like headache, nervousness and depression and, the low protection, with irritative eye symptoms, headache, nervousness and depression. The use of modern application technologies was negatively associated with skin irritation. Low levels of PPE use, lifetime exposure and lack of safe environments with appropriate technologies, involves higher levels of cumulative exposure, resulting in greater negative impact on their health.

P2-173 CHRONIC DISEASES: STUDYING AND UNDERSTANDING OUTCOME USING ROUTINE DATA: CHRONIC KIDNEY DISEASE (CKD), AN EXAMPLE

doi:10.1136/jech.2011.142976j.8

A Marks,* N Fluck, G Prescott, A MacLeod, W C S Smith, C Black. *Aberdeen Applied Renal Research Collaboration (ARRC), University of Aberdeen & NHS Grampian, Aberdeen, Scotland, UK*

Internationally, chronic disease represents a major healthcare challenge for the 21st century. Prognostic tools that streamline and target care have been developed for cardiovascular disease. This study illustrates how routine data can be used to develop tools for other chronic diseases; using chronic kidney disease (a precursor of renal replacement therapy (RRT: dialysis or transplantation) requirement) as a model. Routine clinical data—serum creatinine (a measure of kidney function), RRT initiation and death registration were used to identify a CKD cohort, and follow them over 6 years. Mortality was compared to the general population. 3426 persons were identified with CKD (median age 79 years, 56% female). RRT initiation rates decreased with age from 14.3 to 0.7 per 100 person-years among those aged 15–25 and 75–85 years at baseline respectively (absolute numbers 6 and 34). Mortality rates increased with age from 1.9 to 33.8 per 100 person-years for those aged 15–45 and over 85 years at baseline—a 19 and 2 fold increase in mortality risk compared to the general population respectively (2 and 17 excess deaths per 100 person-years). CKD has been labelled a public health concern, and provides a typical pattern for chronic disease. Personal risk is low for the majority, but they represent a high societal cost; whereas those with high personal risk are few, with lower societal cost. Exploitation of routinely collected data are an efficient way of following up health outcome, and informing the development of prognostic tools for a chronic disease cohort.

P2-174 SURVIVAL ANALYSIS OF CYSTIC FIBROSIS PATIENTS IN A REFERENCE CENTRE IN RIO DE JANEIRO, BRAZIL

doi:10.1136/jech.2011.142976j.9

[1]L S Higa, [1,2]V Andreozzi, [1,3]P H Cabello, [1]M V M Peixoto.* *[1]IFF, FIOCRUZ, Rio de Janeiro, Rio de Janeiro, Brazil; [2]CEAUL, Lisboa, Portugal; [3]IOC, FIOCRUZ, Rio de Janeiro, Rio de Janeiro, Brazil*

Cystic Fibrosis (CF) is a rare genetic disease, of autosomal recessive transmission, with multiple organ involvement, a progressive course and is potentially lethal. We studied the factors associated with the reduced survival. In an open cohort of cases diagnosed between 01 January 1990 and 10 October 2009 in a CF reference centre in Rio de Janeiro, we analysed survival and risk factors associated with survival. Information on patients included that on CF diagnostic criteria follow-up and outcome. The model included variables on gender, genotype, number of involved organs, nutritional state, bacterial colonisation, enzyme replacement and calendar-time of diagnosis. Survival was estimated by Kaplan–Meier (KM) method and covariates examined by log-rank tests. HRs were estimated by a Cox model and evaluated by the likelihood ratio, deviance and residual analysis. The majority of the population (n=177) was female (56%) and the median age at diagnosis was 14 months. The median survival was 19 years. After diagnosis, 81% survived up to 5 years, 70% up to 10 and 61% up to 14.5. The model explained 19.9% of the effects and included six covariates. HRs were 10.30 (2.41–43.97) for isolated pseudomonas colonisation, 4.50 (0.93–1.85) for *Staphylococcus aureus*, 3.38 (0.92–1.32) for other bacteria, 1.95 (0.96–3.96) for gender, 1.94 (0.94–3.98) for nutritional state and 4.34 (1.50–12.52) for decade of diagnosis. Risk factors obtained at diagnosis were associated with prognosis suggesting that interventions may reduce morbidity by nutritional improvement and pseudomonas eradication.

P2-175 MATERNAL SMOKING AND HEIGHT IN THE ADOLESCENT OFFSPRING. THE 1993 PELOTAS BIRTH COHORT

doi:10.1136/jech.2011.142976j.10

[1]J Martínez-Mesa,* [1]A M B Menezes, [2]D A González, [1]D P Gigante, [1]B L Horta, [1]C L P Araújo, [1]P C Hallal, [1]H Gonçalves. *[1]Posgraduated Program of Epidemiology, Pelotas, Rio Grande do Sul, Brazil; [2]Federal University of Santa Catarina, Florianópolis, Santa Catarina, Brazil*

Background Maternal smoking has been indicated as a risk factor for several health outcomes in the offspring.
Objective The aim of this work was to describe the association between maternal smoking during prenatal and postnatal periods and the offspring's height during adolescence.
Methods The 1993 Pelotas birth cohort (Southern Brazil) has primary data from birth to adolescence with several follow-ups and it comprised 5249 live-born newborns. The follow-up rates at 11 and 15 years old were, respectively: 87.5% and 85.7%. The variable maternal smoking was categorised as: never smoker, only prenatal smoker, only postnatal smoker (during first year of life) and always smoker. Height was used as height for age z-score at 11 and 15 years using WHO curves. The confounding variables taken into account were: maternal height, maternal age, maternal schooling, paternal smoking, family income, sex, skin colour, Tanner's stage and adolescent smoking.
Results After adjustment for potential confounders in a multiple linear regression model, maternal smoking showed a significant and negative association (β values) with height for age z-score: a) at 11 years old [never smoker as the reference]: only prenatal smoker (−0.47), only postnatal smoker (−0.12), always smoker (−0.30) $p<0.001$; b) at 15 year old: only prenatal smoker (−0.14), only postnatal smoker (−0.12) and always smoker (−0.30) $p=0.007$.
Conclusion We concluded that maternal smoking has an important effect on adolescence height.

P2-176 ANALYSIS OF THE FAMILIAR EXPENSES WITH MEDICINES FOR DIABETES TREATMENT IN THE BRAZILIAN POPULATION

doi:10.1136/jech.2011.142976j.11

A Zaccolo,* S Mengue. *UFRGS, Porto Alegre, Rio Grande do Sul, Brazil*

Introduction Direct costs for diabetes care accounts for 2.5% to 15% of national health expenditures around the world, fee that varies according to local prevalence of diabetes and to the complexity of treatment available. Economic aspects of diabetes have been studied in the United States and in countries of Europe, but such information are still scarce in Brazil. The main objective is to evaluate the individual spending with prescription drugs to treat diabetes based