indoor pollution.

5.1.4: To define further the effect of ARI on decline in lung function, by performing cohort studies in carefully selected subgroups (eg, those with rapidly declining FEV₁).

5.1.5: To provide surveillance data concerning the incidence and trends of ARI, and the impact of programs designed to control the problem.

5.3 IUATLD Initiatives

IUATLD, with its affiliated local and regional associations and other nongovernment organizations, can take an active role in programs aimed at the prevention and control of ARI. Such programs can be designed with the following objectives:

5.2.1: To mitigate the effects of passive smoking as a risk factor for ARI and CAD (see report on smoking as a risk factor for CAD, p 307S).

5.2.2: To mitigate the effects of indoor air pollution as a risk factor for ARI and its sequelae (see report on pollution as a risk factor for CAD, p 316S).

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Asthma as a Risk Factor for Chronic Airways Disease

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1 Summary of the Evidence

1.1: Asthma is a serious and growing problem for health in both developed and developing countries. There are, however, important differences in reported prevalence, ranging from as high as 11-17 percent in Australia and New Zealand to zero among Eskimos and in Gambia (for references, see Macklem, p 361S). The reasons for these variations, which might relate to genetic and environmental factors or to differences in the definition of asthma and diagnostic criteria, are unknown.

1.2: Clinically significant asthma in childhood is associated with decreased pulmonary function and increased respiratory symptoms in early adulthood. Moreover, some asthmatic patients, especially those with severe disease, develop chronic airways disease (CAD) manifested by chronic irreversible airways obstruction.

1.3: The interaction between smoking and asthma in the pathogenesis of CAD is unclear. A majority of smokers with impaired lung function will demonstrate airway hyperresponsiveness, and it is known that airway hyperresponsiveness is associated with an accelerated decline in lung function. Whether the airway hyperresponsiveness is a result of smoking (eg, reduced airway diameter due to inflammation) or an independent risk factor for an accelerated decline in lung function remains to be elucidated.

1.4: Children with asthma who have parents who smoke have lower lung function than those whose parents do not smoke.14,17

1.5: Indoor and outdoor pollutants probably play a role in inciting and triggering asthma, thereby contributing to the development of CAD in asthmatics.

2 Evaluation of the Evidence

2.1: Lack of an acceptable and widely used definition of asthma is a serious obstacle to establishing its prevalence and its importance as a cause of morbidity and mortality, and a contributing factor to CAD.

2.2: Overlap between asthma and COPD creates difficulties in determining the prevalence and mortality from both conditions, and, in particular, in any assessment of the role of one condition as a risk factor for the other.

2.3: Only a relatively small number of cohort studies have been performed that are suitable for assessing the long-term outcome of asthma.

3 Research Needs

3.1: Further accurate and standardized information is required on prevalence of and risk factors for asthma from different countries, populations, environments, and occu-
pations.

3.2: Further basic information is required on the genetic and cellular processes related to asthma.

3.3: There is a clear requirement for the identification of risk factors, and particularly modifiable risk factors for asthma.

3.4: There is a need to know what risk factors predict the development of CAD in asthmatic patients and whether these differ from risk factors in nonasthmatic subjects.

3.5: There is further need for information on the effect of treatment in childhood on the maximum lung function achieved in adult life.

3.6: There is a need for information on the effect of treatment of adult asthma on lung function and the development of CAD.

3.7: There is a need for an improved and standardized classification of the severity of asthma.

3.8: There is a need to elucidate the relationship between airway hyperresponsiveness and accelerated decline in lung function and the development of CAD.

3.9: Better information is required on variations in death certification procedures and their effect on recorded differences in asthma mortality.

3.10: More information is needed about the role of indoor and outdoor pollutants in inciting and triggering asthma, and whether or not these agents increase the risk for an asthmatic developing CAD.

4 Recommendations

4.1: Asthma needs to be defined for epidemiologic purposes. Until the results of studies of the fundamental biochemical and cell biologic abnormalities of asthma allow a precise diagnosis, a definition that is suitable for studies by standardized questionnaire and simple pulmonary function tests needs to be developed.

4.2: Asthmatics and their families should be strongly recommended not to smoke. The adverse effects of parental smoking on children with asthma should be strongly emphasized.

4.3: Until better data are available on long-term effects of treatment by different regimens, no specific recommendations can be made concerning the proper management of asthma with the specific objective of preventing CAD. However, in view of the association between clinically severe asthma and the development of irreversible CAD, it seems prudent to use presently available medications to minimize the severity of respiratory symptoms and pulmonary function abnormalities.

5 WHO/IUATLD Initiatives

Asthma is clearly an important health problem throughout the world, but the magnitude is unknown and probably underestimated. WHO can use its prestige and resources in the following ways:

5.1.1: By informing governments that asthma is a potentially serious disease with considerable morbidity and mortality that should receive governmental attention.

5.1.2: By taking the lead in convening a group of experts that can establish a definition of asthma suitable for epidemiologic purposes.

5.1.3: By helping to organize the standardized collection of data on the prevalence of and risk factors for asthma from different countries, populations, environments, and occupations, and by serving as a coordinator and distributor of such information.

5.2 IUATLD Initiatives

IUATLD, with its affiliated local and regional associations and other nongovernmental organizations, can play an important role in the control of asthma:

5.2.1: By educating patients, their families, physicians, and other health care personnel about the diagnosis, natural history, and treatment of asthma.

5.2.2: By counseling patients and their families about the potential adverse effects on asthma of active and passive smoking.

5.2.3: By working to control various sources of environmental pollution known to cause or aggravate asthma.

5.2.4: By promoting further research on the causes and natural history of asthma, the risk factors that contribute to CAD, and the effect of treatment on this evolution.

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