European Respiratory Society (ERS) Environmental Strategy Group

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Scientific evidence, focused on ***Children***, to raise ***Awareness***, improve the situation by use of ***Legal*** instruments and ensure a continual ***Evaluation*** of the progress made

CEHAPE

Children's Environment and ***Health Action Plan*** for ***Europe***

the clinical problems in children

- childhood respiratory diseases:
  - asthma
  - allergies
  - ‘bronchitis’ (infections, environment, etc.)
- neuro-developmental disorders
- childhood cancers
- endocrine disruption

respiratory impairment
the target population(s)

embryo	**conception to 10 weeks**
fetus	**11 weeks to viability (25+6 weeks gestation) or to birth**
preterm (premature infant)	**born at or before 36 weeks gestation (4 weeks before term)**
full term	**born at 37 weeks or more**
neonate	**birth to 1 month**
infant	**birth to 11 months**
child	**birth to 17 years**
adolescent	**12 to 17 years**
Adult	**18 years and above**

Respiratory impairment

Until disease causation is established ……

“an intervention to reduce a major trigger of existing respiratory disease would result in substantial health gains despite the fact that the incidence may not modified.”

GAPS IN KNOWLEDGE

- constituents of the indoor environment. Focus on new building materials and agents used within the home.
- interaction between external and internal (home) environments.
- definitions particularly bronchitis and asthma.
- evidence based reviews of relevant environmental hazards.
- important gene/environmental interactions and susceptible population sub groups.
- medium to long term effects (birth and child cohorts).
- exposures at different stages of development.

agenda for action

- smoking in work/public places
- reduce & reduce exposure to transport emissions
- encourage/facilitate activity (in clean air)
- attention to the internal (home environment)
- increase child public /environmental health capacity

Recommendations for action
respiratory field

1.Environmental Tobacco smoke

- gap between the tobacco control, predominantly focussed on adults, and impact on the fetus and child.
- the child (and fetus) cannot remove themselves from the exposure hence the need to advocate on their behalf and reduce adverse effects.
- decreasing and banning smoking in public and workplaces and environments where pregnant women children and young people live, work and play.

Recommendations for action
respiratory field

case history Yorin 3 yrs

- cough, wheezing, shortness of breath since the age of 12 months, father had asthma as a child
- first seen by GP ?diagnosis asthma
- therapy: inhaled corticosteroids and bronchodilators
- frequent hospital admissions hospital for his asthma
- both parents smoked more than 20 cigarettes a day
- parents received successful guidance quit smoking
- therapy could be tapered off and stopped and Yorin was not seen until the age of 3 years by any physician

recommendations for action
respiratory field

2.Indoor environment

- guidelines for healthy indoor air (building standards,legislation,education & awareness.
- monitoring within homes, kindergartens and schools including risk assessment.
- links with REACH and general product safety (relevant to new materials)

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recommendations for action
respiratory field

Peter, 6 yrs old

- Peter had serious asthma with strong allergy for house dust mite and feathers
- asthma symptoms and attacks started from the age of 2 yrs
- treatment: inhaled corticosteroids, first low dosage incremental to a high dose since he had serious problems. He used first short-acting bronchodilators, later on long acting bronchodilators.
- despite this therapy he was admitted many times to the hospital due to exacerbations. We observed that almost all times he recovered very soon after hospitalization and symptoms started soon when he was at home
- already in the beginning we gave extensive advise on the home situation and at they did change everything at home
- Since we were desperate we asked an asthma nurse

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recommendations for action
respiratory field

3.outdoor environment (air pollution)

- actions to assess and reduce exposure.
- awareness raising and education for healthcare professionals, policymakers and public on hazards of air pollution.
- implementation of existing legislation
- limit traffic near schools playgrounds and residential areas.
- continuing pressure on reducing emissions

recommendations for action
respiratory field

family Kuipers

- lived in the area of Vlaardingen a place with high grade of air pollution
- both father and the two daughers have serious asthma, use high dosage of medication and had despite frequent asthma attacks
- father had to opportunity to go to Drachten, a place in the Northern part of the Netherlands,with low grade of pollution.
- since they had serious asthma they were admitted to our University Hospital.
- we continued the medication but could soon after moving taper down the medication and 1 year later the whole family only used short acting bronchodilators on demand

recommendations for action
respiratory field

4.diet and lifestyle

- improve child health through healthy lifestyle (breast feeding,healthy eating, physical activity).
- appropriate and validated monitoring.
- evidence based interventions
- advocacy needs move beyond individuals to populations & reach policy-makers.

recommendations for action
(Research) respiratory field

5.gene/environmental interactions

- ultimate goal to develop the necessary body of scientific knowledge for cost-effective strategies targeted towards susceptible individuals.
- identification of genes associated with the full expression of respiratory disease and exacerbations in the presence of specific environmental triggers and promoters.
- biomarkers , bio-effect markers and methodologies for identification of individual genetic susceptibility.

recommendations for action
respiratory TWG

6. improving child public and environmental health capacity

- redress deficits in the education and training of professionals in child environmental & public health
- development of child focussed capacity in Europe. modelled on the different EU programmes
- a CDC (centre for disease control) to monitor the “environmental diseases” as well as infectious diseases