

ESF EMRC EXPLORATORY WORKSHOP

Health and Environmental Disparities: the case of lung disease (HED)

Paris, France, 20 - 22 October 2006

Convened by:

Isabella Annesi-Maesano

Epidemiology of Allergic and Respiratory Diseases (EPAR), INSERM and Université Pierre et Marie Curie¹

SCIENTIFIC REPORT

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1. EXECUTIVE SUMMARY

This ESF supported exploratory workshop titled “Health and environmental disparities: the case of lung health (HED)” was hosted by the Paris University Pierre et Marie Curie (UPMC), Paris. It was convened by Isabella Annesi-Maesano of the Mixed Research Unit 707 of UPMC and Institut National de la Santé et Recherche Médicale at the Medical School Saint-Antoine.

The workshop HED aimed at filling the gap of knowledge on health and environmental disparities in the case of lung diseases, which burden is excessive and evitable. Available data from the scientific literature show that health and environmental disparities had been dealt with in the case of various diseases but rarely in the case respiratory diseases, except for asthma. For respiratory diseases, serious lacks existed not only in informative data but also in definitions, methods and standardisation. Understanding respiratory health and environmental disparities will have far-reaching consequences since living conditions and lifestyle of many individuals are changing deeply due to global phenomena such as pauperisation and climate changes. Respiratory diseases are particularly challenged by such determinants.

The starting point of the HED workshop was the consideration that due to differences in individual susceptibility but also to environmental inequalities (geography, air pollution, nutrition, social network, demographic characteristics...), individuals are not equal in the respect of the development and the aggravation of lung diseases which are among the leading causes of morbidity and mortality worldwide. Thereafter, it was decided to held a workshop to investigate how environmental and health disparities participate in lung diseases (development, management, severity...) and what is the associated socio-economic burden. This should have done through a careful examination of definition and method of assessment.

The specific objectives of the HED workshop were:

- To review the major topics in assessing health disparities in respiratory diseases through existing data
- To review environmental disparities potentially implicated in respiratory diseases and related issues
- To review the major topics in assessing environmental disparities through existing data
- To review evidence relating environmental and lung health disparities
- To assess strategic issues in order to promote research in the field health and environmental disparities in respiratory diseases.
- To identify strategic issues in the prevention of respiratory diseases related to health and environmental disparities.

The workshop programme started Friday afternoon and ended Sunday lunch (20-22.X.2006). The workshop was held at the Salle du Conseil de la Faculté de Médecine Saint-Antoine of UPMC. The final programme adhered to the initially proposed programme in the application to ESF but took into account the suggestion pointed out during the evaluation of the HED application, namely that the number of contributors from USA had to be reduced. From the scientific point of view, it was decided an extension to the initial programme in order to include experiences from developing countries where health and environmental disparities are really macroscopic and that can then serve as models. Furthermore, at the last minute, some of the contributions had to decline the invitation.

Nineteen experts from 8 countries, 2 international societies and 3 continents met to discuss these issues in details. It was a real pleasure to note the high level of engagement from all the contributors. All participants equally took part in presentations and discussions. Each presentation was followed by a discussion strictly related to the talk focusing check-up, limitations, biases and lacks. As the participant

had common meals, common meetings in the evening after the sessions and one common event, they could discuss also after work time.

On the first day of the HED workshop, a general lecture on health inequalities was given by a well-known expert.

On the second day, the ESF representative, Cordula Stamme, presented the ESF and the way the ESF could have supported the HED initiative in the future. Her contribution and engagement in the discussions during the entire workshop constituted an added value. The first session of the HED workshop was dedicated to identify environmental disparities which are implicated in the development and the aggravation of respiratory diseases. The large meaning of the entity "environment" was considered as environmental disparities were not limited to classical physical environmental risk factors such as air pollution, toxicants, nutrition... but extended to social risk factors. Efforts to define in a standardized way environmental disparities and to identify methods to assess them were accomplished. The session ended with a reflection on the tight link between ethics and prevention. The second session was consecrated to health disparities in the case of respiratory diseases through the presentation of epidemiological data on respiratory diseases in various parts of the world. Data were presented according to sex / gender, socio-economic status and geographical zone. The session was introduced by a major lecture on the global burden of respiratory diseases depicting the situation of such diseases at the world level. Data on respiratory disparities are cumulating. The third session dealt with the interrelationship among environmental disparities, health inequalities and lung health. This session showed that few data are available. The HED workshop ended with a 2-hour round table discussing potential collaborative research activities. The participants discussed on how to foster interactions as well as on the creation of an international network. It was decided to publish a position paper in a peer-review journal. Isabella Annesi-Maesano got the mandate of the group to explore the interest of the major respiratory journal and inform the group. Cordula Stamme provided useful information on ESF ongoing programmes. It was expressed by the participants of the HED workshop that it would be useful to meet again in order to create an international network. A forum as an intermediate step was proposed.

As an associated initiative, the HED workshop offered the opportunity to present and discuss the NetWoRM, i.e. the Net-based training for work-related Medicine, a teaching tool that can be applied in various situations.

It is important to underline that the Union against tuberculosis and respiratory diseases as well as the European Respiratory Society (ERS) supported the HED workshop through the contribution of their officers (Isabella Annesi-Maesano, Head of the ERS Assembly Occupation and Epidemiology, Francesco Forastiere, Head of the ERS Health and Environment Committee, Giovanni Viegi, ERS Past President, Donald Enarson, Scientific Director of the Union).

No major limitations can be imputed to the HED workshop, but its geographical representativeness. Indeed, although a large variety of countries (n=9) from 3 different continents were assembled in the initiative, 3 important continents, namely South America, Asia and Oceania, where disparities are equally relevant and could have been informative, were not represented. It was felt by the participant that a larger cover would have been more exhaustive. Furthermore, as previously said, some of the experts that had initially accepted to contribute to the workshop had to decline the invitation because of personal or professional problems. However, the workshop went satisfactorily.

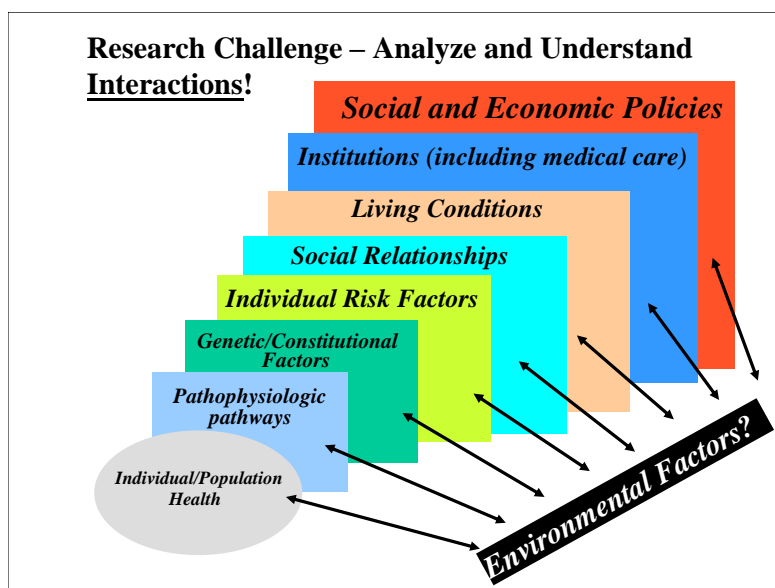
From the practical point of view, it must be underlined that valuable local practical support was provided by PhD students and post-docs at UPMC. Lastly, besides sponsoring from ESF, financial support was provided by INSERM. The INSERM provided support for the welcome cocktail, meals, and the Saturday night social event (La veuve joyeuse by Franz Lehar, Opéra Comique, Paris) and contributed to missions. Logistic was provided by the Epidemiology of Allergic and Respiratory Department of the UPMC and INSERM Mixed Unit 707.

2. SCIENTIFIC CONTENT OF THE EVENT

The following summary of the scientific content of the HED workshop is based on the material provided by the contributors, reviewed on the basis of the notes taken by Isabella Annesi-Maesano and Gary King.

After a short welcome note from the convenor Isabella Annesi-Maesano, the workshop was opened by a major introductory lecture from Pierre Chauvin, one of the major world expert in the field, who talked about challenging inequalities in health. This lecture was necessary to focus the problematic of the HED workshop. In his major introductory lecture, Pierre Chauvin underlined the fact that usually in targeting mortality, morbidity, health habits and behaviours, or people's care consumption, the available and compared social indicators – socio-professional category, income level, level of education, belonging to a public action category (persons who receive minimum income allowance, unemployed on the dole, etc.) – only approximately describe people's socio-economic position (in the «Weberian» sense of the term), and even more vaguely their living conditions. The limit of these approaches is that they remain essentially descriptive. They provide little information, at the individual level, on the reasons that drive people to these negative health situations, and at the collective level, on the «new» determinants and social risks: the new forms of vulnerability and social and health precariousness. The knowledge acquired here and most of public health researches more concern the *effects* of the inequalities noted (and possibly the assessment of the services intended to master these effects) than the *causes* themselves. As a result, burgeoning literature on social inequalities in health precludes adequate explanations for actual and changing population burdens of disease and death, thereby hampering efforts for prevention. He illustrated the need to yield an exhaustive approach in the investigation of inequalities by certain multivariate epidemiological analyses simultaneously taking into account different “classical” socio-economic variables. Multilevel statistical analyses methods simultaneously taking into account individual social characteristics and collective socio-economic variables (that is to say describing a context to which the subject is also exposed) have been shown to be useful to explain the health inequalities noted. This lecture offered solid bases for the entire work of the following days.

The objective of the first session on environmental disparities was to review environmental disparities potentially implicated in respiratory disease and related issue.



Individual risk factors include environmental abiotic (physical) as well biotic risk factors. Abiotic factors include air pollution, toxicants... Biotic factors include factors related to vegetation, human beings

In his important major lecture, Giovanni Viegi provided an overview of environmental risk factors responsible for lung diseases. These included active and passive smoking, occupation, indoor and outdoor air pollution and nutritional factors. Established evidence exists overall for smoking and occupation. However, new evidence has been produced on respiratory effects of air pollution. This major lecture was useful to list all the factors related to respiratory diseases and to quantify the extent of the relationships. In the first part of this session which was entitled “What are we talking about?”

Isabella Annesi-Maesano presented data on disparities in environmental risk factors. Her presentation started from the need to enlarge the definition of “environment” when investigating environmental disparities. In the context of disparities, environment must be intended as all the non-genetic factors that affect a person’s health and consequent conduct. This includes individual physical factors (air pollution, nutrition...) but also housing, living conditions, lifestyle, social context, institution as well as social and economic factors (see figure above). These factors interact among them in different ways, which means that a multidisciplinary approach is needed to study environmental disparities in an exhaustive way. Mechanisms underlying environmental disparities when the broad definition of environment is introduced include social stratification, differential exposure and individual susceptibility (biological) and vulnerability (sociological). Environmental exposure to air pollution was modelled as an example. So far there are few data showing that lower classes are more exposed to air pollution than affluent classes.

As a demonstration of the importance of social environment, Gary King presented social inequalities in health by illustrating the example of the effects of smoking cessation in American adults with asthma. So far, few studies had examined racially classified social groups (RCSG) and/or Hispanic ethnicity as well as indicators of socioeconomic status (SES) as predictors of smoking cessation among persons with a history of asthma or those recently seeking medical care for asthma. In this context, social disparities implicate the contribution of several factors. Among persons with a history of asthma who had ever smoked, quitting increased with older age (rational addiction thesis), married individuals were more likely to quit than others, suggesting a social support explanation and modeling behavior. Furthermore, higher educated individuals were more likely to have quit than less educated persons. The odds ratio for former vs. current smoking was higher for residents in large metropolitan vs. non-metropolitan area residents, which shows the importance of accessibility to cessation services. The presentation offered the opportunity to discuss the difference between disparities and inequalities, eventually injustices. In the given example, age and marital status differences suggest disparities rather than structural inequalities or inequities (unfair and unjust). Metropolitan vs. non-metropolitan areas may be a result of differences in the availability or accessibility of cessation/services and thus represent a structural inequality or inequity. Education effect may represent structural inequalities or inequities suggesting that social class differences among persons with asthma could be associated with less knowledge, motivation, and concern about quitting.

The session on “What are we talking about” ended with a presentation on ethics and prevention provided by Carlo Petrini. He is a well-known expert in this field. He underlined that the subject “Ethics and prevention”, as part of the broader issue of “Health and environmental disparities” was very closely related to an important challenge for bioethics: dealing with public health questions. After having introduced definition, he explained that prevention and public health carry with them an obligation to care for the well being of others and they imply the possession of an element of power in order to carry out the mandate. The mandate to assure and protect the health of the public is an inherently moral one. The first requirement which bioethics and public health ethics need to share is the scientific approach. Public health activities can be said to promote:

- Human freedom from disease and premature death (liberalism).
- Equality and equity among people from diverse backgrounds (egalitarianism).
- Solidarity between individuals and nations (socialism).

- Fellow feeling between members of natural associations (communitarianism).

This lecture was useful to remind the importance of ethics in investigating disparities and their implications.

The second part of the session on environmental disparities was entitled “How can we measure them?” and dealt with the implementation of objective indicators encompassing environmental and social aspects of disparities. Francesco Forastiere presented data on differential exposure and differential susceptibility to particulate matter in Rome. There was a direct relationship between high social class and residence in areas with high traffic emissions. This finding is not in line with suggestions from other countries that people of lower socioeconomic status are more exposed to air pollution. However, he did find that people of low social class do suffer from chronic diseases to a larger extent than more affluent people. The clear effect modification of social class on the particulate matter (PM₁₀)-mortality association, namely that people of high social class are not affected by the negative effects of air pollution as are citizens in other social class categories, may be more easily interpreted in terms of differential susceptibility rather than differential exposure. These findings allowed to raise and discuss the fundamental questions in the assessment of exposure for epidemiological studies respectively on: exposure assessment must reflect research questions (total exposure, source-based exposure, specific pollutant species), spatial scale (within vs. between communities, Contrasts in source/composition – low-level exposures), duration (Lifetime?, Short-term/episodic (peak exposures)), data availability/accessibility, expertise/training, and costs

Francesca Grillo introduced socio-economic indicators employed in epidemiological studies. She showed that these indicators are generally considered as confounders in the investigation of risk factors for respiratory diseases and rarely studied as factors having a proper role. Roberto dal Negro discussed how to quantify the cost of respiratory diseases. For this, he started from keystones of COPD and asthma, among which high social costs and social isolation and depression. Both COPD and asthma are excessively expensive in terms of social security costs and of lost productivity. Social security costs are more or less covered by health systems, which can have an impact on the management of the diseases. So far the impact of isolation and depression has not been quantified.

Lydie Laigle in order to implement indicators encompassing both environmental and social aspects related to health looked at data such as housing's date of construction, number of industrial sites in activity, density of major road infrastructures, proportion of children with respiratory problems, number of prescriptions of asthma medicine. The final objective was to identify and assess environmental inequalities in an urban area (Lille) with important industrial heritage and great social disparities at the city and neighbourhood scales. The outputs of the research will be used by the city council to improve local strategies and develop new actions to reduce environmental injustice. The data analysis and the support of the city council allowed to build interesting information on the impacts of the environment on children health in areas to be regenerated. More precisely, she found out that in deprived southern communes, health care centres were numerous, level of medical appointments is high and the proportion of children suffering from respiratory diseases was higher than in the district average. Industrial activities and bad housing conditions identified in these areas was part of the explanation, but according to a study conducted by the city of Lille, the important road network (motorway, ring road) causing air pollution and dust is the main explanatory factor for this a high level of respiratory diseases.

The second session was devoted to respiratory health disparities. The objective was to provide an overview on the burden of respiratory diseases. In a major lecture of the first part of the session Giovanni Viegi provided data on the burden associated with respiratory diseases at the world level. Respiratory diseases are excessively prevalent and their prevalence is increasing. Yet their prevalence is underestimated because of underreporting and misclassification bias. Giovanni Viegi pointed out that the prevalence of the disease according to the GOLD categories increases very much with age in all smoking

categories and that in smokers over 65 years old the prevalence of all the categories of GOLD 1, 2, 3 and 4 reach about 60% of the population. The pooled prevalence of COPD on 25 studies has been estimated to 9.2 (7.7-11) %. COPD mortality is increasing too and COPD will constitute the 4th cause of death in developing countries. Asthma also is very prevalent with almost 30% of the population affected.

Bo Lundback underlined the fact that the incidence of asthma is increasing, which seems to be due to a cohort effect. This can be dramatic for lower social classes. To illustrate this thesis, he used Swedish population-based data. Methodological aspects in the computation of incidence were presented. This presentation was extremely important to strengthen the fact that the burden of respiratory diseases is increasing which constitutes a menace for some population classes according to the health system.

Interesting longitudinal data on socioeconomic differences in hospitalisations for respiratory diseases in Rome were presented by Giulia Cesaroni. Smokers had a higher risk of being hospitalized than ex and non-smokers. Those who reported to suffer from chronic bronchitis have a higher risk of being hospitalized overall and for respiratory conditions. Asthma was strongly associated with hospitalisation for respiratory diseases. Data indicated that level of education and occupation had a strong effect on hospitalization, even when smoking and environmental exposures are taken into account. Lower classes were at higher risk of hospital admissions.

Agnes Hamzaoui presented the application of a WHO programme for respiratory diseases in Tunisia, which is characterised by geographical disparities in terms of the management of respiratory diseases as well as by the existence of a strong private sector. The WHO programme consisted of the Practical approach to lung health (Pal) a syndromic approach to the management of patients who attend primary health care services for respiratory symptoms. The application of this programme leads to a better management of respiratory diseases. Data were new and unpublished.

In the second part of the session dedicated to cultural and demographic characteristics characterising disparities, Margaret Becklake presented sex and *gender* related disparities in lung disease affecting the airways, which occur across the human life span. Sex (biological) disparities include dimensional, immunologic and hormonal factors and their interactions. Gender disparities include socio-cultural related factors. Though the lungs of girls and women are smaller than those of boys and men of the same height and are indistinguishable on the autopsy table, they have higher forced expiratory flow rates in 1 second (FEV₁) and ratios of FEV₁/FVC% throughout life. Immunological phenotype biomarkers of atopy used in epidemiological studies include IgE (lower in girls and women than in boys and men throughout life) in contrast to the acquisition of skin test reactivity to one or more common allergens which vary with age, being higher in boys than girls aged 5-14, and in women aged 15-55 years (covering their reproductive years) than in men. This profile, similar to that of asthma incidence, suggests an interaction with hormonal factors. Gender disparities in symptom reporting include shortness of breath, cough, sputum and snoring (only the first is more common in women than in men). Women however are more responsive to cough stimulants than men. There is also evidence that the symptom of shortness of breath, attributed to socio-cultural factors, has a biological basis. For these reasons, (i) generalizations about sex and gender based disparities across the human life span are both inappropriate and misleading; (ii) awareness of these disparities and their effects on the clinical manifestations of airway disease such as asthma are important for informed clinical and public health practice, and stratified by age.

Sofia Kalaboka completed the picture by presenting data on the prevalence of major respiratory disease across Europe using the WHO data of the Housing and Health survey conducted in 8 European countries with contrasted conditions. Differences existed not only according to sex / gender but also according to socio-economic status and geographical zones.

The burden of respiratory disease in developing countries was presented by Donald Enarson, Scientific Director of the Union Against Tuberculosis and Lung Diseases. In these countries, respiratory diseases

are excessively prevalent, infectious diseases like tuberculosis or respiratory infections in young children particularly, and there is an inappropriate use of health services for respiratory diseases. Furthermore, more than 80% of the respiratory mortality is avoidable. However, appropriate interventions are possible for the diseases. Standard Case Management includes DOTS strategy for tuberculosis, ARI strategy for childhood pneumonia, 4-step approach for chronic airflow limitation. All are with demonstrated feasibility and cost benefit in poor countries. Appropriate interventions are also possible in terms of prevention: brief advice for smoking cessation, alternatives to biomass fuel to prevent air pollution and vaccination to prevent childhood pneumonia.

Sandra Mavalé-Manuel presented fresh and completely original data on asthma and allergies in childhood in Maputo, Mozambique. Interestingly, the prevalence of these diseases was comparable to that of other lusophone countries, among which Portugal. Differences were, however, observed for severity.

The last session concerned the interrelationships among environmental disparities, health inequalities and lung health. The objective of this session was to review existing evidence on this topic. In a major lecture, Stephanie Kolb on behalf of Dennis Nowak, provided an overview of occupational risk factors related to lung diseases. Occupational respiratory diseases considered included: Obstructive Airway Disease, Pneumoconiosi, Hypersensitivity pneumonitis, Infectious lung disease, Occupational lung cancer. Specific agent and risk factors for occupational respiratory diseases were presented, which constitutes a classical paradigm of cause effect type. In this paradigm, workers are at higher risk of exposure and diseases than the rest of the population..

Lastly, Patrick Peretti Wattel and Isabella Annesi-Maesano presented one of the effects of the interrelationship among environmental disparities, health inequalities and lung health that deserves to be investigated: the changing perception of the risks for respiratory diseases among individuals. According to the former, risk perception should be considered as social cognitions that can reflect both justification strategies to neutralize the 'risky' label, and social status and cultural values. From this perspective, for instance the causal links between polluted air, passive smoking and cancer is scientifically true, but preventive campaigns that use these scientific truths should be aware that they could fuel risk denial among smokers as well as fatalistic attitudes, especially among poor people. The latter indicated how to assess perception through subjective and objective tools relating exposure (reported and assessed) to health (reported or assessed) encompassing epidemiological and psychological approaches. The example of the PEPA study on the perception of respiratory effects of indoor and outdoor pollution was presented.

It must be underlined that, overall, the mixture between theoretical background and practical data was very profitable to the general discussion.

3. ASSESSMENT OF THE RESULTS, CONTRIBUTION TO THE FUTURE DIRECTION OF THE FIELD, OUTCOME

On Sunday morning all participants assembled for a round-table discussion on key issues of the three sessions and on the future. All participants took an active part in this round-table that was leaded by Margaret Becklake, Francesco Forastiere, Gary Kiung, Giovanni Viegi. Two main results were considered as acquired at the end of the discussion.

First, the workshop has allowed underlining policy initiatives in environmental health as follows as synthesized by Gary King. Addressing the issues of disparities and inequities with respect to health and environmental problems in the context of respiratory health requires an integral connection between theory, research, and policy. The previous sections have highlighted the essential theoretical paradigms

and research findings. In this section we focus on the reality of applying these academic formulations and findings to the “real world”. Establishing and maintain mechanism to connect academic work to political forces and influences ranging from the media, organized labor, social collectives, health professionals, and politicians is a major challenge. The 2004 Report of the WHO/Europe Fourth Ministerial Conference on Environment and Health identified 13 areas of major concern with respect to the environment and health. They include ambient air, indoor air, housing and health, water and health, food, working environment, hazardous wastes and landfills, traffic and transports, injuries, physical factors, climate changes, and chemicals. Each of these areas has its own particular challenges yet each is integrally connected and thus policy initiatives must be coordinated to achieve optimal results by not creating goals and practices which conflict. In this respect, planning is a crucial component of health policy and must take place within countries as well as between countries so as to combine the strength of resources, expertise, experience, and national resolve. This is especially the case for Europe in which there are vast differences in the history of addressing environment problems and the economic status of countries. For example, as noted in the 2004 Report, “The countries of the Commonwealth of Independent States (CIS) are confronted by serious and increasing problems in the area of environmental health,” Although many of these problems are rooted in the past, some result from present-day changes in the transition from a centralized state controlled system to a free enterprise or market economy. National priorities and pressures to increase the economic output and improve the standard of living frequently conflict with environmental health policies that are designed to reduce harmful industrial pollution through regulations and taxation. Moreover, policies must be directed specifically to populations which are most affected by environmental health inequalities. In this case, groups such as children and the elderly, indigent, women, migrant populations, minority groups and low income laborers reside and work in environments that are unsafe and are especially vulnerable. Developing coordinated information systems as part of the National Environmental Health Action Plan for Europe requires policy initiatives in the following areas:

- **Environment and health information systems.** Information systems have two functions: to provide the data needed for identifying hazards and setting priorities in the planning process and to measure progress and changes in environmental quality and health status.
- **Risk Assessment.** The ability to identify environmental hazards to health depends on the presence of data, the acceptance of standards defining limits of exposure or concentrations of harmful substances and the ability to perform hazard or risk analyses.
- **Control measures and enforcement of regulation.** Control measures and enforcement of laws passed at the national or local level related to environment and health are often driven by the EU directives to adopt and enforce laws and regulations.
- **Economic instruments and analysis.** Economic instruments include cost–benefit analysis and budget justifications.
- **Environmental health services.** Environmental health services for preventing disease or reducing risk are delivered mainly at the regional or local level and fall into three major categories: (1) reducing exposure to or eliminating environmental hazards related to water, air, food, solid waste and soil pollution, ionizing and non-ionizing radiation, disasters and accidents, and noise; (2) living and working environments, including housing, rural communities and occupational health and safety; and (3) the economic sectors of industry, energy, transport, agriculture and tourism.
- **Professional training, education and capacity-building.** Training and educational programs in environmental health in schools of public health are needed to train front-line environmental risk inspectors.
- **Public information and health education.** Public relations and awareness of the NEHAP was a major shortcoming and much more was needed to create mass media interest.

- **Research and technical development.** External funding for research and technical development which can enhance professional careers. Policy initiatives addressing health disparities and inequities in environmental health must adopt a long-term plan that is focused and involves all stakeholders in the planning and implementation process.

Secondly, research needs were identified. They consist in:

- The requirement for more data in the field of respiratory diseases
- Standardisation of the definition and assessments
- Methodological issues: modeling, longitudinal studies (lifetime)
- The need for comparative studies

Strong activities need to be fostered in this context.

Overall, it must be underlined that for the first time health and environmental disparities were addressed in the case of lung health. This has to be considered as an essential first step in the prevention of respiratory diseases.

Follow-up activities

The HED workshop ended with a discussion regarding the way forward. It was intended to publish a summary of the workshop in a peer-reviewed journal. The ESF representative Cordula Stamme presented the different ways that ESF could support the HED initiative in the future. A strong consensus in the group was to submit a Forward Look Application in due time, with a 5-10 year plan, and dealing with both industrialized

4. STATISTICAL INFORMATION ON THE PARTICIPANTS

Eighteen experts (ESF Representative not included from 3 continents (Europe, USA and Africa) and 8 countries (Canada, France, Italie, Sweden, USA, Tunisia, Mozambique, Greece) as follows:

1 CA
 1 DE
 5 FR
 1 GR
 5 IT
 1 MZ
 1 SE
 1 TN
 1 US

10 participants were female.



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5. FINAL PROGRAMME

European Science Foundation
Standing Committee for the European Medical Research Councils (EMRC)

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Inserm

Institut national
de la santé et de la recherche médicale



Friday 20 October 2006

Afternoon	<i>Arrival</i>
18:30 - 19:00	<i>Registration</i>
19:00 - 20:00	Major lecture: Challenging inequities in health (P. Chauvin)
20:30 - 22:30	<i>Dinner</i>

Saturday 21 October 2006

09:15 - 09:20	Introductory remarks (I. Annesi-Maesano)
09.20 – 09.35	Presentation of the European Science Foundation (ESF) Cordula Stamme (Standing Committee for European Medical Research Councils)
	Environmental disparities
	Objectives: To review environmental disparities potentially implicated in respiratory diseases and related issues
09:35 - 11:00	What are we talking about? Chairing: D. Enarson Major lecture: An overview of environmental risk factors for lung diseases (G. Viegi) Disparities in environmental risk factors (I. Annesi-Maesano) Social inequalities and health (G. King) Ethics and prevention (C. Petrini) General discussion: Check-up, limitations, biases, lacks.
11:00 - 11:30	<i>Coffee and tea break</i>
11:30 - 13:00	How can we measure them? Chairing: M. Becklake Major lecture: Differential exposures and differential susceptibility: short-term effects of PM10 by socioeconomic status. (F. Forastiere) Socio-economic indicators for respiratory epidemiology (F. Grillo) Cost-effectiveness of COPD control (R. Dal Negro) Implementing indicators encompassing both environmental and social aspects (L. Laigle) General discussion: Check-up, limitations, biases, lacks.
13:00 - 14:30	<i>Lunch</i>



Health disparities

Objectives: To review the major topics in assessing environmental disparities through existing data

14:30 - 16:00

Epidemiology of respiratory diseases

Chairing: **P. Peretti-Wattel**

Major lecture: Global burden of respiratory diseases (**G. Viegi**)

Incidence of respiratory diseases: methodological aspects (**B. Lundback**)

Socioeconomic differences in hospitalizations for cardiovascular and respiratory diseases: a 10 yer follow up study of adults in Rome (**G. Cesaroni**)

WHO programmes for respiratory diseases in Tunisia (**A. Hamzaoui**)

General discussion: Check-up, limitations, biases, lacks.

16:00 - 16:30

Coffee and tea break

16:30 - 18:00

Cultural and demographic characteristics

Chairing: **B. Lundback**

Major lecture: Sex, gender and lung diseases (**M. Becklake**)

Disparities in Asthma and COPD in Europe (**S. Kalaboka**)

Respiratory diseases in developing countries (**D. Enarson**)

Asthma and allergies in urbans and rural areas: the case of Mozambique (**S. Mavale-Manuel**)

General discussion: Check-up, limitations, biases, lacks.

19:00 - 22:00

Welcome cocktail and dinner

Sunday 22 October 2006

09:30 - 10:30

Interrelationship among environmental disparities, health inequalities and lung health

Objectives: To review evidence relating environmental and lung health disparities

Chairing: **F. Forastiere**

Major lecture: An overview of occupational risk factors for lung diseases (**S. Kolb**)

Environmental health disparities and tobacco use: a framework integrating sociological and environmental concepts (**G. King**)

Smokers and non-smokers beliefs toward polluted air and passive smoking (**P. Peretti-Wattel**)

The Perception of Polluted Air and respiratory health (PEPA) Study (**I. Annesi-Maesano and D. Moreau**)

General discussion: Check-up, limitations, biases, lacks

10:30 - 11:00

Coffee and tea break

11:00 - 12:30

Round table: Collaborative research activities following the meeting:

M. Becklake, F. Forastiere, G. King, P. Peretti-Wattel, G. Viegi,

12:30 - 12:35

Concluding remarks (I. Annesi-Maesano)

13:00 - 14:30

Lunch

Afternoon

Departure



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6. FINAL LIST OF PARTICIPANTS

Cordula Stamme (ESF Standing Committee for European Medical Research Councils)

I. Annesi-Maesano (Paris, France)

M. Becklake (Montreal, Canada)

G. Cesaroni (Rome, Italy)

P. Chauvin (Paris, France)

R. Dal Negro (Milan, Italy)

D. Enarson (International Union Against Tuberculosis and Respiratory Diseases)

F. Forastiere (Rome, Italy)

F. Grillo (Rome, Italy)

A. Hamzaoui (Tnis, Tunisia)

S. Kalaboka (Athens, Greece)

G. King (Penn State USA)

S. Kolb (Munich, Germany)

L. Laigle (Marne la Vallée, France)

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