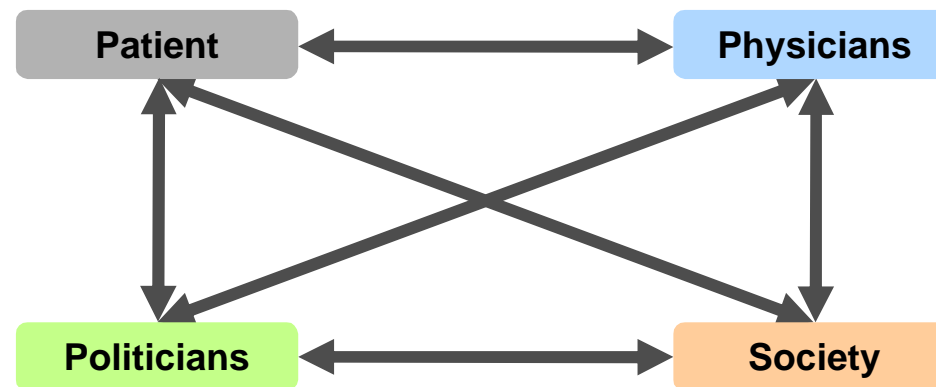


Ingrid Scherrmann

**Pollution-Induced Diseases (PID)
Challenges for
Patients, Health Professionals, Politicians und the Society**



Original in German

Potential Pollutants

Chemicals

Ca. 70 000 so called every day chemicals

Radiation

electromagnetic, radioactive (from x-ray, Fallout), UV

Natural Toxins

Radon, mushrooms, mould, plant-derived, heavy metals

Noise

Medication (Human- und animal medicine)

In: soil, (drinking) -water, food; ⇒ side effects, drug interactions

Agro-Gene-, Nano- technology

 Today, human being are exposed to an increasing number and diversity of factors harmful to its health

Information about health injuries caused by environmental factors

Within a period of 4 month - 29 notifications were reported in online newspapers (1.1.-31-4)

- soot particles/fine dust jeopardize heart and lung -Traffic emissions lead to DNA damage
- Traffic emissions increase activity of free radicals
- 69% of the rooms in Germany are thick - Gene-Rap damages bees and butterflies
- Every day about 4 000 children die worldwide due to contaminated water
- heavy metals derived from ceramic glaze -hazardous to health
- Experts see children at health risk due to electromagnetic radiation from mobile phones
- Contaminated by PCB: Toxin-load in fish from Baltic sea - Overstress: 300 000 student with headache–
- Prions now found in liver, kidney and pancreas
- Cognitive impairment in elderly by cumulative load with lead
- Air Pollution damage fetuses - There exists a relation between residential environment and health
- Does Mobile phone radiation damage sperms? – Passive smoking: Bigger threat than though
- Contaminated pork: Antibiotics in escalope; Food : Pollutions from foils and caps
- Polyneuropathy or Encephalopathy induced by organic solvents
- PCB und Fungicide increase risk for Morbus Parkinson
- Plasticizer are a serious issue: Phthalate induce health risk
- Smoking increases rheumatism – More people die due to fine dust than by a car accident
- Mobile radio und Tinnitus – Toxin-record in Strawberries – Every 2nd child in Germany lives in smoke –
- Air pollution impacts disease of plants – Pregnant women who smoke damage their fetus chromosome
- Smoking mothers increase cancer risk of their fetus



It is known already more than 100 years that various pollutants are health hazardous

There is Strong Evidence

- ▶ that hazardous pollutants are significantly involved in the genesis of most of the ‘common diseases’**
- ▶ that its incidence is increasing**

- E.g. :**
- Allergies, Alzheimer’s Disease, Asthma, COPD**
- Attention Deficiency Syndrome (ADHS)**
- Dementia, Depression, Diabetes**
- Birth Defects, Gene Defects, Vascular Damages**
- Cardiovascular Disease**
- Intolerance**
- Cancer**
- Liver and Kidney Damage**
- Drug intolerance, Multiple Chemical Sensitivity (MCS)**
- Neurodermitis**
- Parkinson’s Disease (PD)**
- Infertility**
- Vasculitis**

Lacking Perception and thus, Reaction

Health professionals, politicians and the society completely ignore the abundant knowledge which exists about the strong correlation between pollutants and health

**“I see nothing, I hear nothing and I say nothing” and also
“I smell nothing – I feel nothing“**



The Doctors: Perception and Reaction

Germany has about 380 000 Physicians Thereof, only about 500 are to some extent knowledgeable about the relation of pollutant and health, which means that 379500 do not realize anything

Typically doctors are either very reluctant or unable to answer questions from patients who ask for information about the potential role of pollutants as causal factors. Their reaction:

Silence, playing down with phrases like:

“Here I have to maintain a low profile.”

“I will refer you to a psychiatrist first, then we'll see.”

In the daily routine in clinics or medical practices PID never come up which means the existing knowledge is



not realized



not communicated



not applied

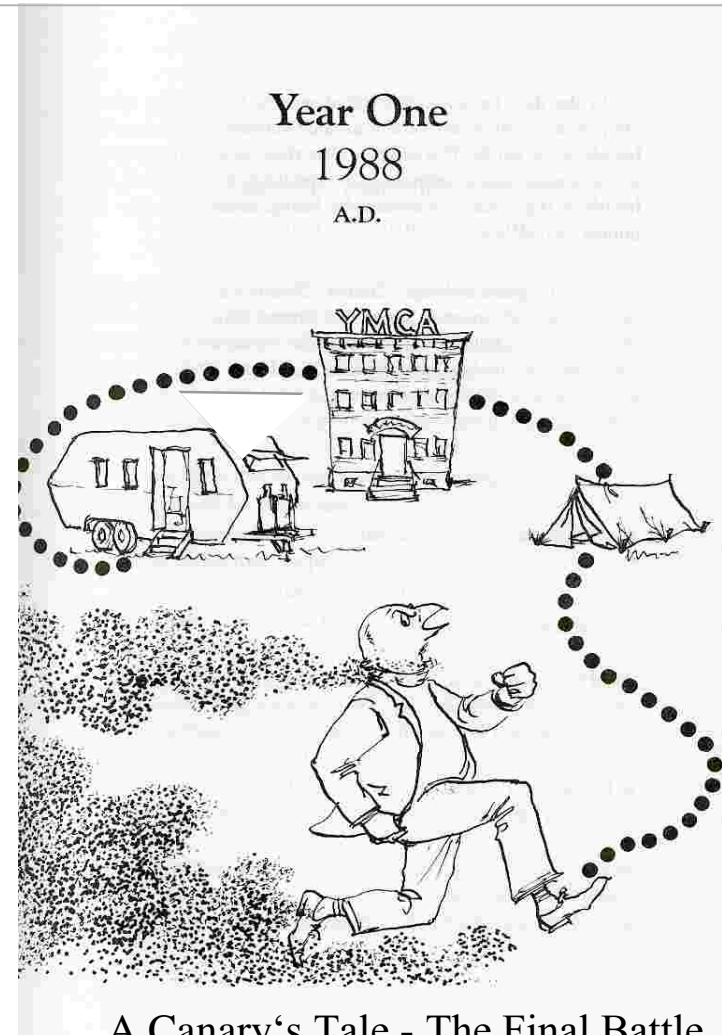
Consequences for the PID Patient

- The patient has to go a long way round
- There is hardly any adequate support
- The patients' symptoms are often wrongly diagnosed as being psycho-somatic, or of psychological or psychiatric origin

False diagnosis are the basis of

- wrong therapies
- legal and official procedures to processes to get allowance of claims- e.g. retirement-pensions, mutual indemnity association and others

▶ **False Diagnoses exacerbate the disease**

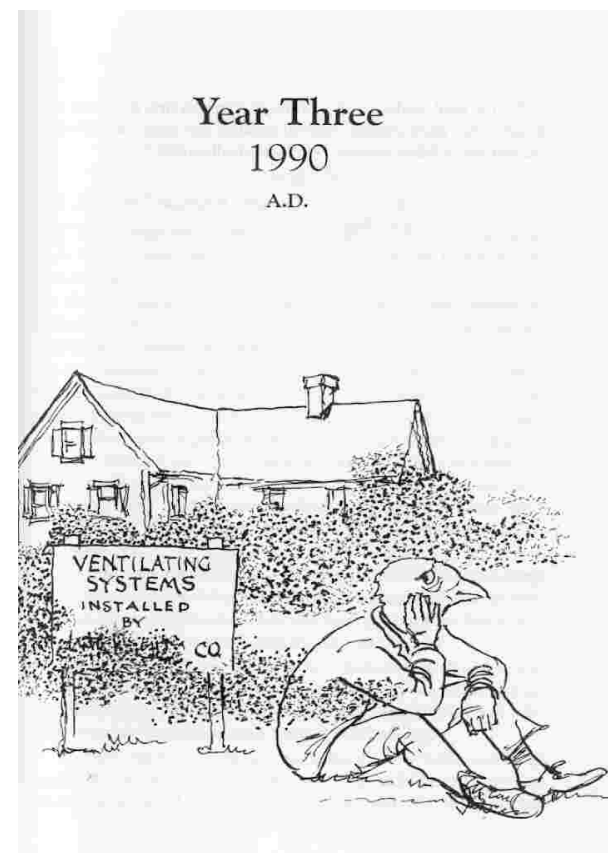


A Canary's Tale - The Final Battle
by Jacob B. Berkson,
drawings by Jack Garver, 1996

Consequences for the PID Patient

▶ Depression

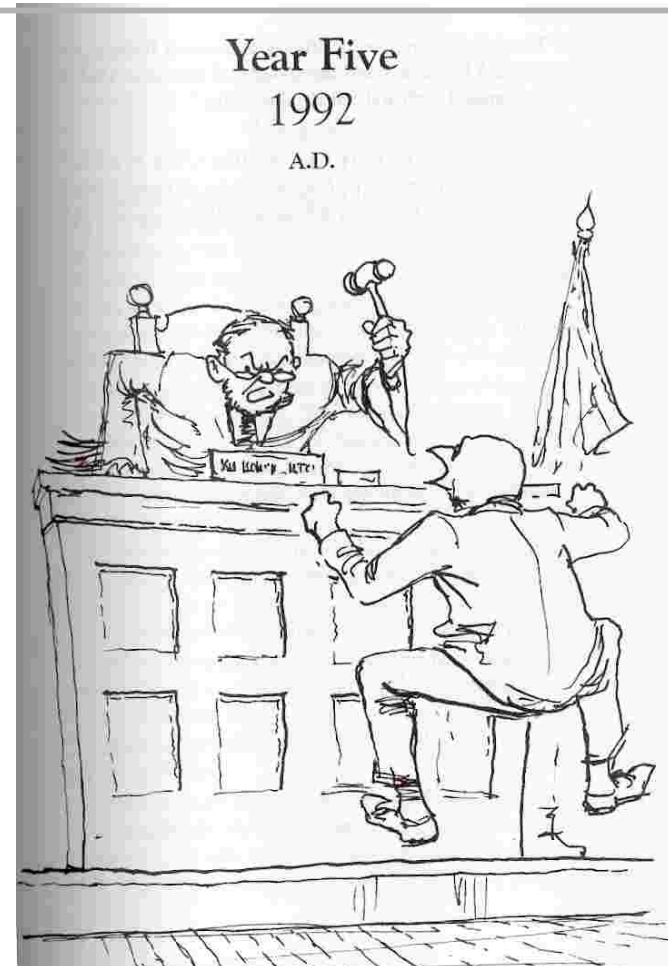
- As a result of neurotoxines
- Due to the ignorance of health professionals
- Due to the living conditions



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Consequences for the PID Patient

- ▶ **Being at the mercy of**
 - **doctors**
 - **experts**
 - **judges**
 - **the Goodwill
of the social environment**



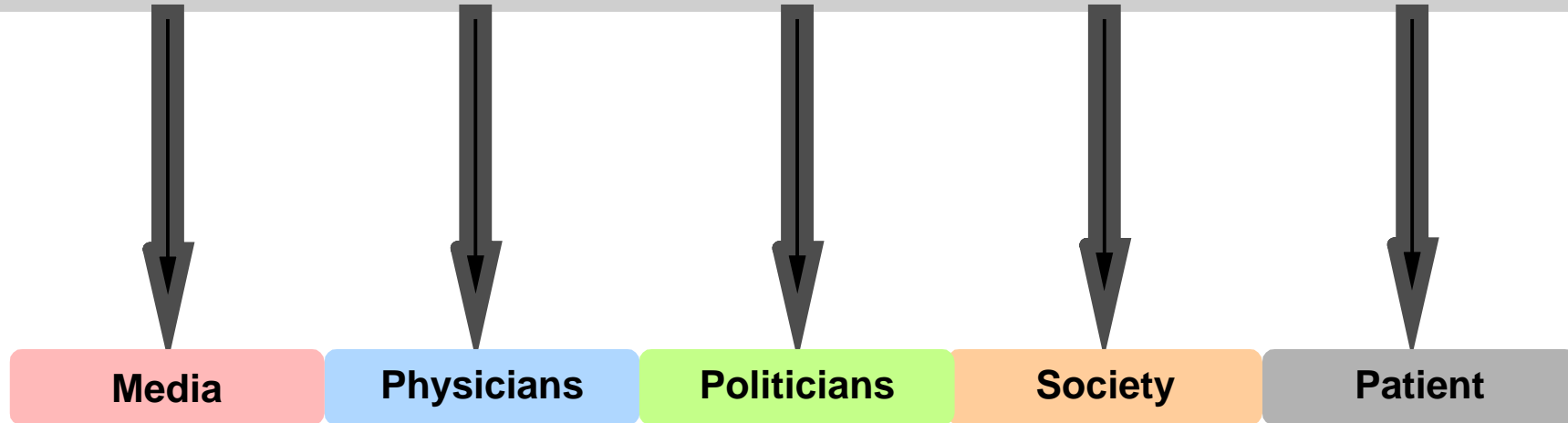
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Some Reasons for the False interpretation by the Health Professionals

Physicians

Industry

Chemistry, Cosmetics , Pharmaceuticals, Electronics, Oil, Agriculture, Automobile, Energy, ...



Continuous, massive Influence

through marketing and advertising, technical literature und lobbyism

It can't be true what's not allowed to be true:

That pollutants, even at so called very low doses, can make sick

The Duty to Provide Information and Explanation to citizens, politicians and legislation lies mainly with the public authorities and the academic environmental medicine

In Germany:

Federal Offices

- Federal Environment Agency (UBA)
- Federal Institute for Risk Assessment (BfR)
- Federal Center for health Education (BZgA)
- Federal office for Radiation Protection (BfS)
- Federal Office of Consumer Protection and Food safety (BVL),
- et cetera. ...

“Laender” Authorities

German Council of Environmental Advisors

**Academic Environmental Medicine, Occupational Medicine, Hygiene, Toxicology,
Environmental Ambulance**

Good approach but...

 **Insufficient Education
of citizens, patients and politicians by public authorities and
academic environmental medicine**

Reasons (a. o.):

- **Scientists and Institutions are not sufficiently independent**
- **Long tradition for close cooperation with the industry**
- **Frequent conflict of interest**
- **Activity as consulting expert (incl. courtesy appraisals)**
- **One-sided selection of research topic**
- **Focusing investigations on acute impact only**
- **Tendency to Psycho-Diagnoses and preferred collaboration with Psychiatry and Psychosomatic Medicine**
- **Studies are mainly designed to explore a potential psychic disease and not the somatic injuries caused by pollutants**

References in public domain: : Publications, Reference lists, expert opinion, study design

Consequences:

 **Insufficient protection of the population**

**Information and Explanation
to citizens, patients and politicians
mainly done by environmental physicians
in private practice and their professional associations**

Reasons

- ▶ Extended, in-depth knowledge, also about effect at very low doses
- ▶ Higher willingness to realize available information and to include it into their diagnosis and therapy

The Mandate of the Occupational and Environmental Medicine
Risk Assessment - Definition of the Threshold Values

Interaction of Universities – Federal Offices - Industry

Physicians

Politicians

Paracelsus (1493-1541): The Dose defines the Toxin
Status 2008: The Dose defines the Toxin

Definition of threshold values

 Largely unconsidered parameters for the risk assessments

- Route of application (e.g. via inhalation)
- Duration of exposition
- Half-life if compound
- Individual vulnerability
- Temperature
- Synergies between chemicals
- Synergies with other types of pollutants (e.g. radiation)

Complex Mixtures of Pollutants in our Environment

Chemicals

About. 70 000 so called every day chemicals (waste)

Radiation

electromagnetic field, radioactive (from x-ray, Fallout), UV

Natural toxins

Radon, mushrooms , mould, plant-derived, heavy metals,

Noise

Medication (Human- und animal medicine)

In: soil, (drinking)-water, food; ⇒ side effects, drug interactions

Agro-Gene-, Nano-technology



Evaluation is mono-causal, based on outdated concepts

Challenge for the Environmental Medicine Paradigm shift for the definition of threshold values

**In focus should not only be singular acute effects but instead
long-term- and potential synergistic effects
should also be included**



New Paradigm:

**Also exposure defined by environmental medicine as 'low dose' range
is hazardous and can cause somatic damage**



This new paradigm is a prerequisite to realize:

**Presumably most of today's diseases are linked to pollutants,
thus, being PID**



**The academic environmental medicine keeps the other medical faculties,
the politicians and the society transparently informed about the potential
relation and its implications!**


Information for Physicians of all Disciplines via the relevant biomedical literature about the importance of pollutants in the pathogenesis

Physicians

Titles in the online-version of 'Deutschen Ärzteblattes' , February 2008:

**290 papers in total, only 6 of them , means 2% - were about environment & health
(3of them about smoking)**

Thus:

 **In relative terms, there are only few publications dealing with the topics environment and health
In absolute terms , however, there exists quite number of relevant publications
dealing with theses issues. Yet, there are hardly recognized but ignored**

Potential reasons for the observed ignorance:

- **The low number of publications (low noise level)**
- **inadequate literature search**
- **Information overflow**
- **Systematic misinformation by industry-oriented research**
- **Degree of specialization of today's medicine; too many independent faculties and no integration of the various environmental medical aspects**
- **Focus on only a small number of environmental topics such as e.g. smoking and the so called climate crisis**
- **Media is ignoring a great number of critical environmental topics**
- **Disease secures jobs**

Expenditure for Public Health Share for Prevention (2001)

Society

Source: Press release of the Federal Statistical Office from 24th of April 2003

Expenditure for public health: 225,9 billion Euro = 10,9 % of GDP

As of that :

91 % for Diagnostics and Therapies

(nearly 10% of the GDP)

This area benefits from
Inadequate prevention

4 % 5 %

5% for Prevention and Health Protection

The preventive Medicine relates
nearly exclusively to the issues smoking,
lack of physical activity and stress

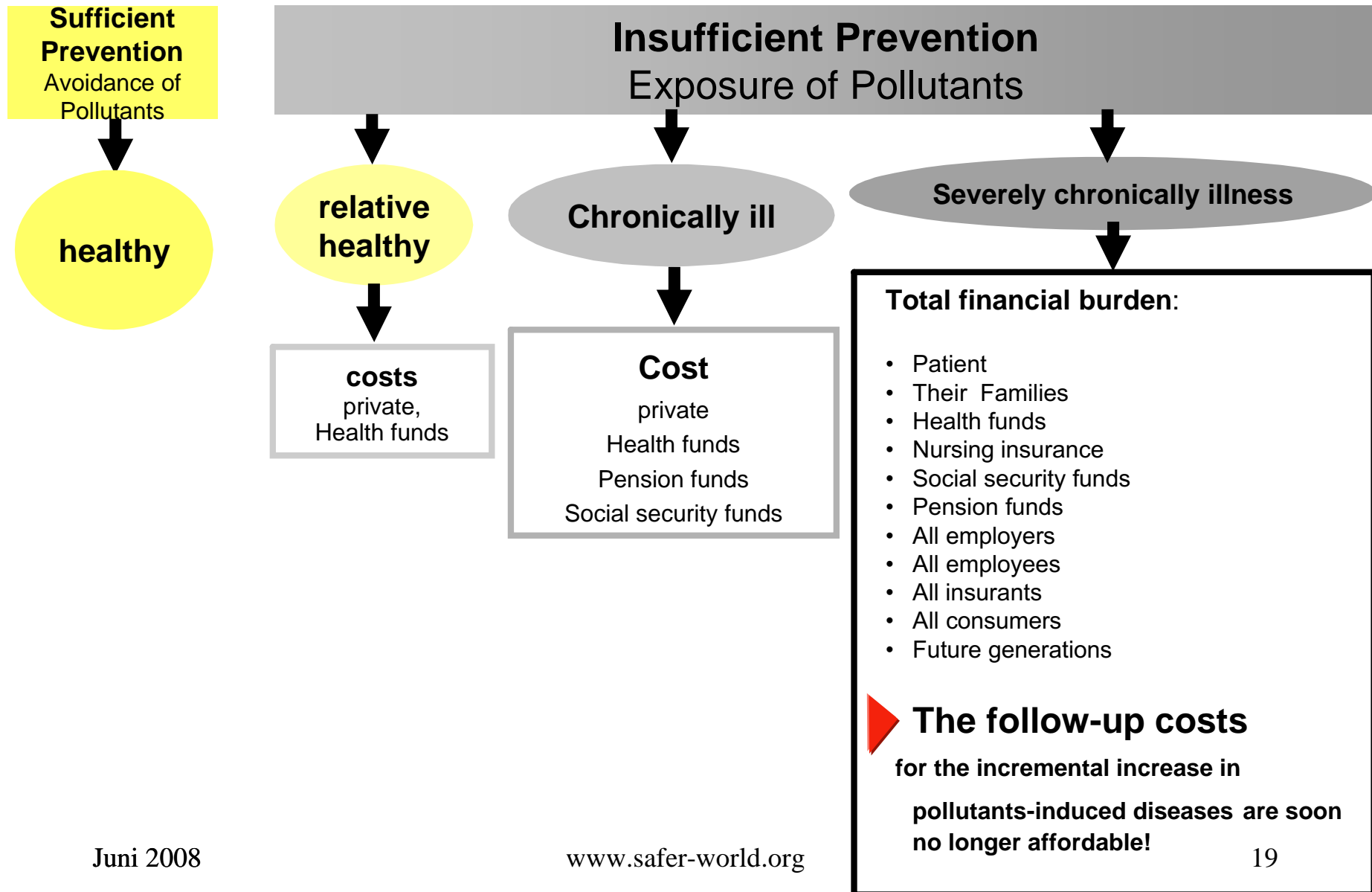
4 % for Palliative Medicine



Little money is spent for information and education about potential preventive measures as well as for the actually accomplished prevention – except for smoking

Diseases – Follow-up costs of PID

Society



Challenge for the Health Professionals: the Right Diagnosis

Its important to stop cost increase, to improve patient's QoL and to make politics and society to act

▶ **Stop false diagnosis for PID patients**

Such as: Somatoform pain symptom, Psychosis,, Hypochondria, Fixed idea, anxiety syndrome, ecophobia , sociophobia, ...

▶ **New Orientation**

PID are no longer classified as of psychological origin but are accepted and treated as organic diseases

▶ **Extended Research of an association between symptoms and pollutant exposure**

Making use of the questionnaire from Raymond Singer, the Qeesi- questionnaire etc.

▶ **Right Diagnostic Approach**

Pollutant-induced Diseases (PID), which are clearly defined

e.g. as MCS, Chemical-, Medication-Intolerance, solvent-related encephalopathy, wood preservative induced MS

Challenge for the Health Professionals

Essential Therapy of PID: Prevention of Pollutants

Medical support for PID means in particular:

- ▶ **A guidance for knowledge transfer,
to achieve a consequent avoidance strategy and prevention**

This requires:

- ▶ **Willingness, knowledge, the ability to revise one's
thinking, courage and energy**

Challenges for Politicians in All Areas

Politicians

- ▶ Politicians have to legislate the legal framework for more prevention, i.e. for an reduction of pollutants in our environment

▶ Broadly- based education about PID

- together with the media and health professionals

▶ Creating a broad consensus about

- the indispensable need to get a shift from “Reparation“ towards more Prevention

▶ Initiating and financing new research clusters of excellence with the focus on PID related themes in the areas

- Environmental medicine, Epidemiology
- but also in all other biomedical disciplines
(e.g. pesticides and Parkinson's diseases)

▶ Legislation

- declaration of no impediment for new products
- extended producer liability in case of health hazardous products
- new policies for threshold values (also for children, fetuses, common cocktails of chemicals...)
- extended reform of the expert opinion business
- improved Information act
- internationally binding agreements

Challenges for the Society

Jacob B. Berkson

Author of

A Canary's Tale - The Final Battle

1996

“People get sick from exposure to pollutants in the home, in the workplace, indoors and outdoors. ... They do not realize that there is a link between pollution and disease. Many of these illnesses are preventable. Education is the key to prevention. ...

Everybody is at risk. No one is safe. Not the author. Not the reader. Not anyone. The patient with MCS is like the canary in the coal mine. The canary is warning humanity that the environment is polluted and as a sentinel sounds the Call for Action. ...

It is necessary to recognize the danger, especially to our children and future generations and do something about it before it is too late.



No cause is more important.


Prerequisites to Act

Perception

- The impact of pollutants on human health, the genome and the Quality of live of future generations
- The background of the ignorance of the available information about pollutants-induced heath injuries

Perception and Challenge

- ... of the feasibility- and therapy delusion, the consumer mentality and in our society
- ... of the definition of 'importance' and setting of priorities,

 **A fundamental rethinking and re-orientation in many areas of our daily private life as well as generally, in our society**

Further Prerequisites to Reduce Pollutants and to Realize a Healthier Environment

Physicians

Politicians

Society

Patient

Linked to the reactions of the 3 monkeys are the following behaviors:

**Arrogance, Dependency, Disinterest, Egoism, Frustration, Greed of Gain,
Ignorance, Laziness, Lethargy, Playing Victim, Resignation,
Rudeness, Repression**

▶ Necessary behavioral pattern u. a. :

**Autonomy, Courage, Creativity, Insight, Empathy, Energy, Foresight,
Logical thinking, Questioning established moral concepts und
behavior pattern, Resilience, Sense of Realism, Sensibility,
Sense of Responsibility**

**Especially e.g.: Courage, to oppose fashionable trends
(such as “everything is going to be alright“, “no risk no fun“, ...)**

▶ **A Complete Reversion of the Influential Factors is Essential to Reduce the Incidences of PID and to Increase QoL**

Physicians

Politicians

Society

Patient

Media

Physicians

Politicians

Society

Patient

Producer: Chemistry, Cosmetics, Pharmaceuticals, Electronics, Oil, Agricultures, Automotives, Energy, ...

Goal

- **Increased realization by the industry that safer products and less pollutants would guarantee a greater market potential und a long-lasting survival of the company**
- **Products without persistent pollutants**

Challenge for the Patient: A Consequent Avoidance Strategy

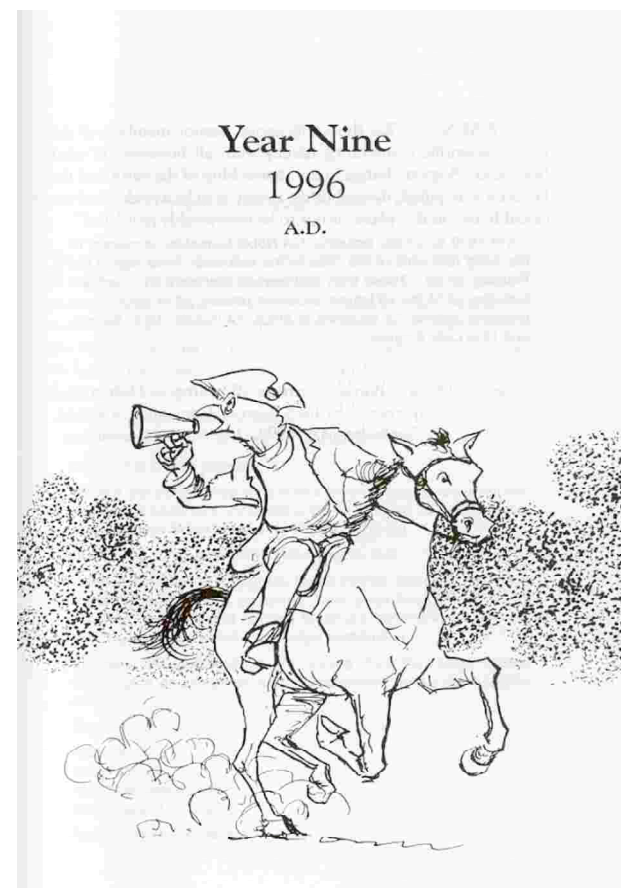
- to get knowledgeable about the theme “environment & health”
- to do detective work to identify the causal trigger
- to learn about avoidance strategies
- to establish a low-pollutant environment
- to trust ones own body
- a social environment which is eager to learn and to considerate
- etc.

Willingness and opportunities for change

Further Challenges for Patients, their Representatives, Support Groups

- ▶ **Educational work for**
 - **Patients**
 - **Physicians and Scientists**
 - **Politicians**
 - **Society**
 - **Media**
 - **Industry**

- ▶ **Requesting more
Prevention**



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Effective Educational Work und Effective Prevention will only be Successful through Joint Intensive Efforts

Physicians

Politicians

Society

↑
Patient



Future Perspectives W/o Extensive Prevention

Physicians

Politicians

Society

Patient

▶ Increase

- Reduction of the world's biodiversity
- of PID
- gene damages (especially reproductive harm)

Jacob B. Berkson:

**“Clean air, clean water and clean food are all necessities for life.
The message is clear:**

▶ **Man will either stop poisoning mankind and Mother Earth and all its creatures**

or

▶ **Man will perish along with those they have poisoned. No one will escape.”**

Future Perspektive

Physicians

Politik

Society

Patient

If we don't want to co-extinct the species man,

we have to

- **open our eyes - realize that it's already very late , the brisance of the already existing pollutant-induced damages to health is enormous, the perspective is dramatic id don't act know**
- **initiate and coordinate immense efforts world-wide to reduce the pollutant not limited to those chemical with a negative effect on our climate but in all other areas of live on earth as well**

Effective avoidance of pollutants

- ▶ **is essential for the well being of future generations**
- ▶ **is only achievable by means of the knowledge about pollutant-induced diseases**

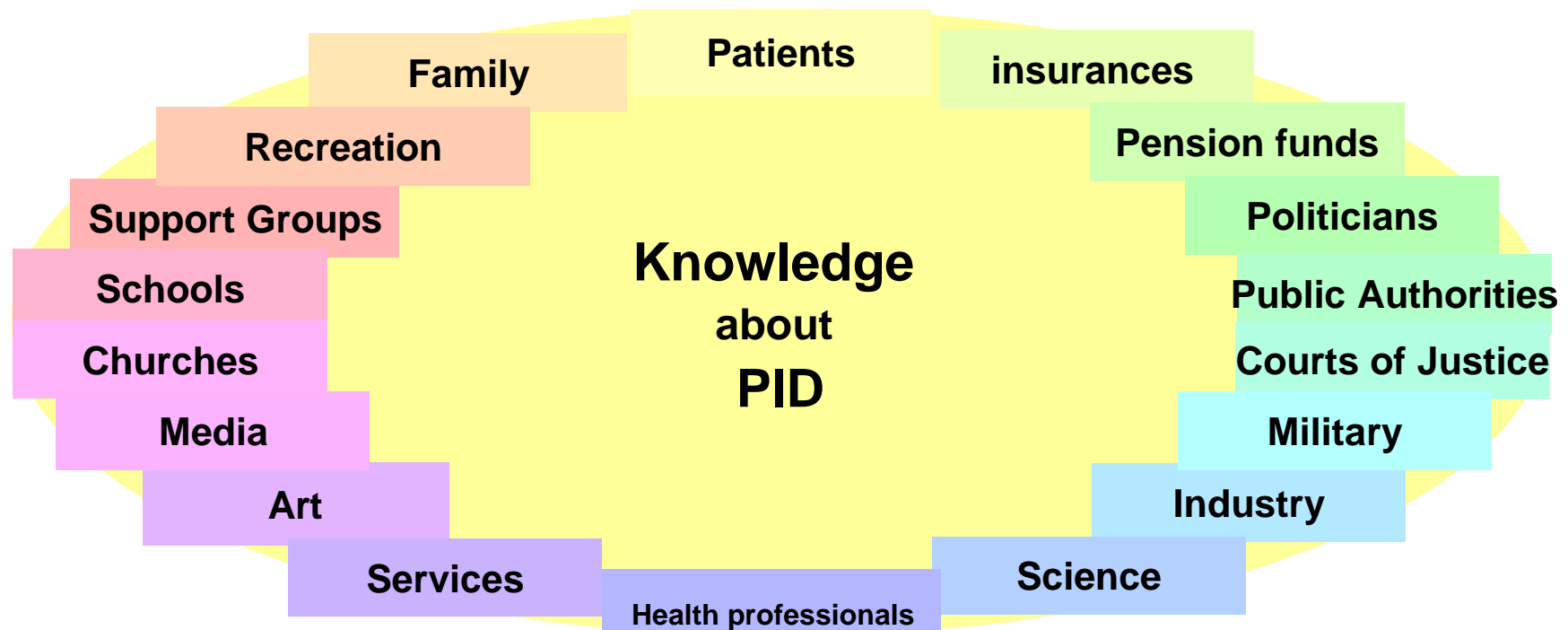
Future Perspective with Applied Prevention

Prevention

as a change in one's behavior based on the knowledge about PID
it's not only a challenge but also a

Chance

for all patients and all healthy people in today's society



**Higher Quality of Life
in a World with Less
Pollutants**