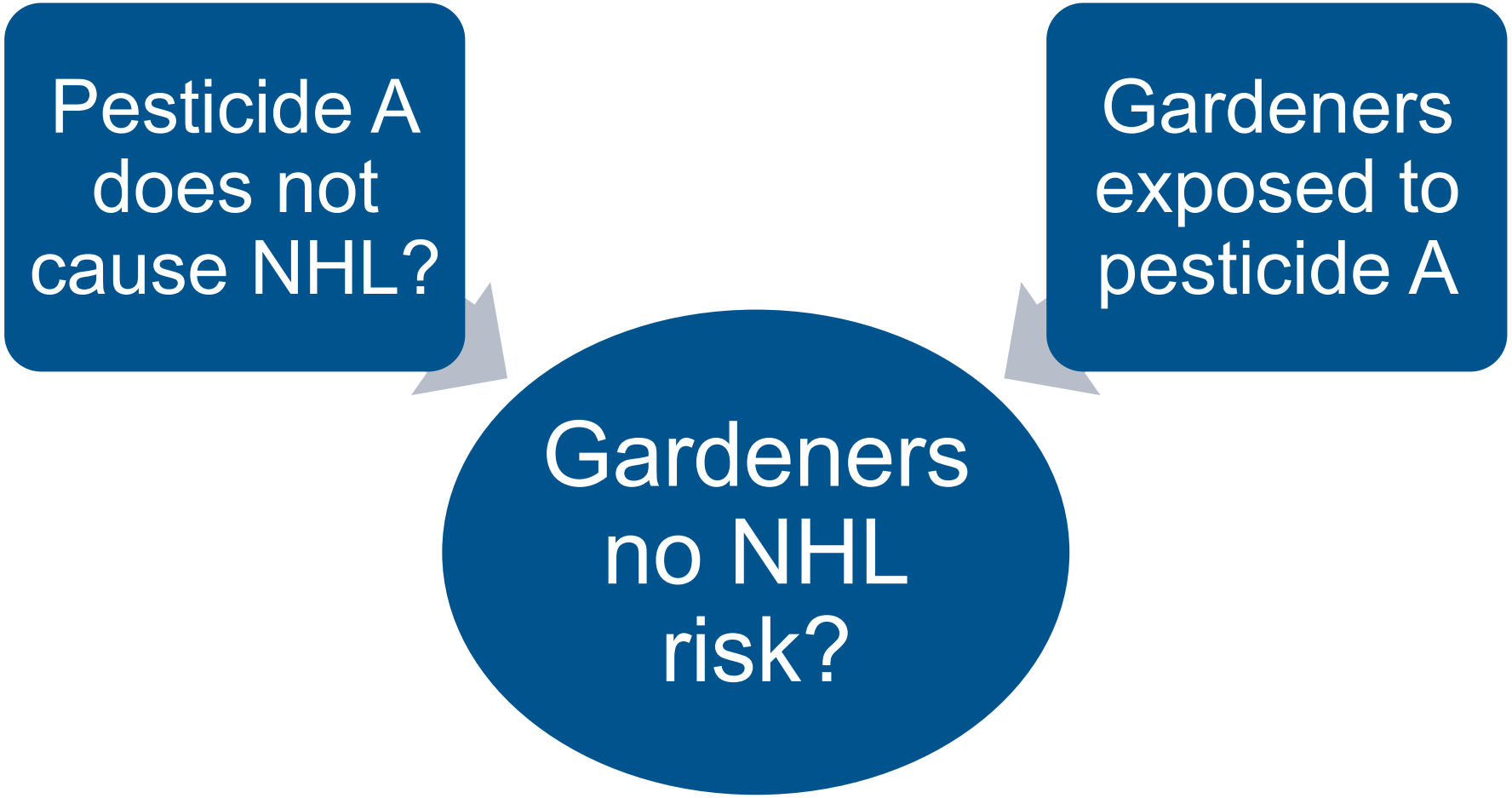
Hazard classification & labelling

Danger! According to the **harmonised classification and labelling** (CLP00) approved by the European Union, this substance is toxic to aquatic life with long lasting effects and causes serious eye damage.

The InfoCard summarises the non-confidential data on substances as held in the databases of the European Chemicals Agency (ECHA), including data provided by third parties. The InfoCard is automatically generated. Information requirements under different legislative frameworks may therefore not be up–to–date or complete. Substance manufacturers and importers are responsible for consulting official publications. This InfoCard is covered by the ECHA Legal Disclaimer.

ECHA

KU LEUVEN


Pesticide A does not cause NHL?
Gardeners exposed to pesticide A
Gardeners no NHL risk?

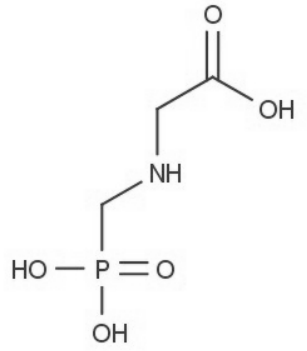
Glyphosate

Substance identity

EC / List no.: 213-997-4

CAS no.: 1071-83-6

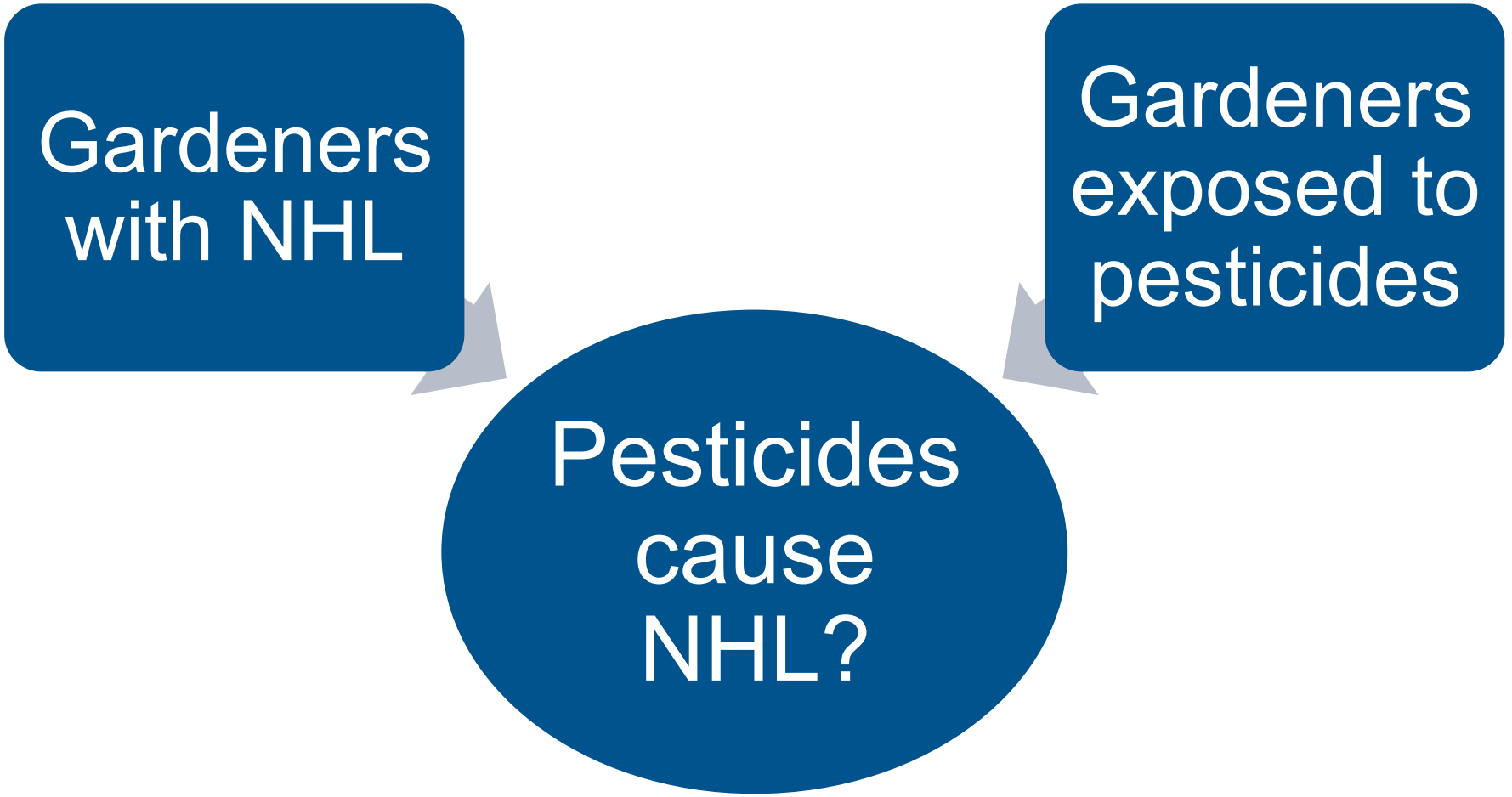
Mol. formula: C3H8NO5P



Hazard classification & labelling

Danger! According to the **harmonised classification and labelling** (CLP00) approved by the European Union, this substance is toxic to aquatic life with long lasting effects and causes serious eye damage.

The InfoCard summarises the non-confidential data on substances as held in the databases of the European Chemicals Agency (ECHA), including data provided by third parties. The InfoCard is automatically generated. Information requirements under different legislative frameworks may therefore not be up–to–date or complete. Substance manufacturers and importers are responsible for consulting official publications. This InfoCard is covered by the ECHA


Gardeners with NHL
Gardeners exposed to pesticides
Pesticides cause NHL?

DEDUCTION vs INDUCTION

Theory
↓
Hypothesis
↓
Observation
↓
Confirmation

Theory
↑
Hypothesis
↑
Pattern
↑
Observation

ARISTOTLE

SHERLOCK

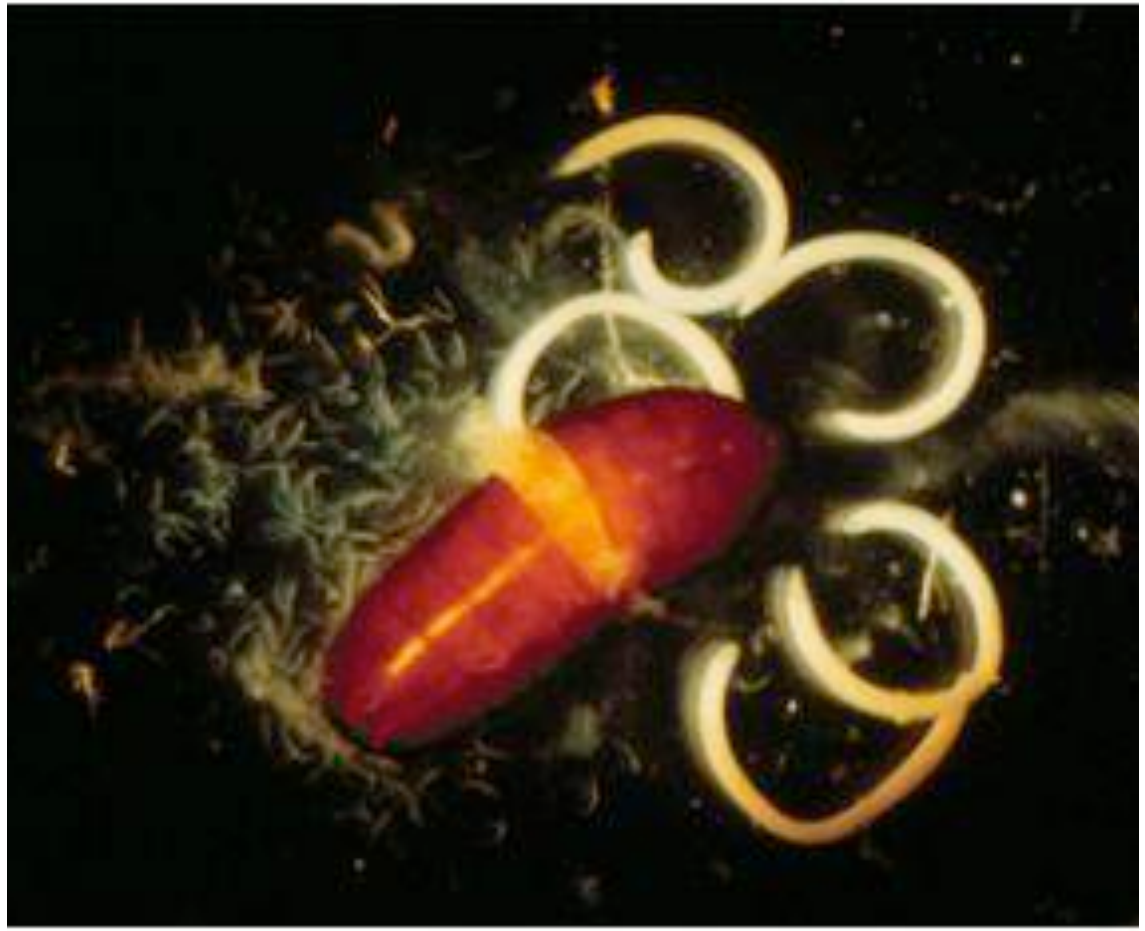
KU LEUVEN

OSH vigilance

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

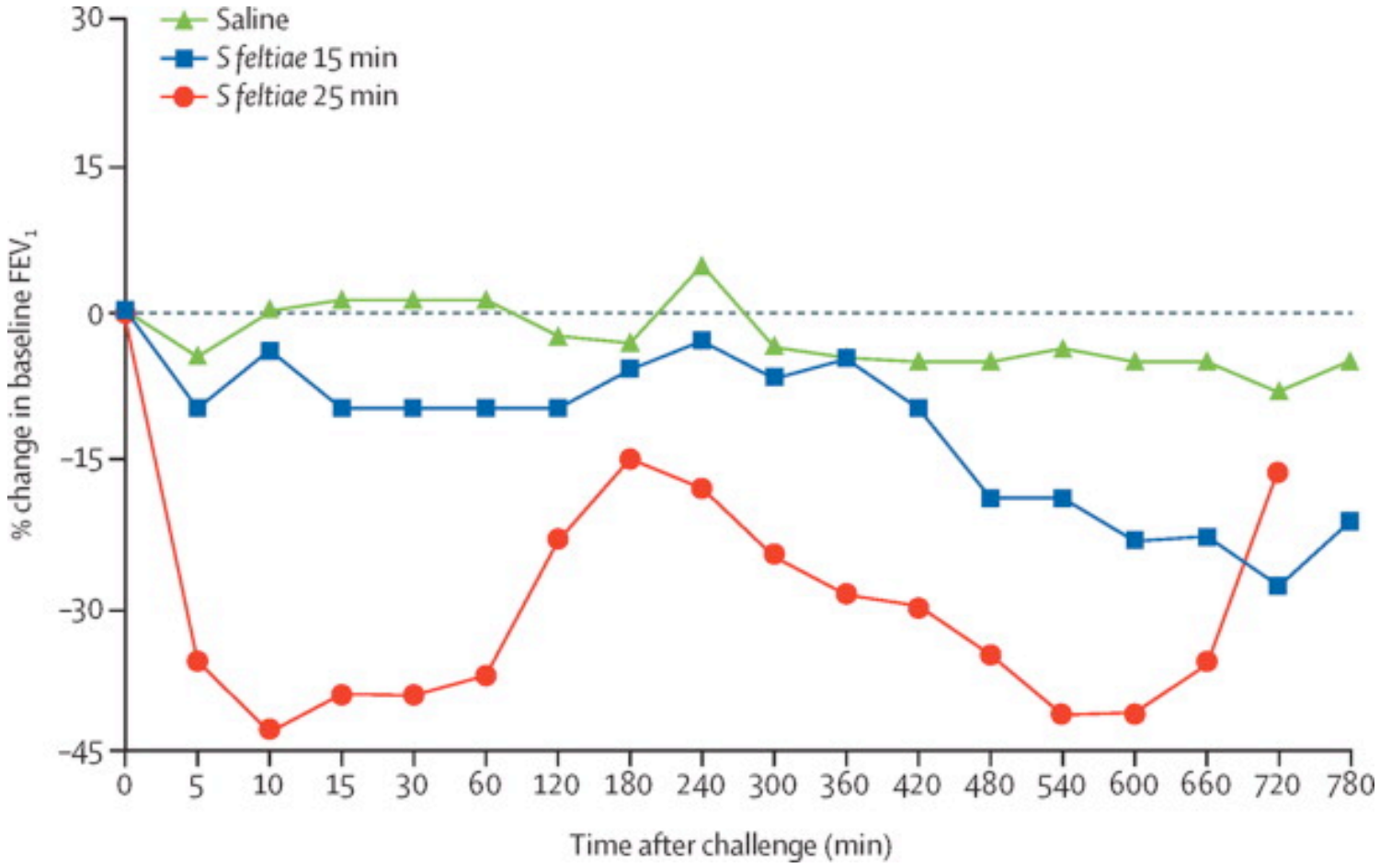
KU LEUVEN

Steinernema feltiae



KU LEUVEN

Feary J, et al. Lancet Respir Med. 2015

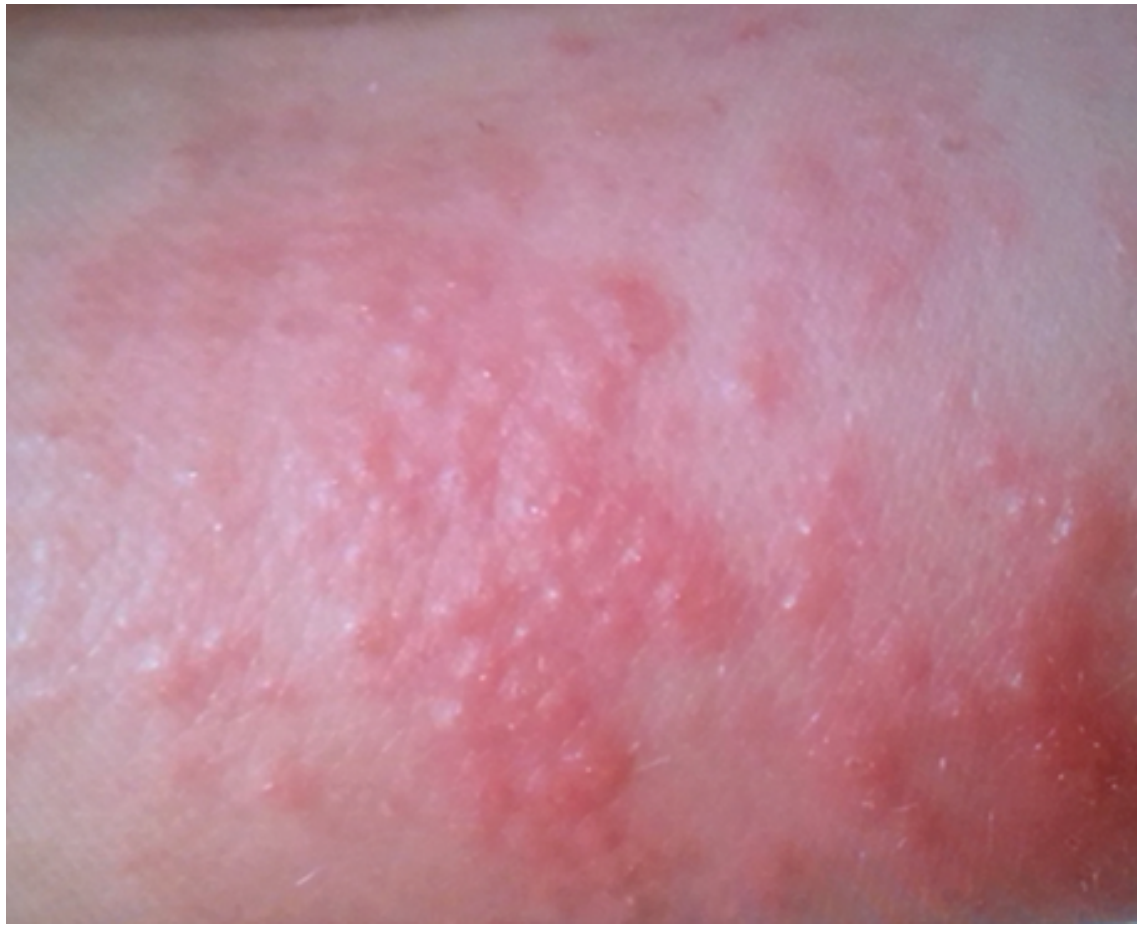


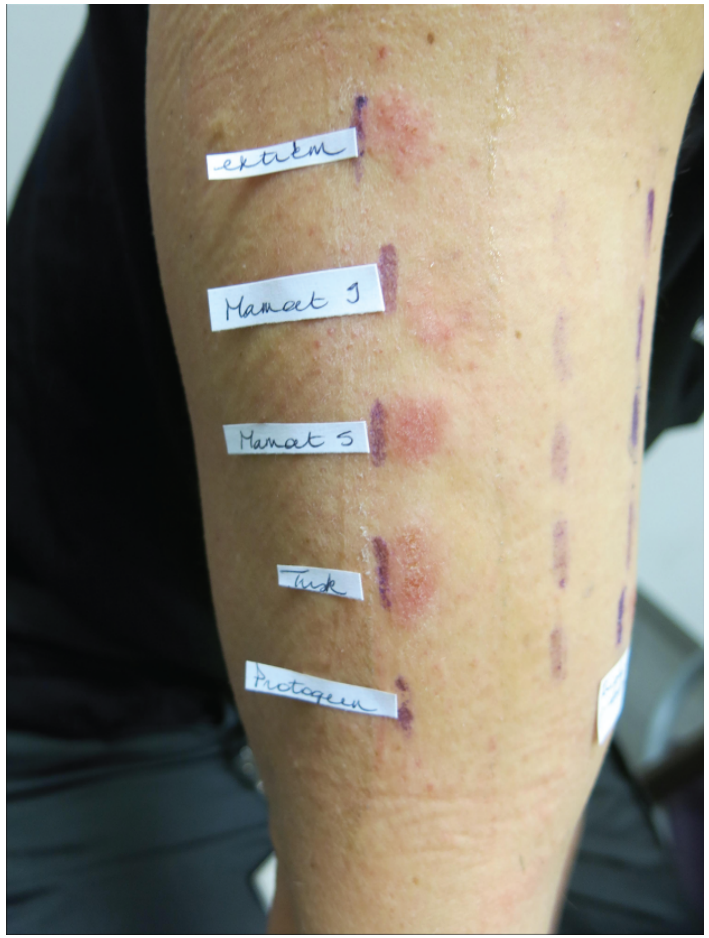
KU LEUVEN

Feary J, et al. Lancet Respir Med. 2015

Compensation-based systems

Erythematous papules





Creytens, K. et al. Contact Dermatitis, 2017

KU LEUVEN

Patch test results after 2 and 6 days

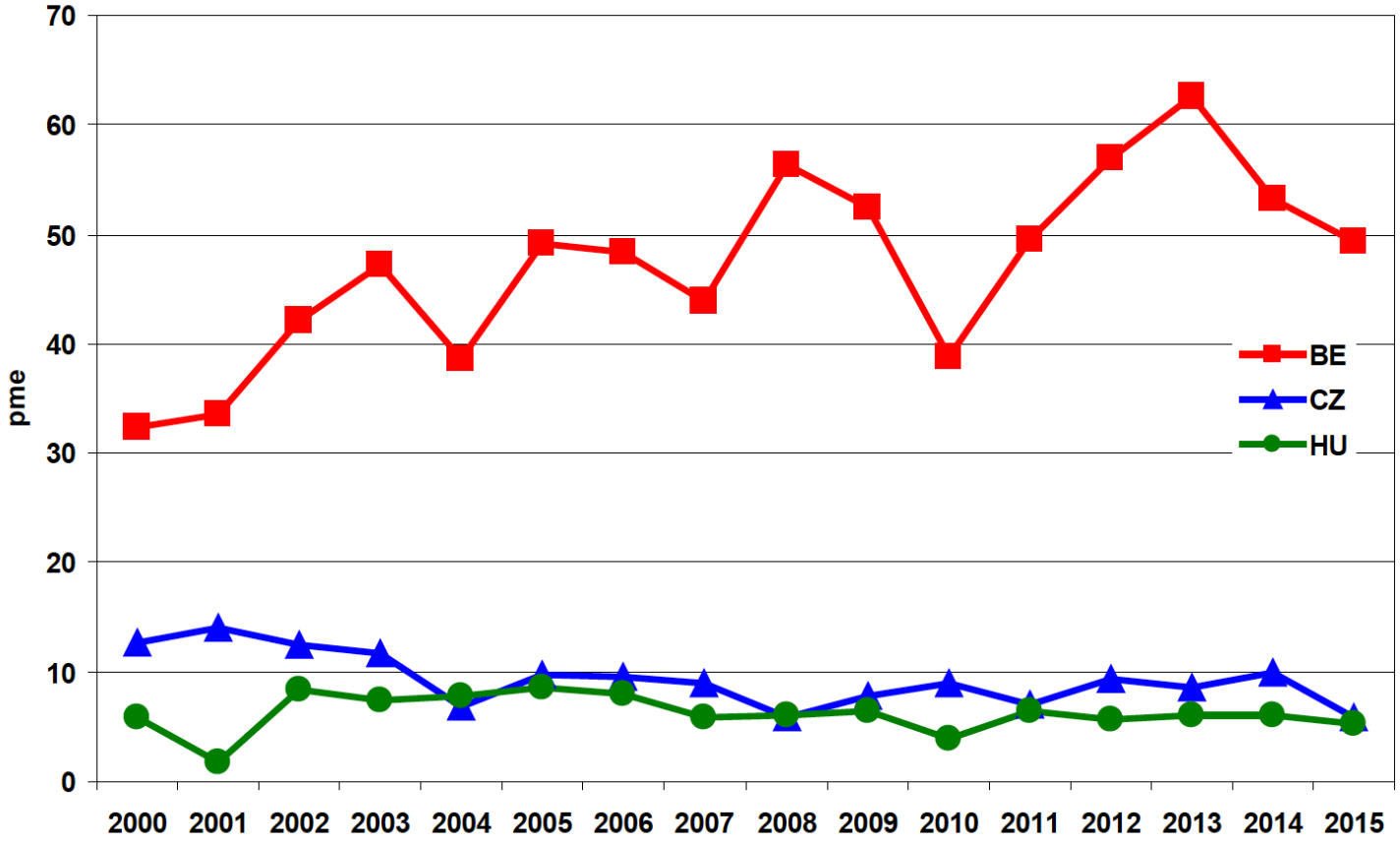
	Patient 1		Patient 2	
	D2	D6	D2	D6
Resins				
Epoxy resin bisphenol A 1%	–	+	+	+
Epoxy resin bisphenol F 0.25%	–	–	+	+
Resins 'as is', semi-open	–	++	NT	NT
Aromatic urethane diacrylate 0.05%	+	+	–	–
Diluents				
Triglycidyl-*p*-aminophenol 0.5%	++	++	+	+
2-Phenyl glycidyl ether 0.25%	–	–	+?	+
1,6-Hexanediol diglycidyl ether 0.25%	–	–	+	++
1,4-Butanediol diglycidyl ether 0.25%	–	–	+	++
Hardener				
4,4'-Diaminodiphenylmethane 0.5%	–	–	–	+

NT, not tested.

KU LEUVEN

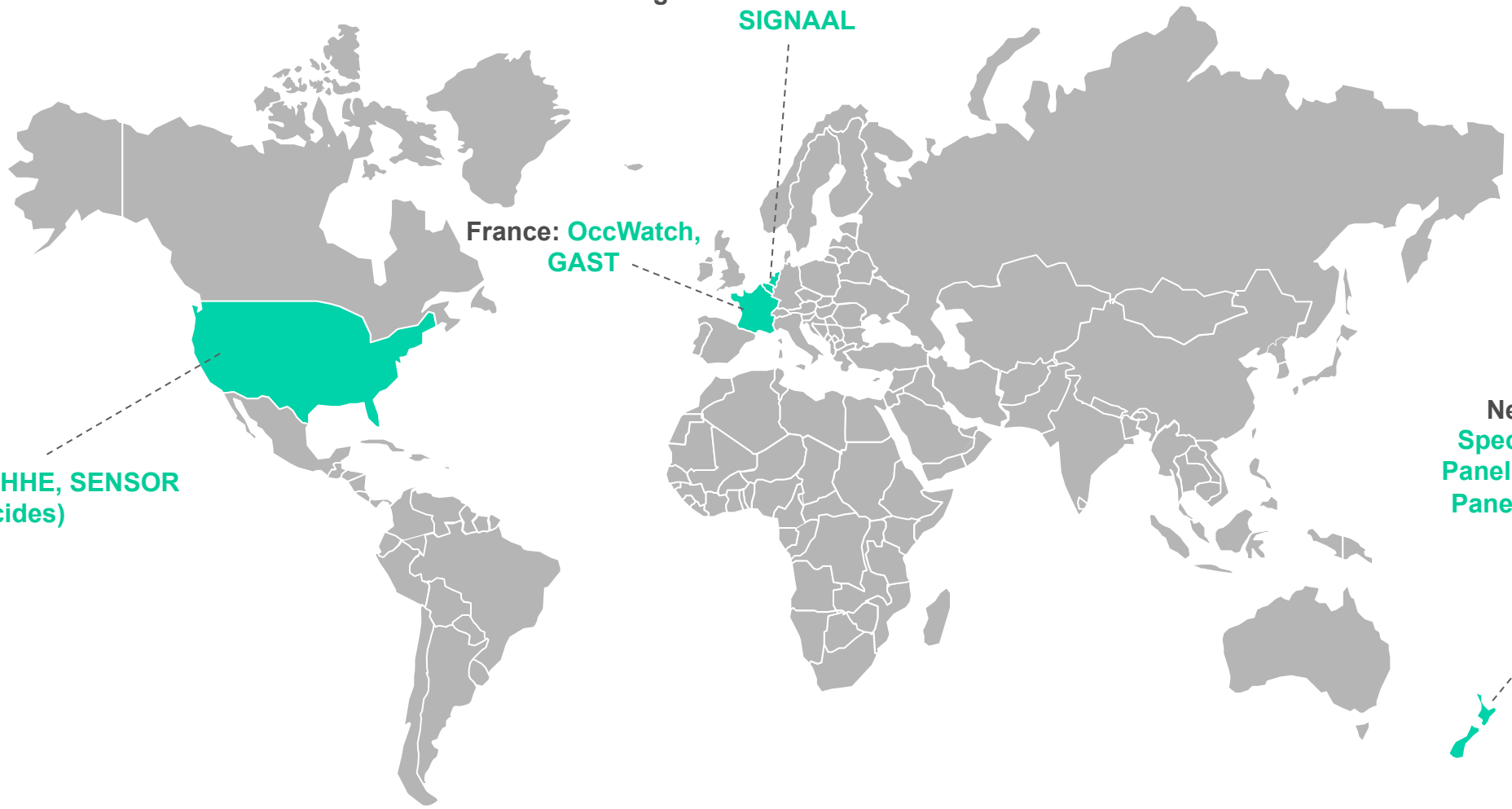
Creytens, K. et al. Contact Dermatitis, 2017

Occupational malignancies 2000-2015



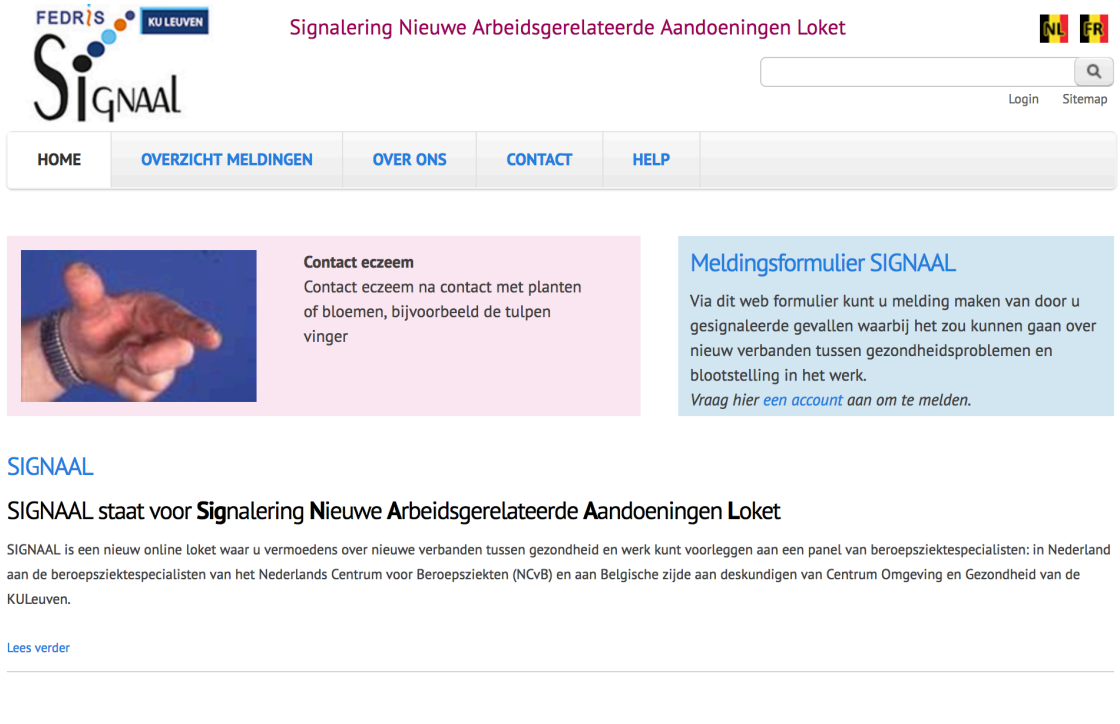
Kudàsz et al. Cejoem. 2017

Sentinel systems

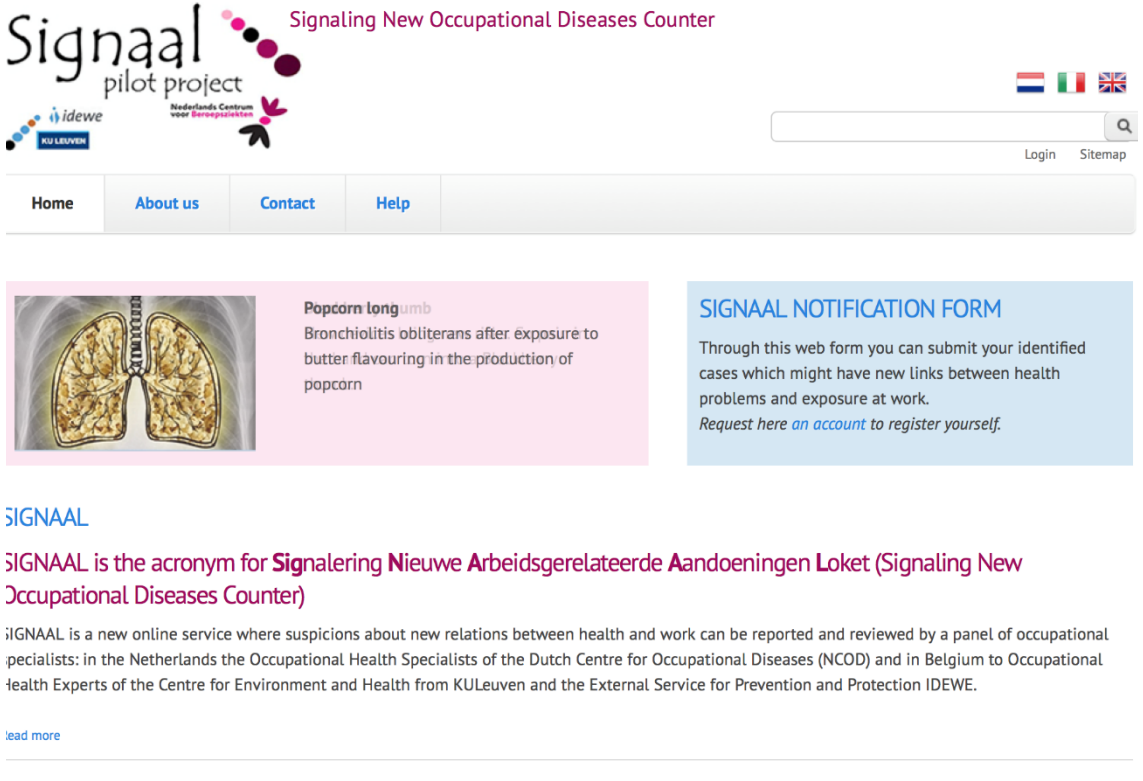


Sentinel systems

Mysignal.be



Signal.info



KU LEUVEN

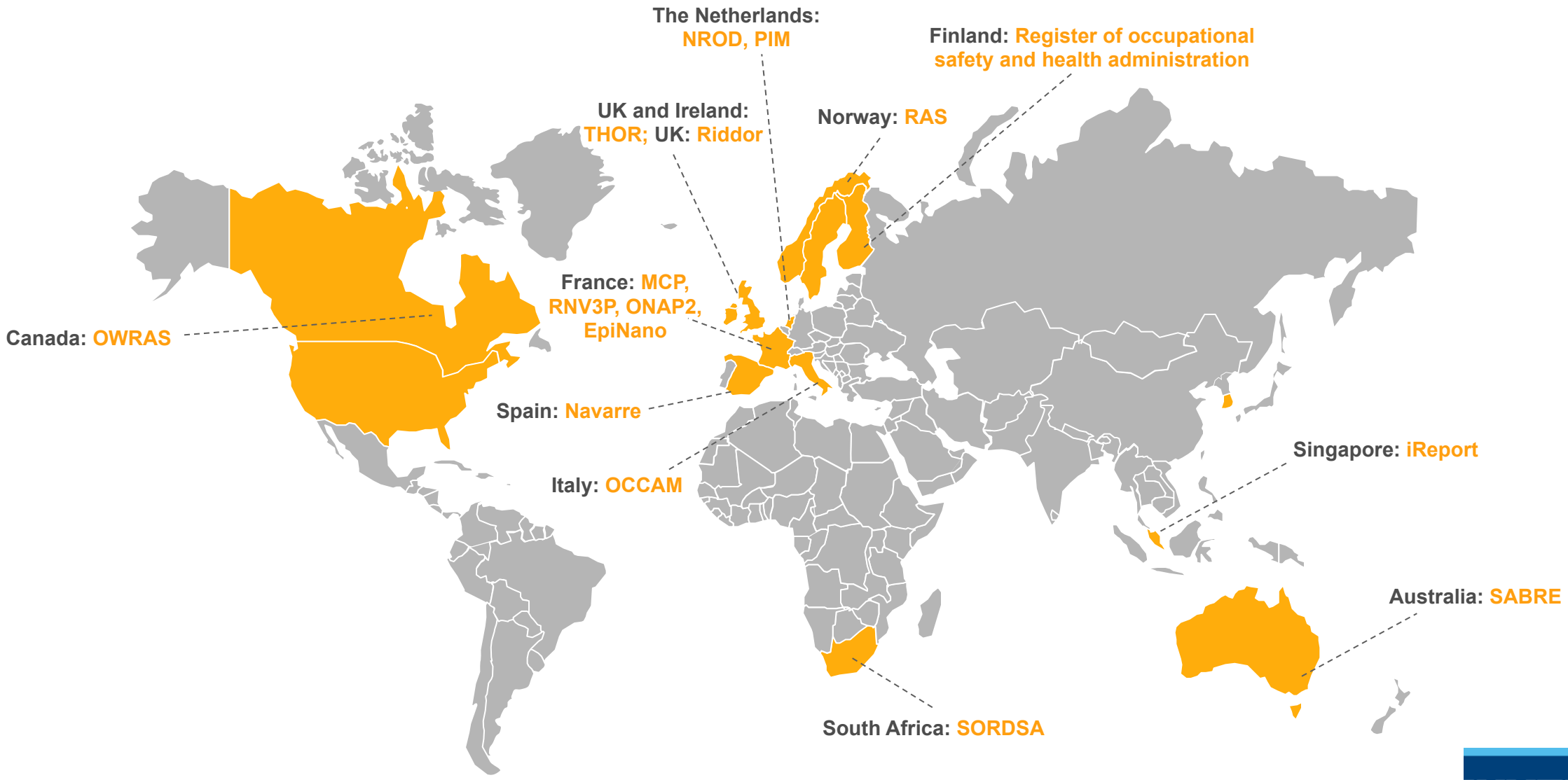
- Man, 49 years old
- Diagnosis: **Bilateral cataract**
  (set up by an ophthalmologist)
- No similar complaints reported by other workers

KU LEUVEN

- **Occupation and work:** Process operator in a chemical company specialized in fine-tuning fuel and oxygen supply of cracking furnaces with a view to reducing CO2 emissions.

- **Specific exposure:** Exposure to **infrared radiation** (flames 760 nm en 50µm)

Comprehensive systems



KU LEUVEN

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.

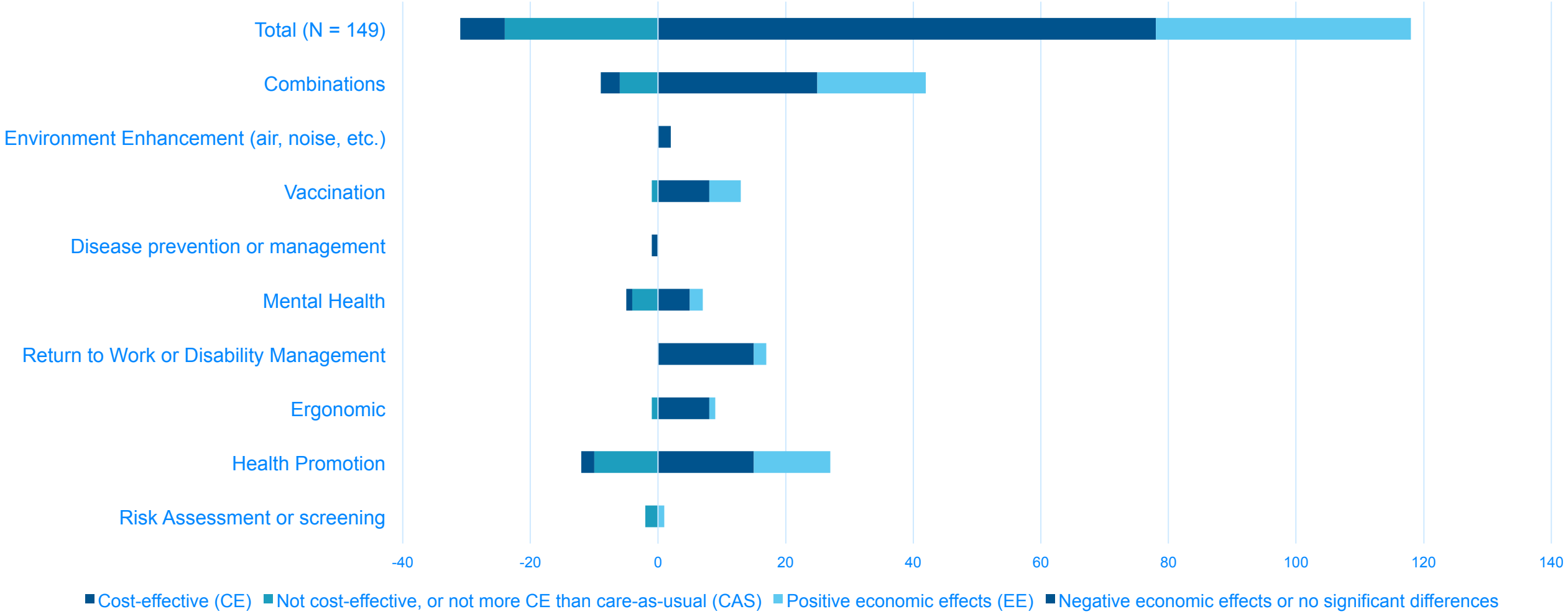
Although it is true that preventive care can be delivered well without the PHE, or can be carried out by nonphysician members of primary care teams, it is nonetheless a valuable tool. If considering eliminating the PHE, physicians should review what else they have in place to meet the need for preventive 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

KU LEUVEN

Cost-effectiveness and economic effects of OH



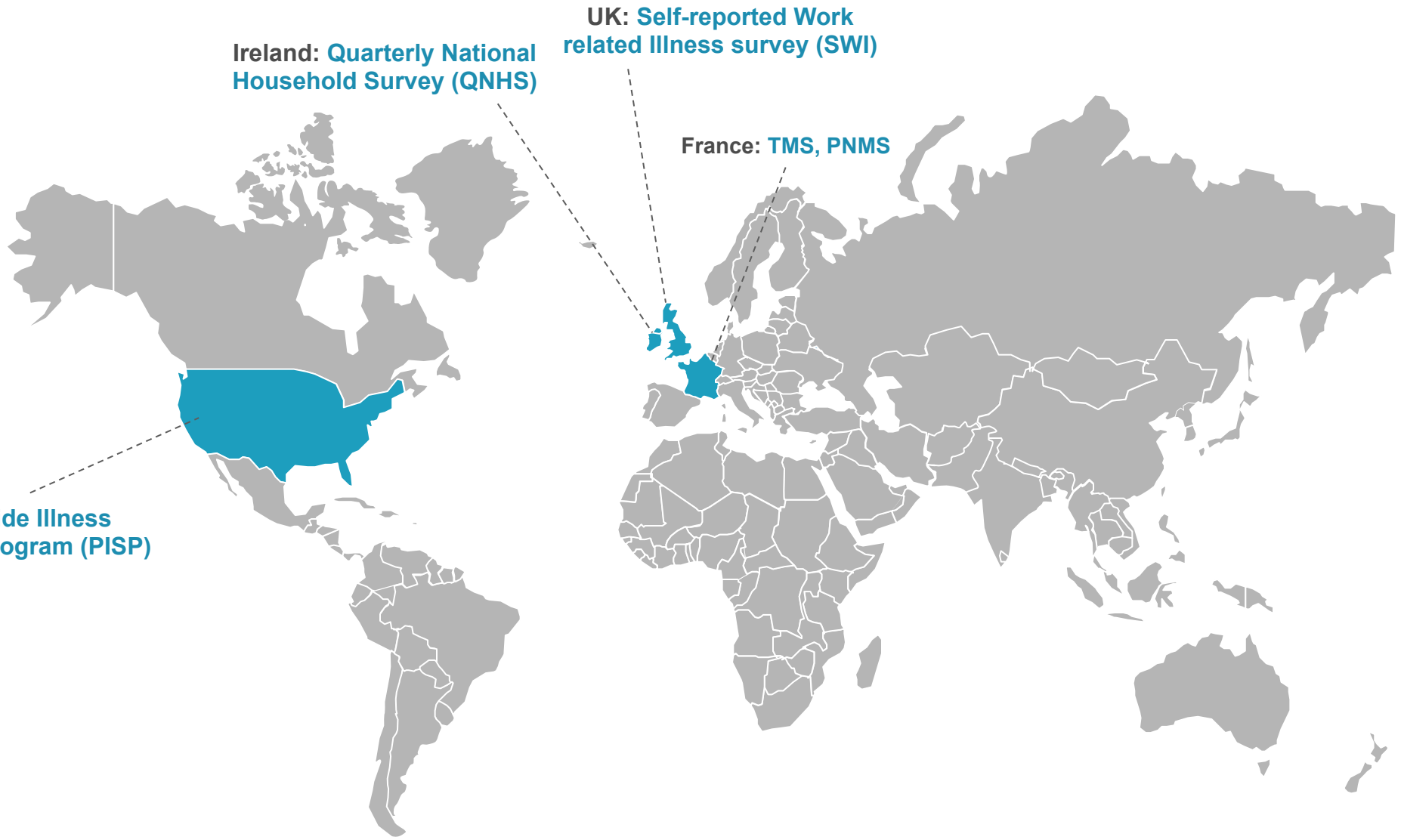
KU LEUVEN

Peilpraktijk: PROBE

Hazardous chemical
Products **R**egister for
Occupational use in **Be**lgium

KU LEUVEN

Public health systems



SENSOR Pesticides

Reporting sources

- State Department of Agriculture
- Poison Control Centers
- Workers' Compensation System

KU LEUVEN

SENSOR Pesticides

- **2001** to **2005** health risks related to **pyrethrins** and **pyrethroids**
- Several poisonings, of which ¼ **work-related cases**
- Clinical signs and symptoms revealed several **respiratory health effects**

KU LEUVEN

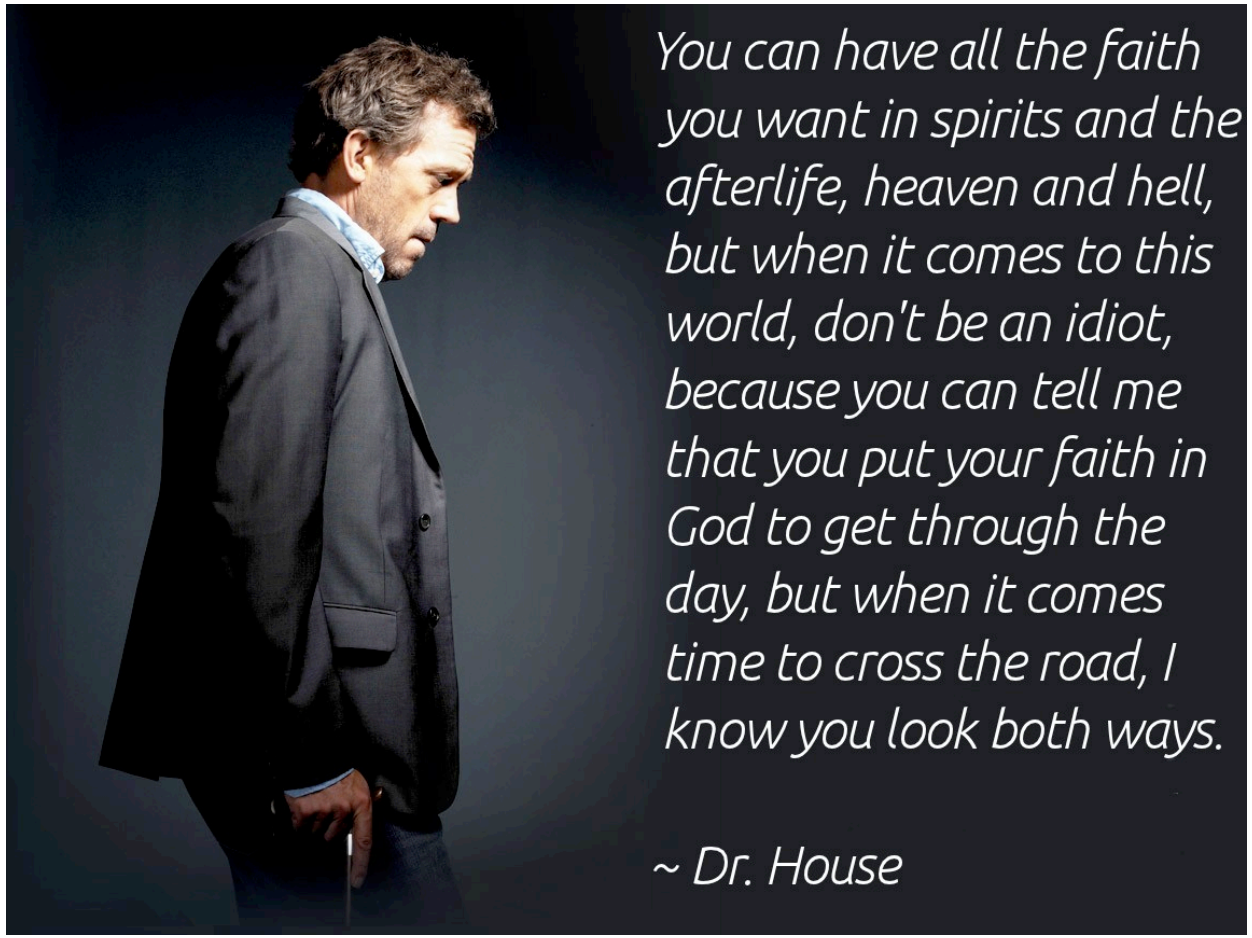
SENSOR Pesticides

EPA:
(1) Change product labels for unrestricted pesticides
(2) require commercial applicators to initiate mechanical ventilation for indoor applications of pyrethroid products;
(3) define optimal mechanical ventilation.

State agencies or health departments:
(1) Continue to monitor the health effects of indoor use of pyrethrins and/or pyrethroids;
(2) develop outreach to organizations that educate asthma and allergy patients on potential risks of these pesticides;
(3) educate applicators and consumers about the importance of reading pesticide product labels and directions.

Emergency response workers:
(1) Evaluate protective equipment and response protocols
(2) know how to locate information on chemical hazards.

Health-care providers:
(1) Be aware that these chemicals are respiratory irritants with potential to cause asthmatic reactions;
(2) be aware that cases of pesticide exposure or poisoning are reportable conditions to public health authorities;
(3) obtain an adequate history of any exposures that could cause or exacerbate disease.


You can have all the faith you want in spirits and the afterlife, heaven and hell, but when it comes to this world, don't be an idiot, because you can tell me that you put your faith in God to get through the day, but when it comes time to cross the road, I know you look both ways.
~ Dr. House