(21.6%) patients with an active TB diagnosis were not identified by IGRA, TST-5 mm and TST-10 mm respectively. The difference between IGRA and TST was only was only statistically significant between IGRA and TST-10 mm (p=0.021). Agreement between IGRA and TST-5 mm was k=0.402 (p<0.001) with a concordance rate of 83.5% and between IGRA and TST-10 mm was k=0.351 (p<0.001) with a concordance rate of 79.5%. Combine sensitivity of IGRA plus TST-5 mm and IGRA plus TST-10 mm was 91.7% and 90.6%, respectively.

Conclusion IGRA tests showed a high sensitivity, however lower than the TST with a 5 mm cutoff. The level of agreement between IGRA and TST with either cut-offs was poor, with 16.5% of the patients showing different outcomes between IGRA and TST-5 mm and 20.5% between IGRA and TST-10 mm. This significant increase in sensitivity when results from both tests were combined suggests that the use of the two tests together could promote the identification of more cases of infection than if used separately and in substitution of one another. This could be especially important in countries were latent infection is the primary source of TB cases.

P52 IMPACT OF TWO TYPES OF PHYSICAL ACTIVITY UNDER RISK ENVIRONMENTAL CONDITIONS ON KIDNEY FUNCTION

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Background Performing strenuous physical activity in a heat environment with high air pollution has been associated to kidney injury in healthy individuals. The aim of this study was to evaluate the acute effects on the kidney of manual harvesting of sugarcane and supervised streets running exercise.

Methods We evaluated 49 male sugarcane workers, three months after harvesting beginning, before and after a daily work shift, and 39 male Brazilian army recruits, six months after performing street running five days a week, before and after a 7.5km (45 min) street running. Urine and blood samples were assessed for inflammatory markers, kidney biomarkers and renal function. Glomerular filtration rate (GFR) was estimated by CKD-EPI equation. Particulate matter ($PM_{2.5}$) and environmental temperature at sugarcane field during working days, and at street circuits during races, were monitored. Continuous variables are described by mean±SD or median(IQR).The differences between post and pre values are presented with their 95% confidence interval. Analyses were performed with SPSS (v21) software.

Results $PM_{2.5}$ concentration and temperature were higher in sugarcane field: 101.0 μg/m^3 (IQR: 31.0–139.5) and 29.7°C (24.1–34.0) compared to urban environment: 62.0 μg/m^3 (37.5–103.0) and 22.2°C (20.9–23.5). Sugarcane cutters were older (41.3±10.6×19.1±1.0 years). There was significant and similar reduction of GFR in harvesters and recruits:-15.0 [95%CI:-18.3;-11.7]mL/min/1.73m^2 after shift work, and -14.1 [-18.1;-10.1] post-run, respectively; similar increase in serum creatinine (0.17[0.13;0.21] and 0.13[0.10;0.16]mg/dL) and in urinary KIM-1 (119.6[-1.5;240.6] and 427.1[168.7;685.5]pg/mL). There was increase in serum NGAL (8.9[2.5;15.2]ng/mL after shift work and 2.7[-18.5;23.9] post-run) and in blood monocytes (42.4[2.0;82.7]/mm^3 after shift work and -52.6[-120.7;15.4] post-run) observed only in sugarcane cutters, and blood neutrophils increase in both groups, which was higher in cutters: 1846[1349;2343] vs 400[150;649]/mm^3 in recruits.

Conclusion Burned sugarcane harvesting and street running were associated with acute decline in kidney function, increase in biomarkers of renal injury and systemic inflammation, with more marked changes in sugarcane workers. These alterations are likely associated with the extraneous physical work, heat stress, air pollution and dehydration. The two groups evaluated showed differences that make it difficult to compare them. However, we were able to show the impact that physical activity in adverse conditions had on the studied outcomes. The effects of a daily repetitive kidney stress and inflammation are unknown, but may evolve to chronic disease in vulnerable individuals. Measures should be taken to improve the working conditions of sugarcane cutters, including cessation of burning of sugarcane, establishment of breaks and better hydration at work.

P53 MATERNAL EDUCATION AND LANGUAGE DEVELOPMENT AT 2 YEARS CORRECTED AGE IN CHILDREN BORN VERY PRETERM: RESULTS FROM A EUROPEAN POPULATION-BASED COHORT STUDY

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Background In the general population, children from socioeconomically disadvantaged families face higher risks of developmental language delay (DLD). Less research exists on very preterm (VPT) children and results have been contradictory, which may reflect a lesser impact of socioeconomic factors when perinatal risks for delayed development are high. Our objective was to investigate the association of maternal education with DLD at 2 years of age by degree of perinatal risk.

Methods Data come from the Effective Perinatal Intensive Care in Europe (EPICE) cohort, a population-based, prospective cohort study of children born <32 weeks' gestational age (GA) in 2011/2012. Perinatal data were abstracted from medical records and follow-up was conducted using parental questionnaires at 2 years corrected age. Six countries (Belgium, Estonia, France, Italy, Netherlands, UK) used a validated short form MacArthur Developmental Communicative Inventories Checklist (4666 children at inclusion 2990 (64%) followed up); DLD was assessed using 2 outcomes: not yet combining words; expressive vocabulary <10th percentile. Families speaking only other languages at home were excluded. Modified Poisson regression models were used to estimate relative risks (RRs) for DLD for maternal education overall and by perinatal risk (low, moderate, high), classified using GA, small for gestational age (SGA) and severe neonatal morbidities. All analyses were performed using Stata version 15.

Results 2643 VPT children (mean GA 28.8 weeks) were assessed at a median 24 months corrected age. 25.3% were not combining words and almost 40% were <10th percentile for expressive vocabulary. Among children with low perinatal

risk (born at 30 and 31 weeks' GA, not SGA, without severe morbidities), risks of DLD were higher when mothers had less than high school versus tertiary education (RR word combination: 2.2 (95% CI: 1.5; 3.3); RR expressive vocabulary: 1.5 (95% CI: 1.1; 2.0)). Among children with higher perinatal risk (lower GA, SGA and severe morbidities), maternal education was not associated with DLD.

Conclusion Maternal education was associated with language development only among VPT children with low perinatal risk. The interaction of social factors with perinatal risk may explain contradictory findings in previous studies.

P54 PARENTAL RATING OF FOLLOW-UP CARE FOR THEIR CHILDREN IN A EUROPEAN COHORT OF VERY PRETERM BIRTHS

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Background Infants born very preterm are at risk of developing multiple health and developmental problems. Because the prognosis of each individual child is unknown at discharge, follow-up is essential for identifying health needs early, enabling timely intervention and coordinating health services from multiple providers. Despite its recognized importance, there have been few evaluations of follow-up - in particular among parents, whose involvement is crucial for successful follow-up. This study investigated how parents rate their very preterm children's follow-up care in Europe.

Methods The data come from the Screening to improve Health In very Preterm infantS (SHIPS) study. It followed up the area-based EPICE cohort, which included all births before 32 weeks' gestation from all maternity units in 19 regions from 11 European countries in 2011/12. Perinatal data were abstracted from medical records and socioeconomic and child health data were collected with parent-report questionnaires at 2 and 5 years. At 5 years, parents rated the follow-up care received for their child's prematurity (poor, fair, good, excellent) and provided suggestions for improvement as free-text comments. We assessed poor and fair ratings and associated factors, including country, sociodemographic characteristics, perinatal characteristics and current health and developmental problems in STATA 14.0 using χ^2; tests and logistic regression models. We grouped free-text comments by themes and described them by country.

Results Questionnaires were filled in for 3414 children (51% response rate), by mothers (84%), fathers (14%) and other caretakers. 93% reported receiving follow-up care. Few (13.7%) judged follow-up care to be poor or fair, but this varied from <10% in France and the Netherlands to >20% in Denmark and Poland ($p<0.001$). Higher maternal education was related with more dissatisfaction ($p<0.01$). Poor/fair ratings were highest when children had diagnosed health problems, especially cerebral palsy (32.2%), and developmental delay (28.5%). After adjustment for diagnoses, perinatal characteristics were not significantly related to care ratings. Common themes from free-text comments (1032 responses) included the need for longer-term follow-up, focusing on more than physical health and lack of knowledge about prematurity among general practitioners. Some themes were mentioned more frequently in some countries such as waiting times (Poland), lack of coordination (Sweden) and length of maternity leave (Portugal).

Conclusion Dissatisfaction with follow-up care was low overall, but it was higher among those most reliant on health services. Many common themes emerged from parent comments despite geographic heterogeneity. Further research is needed to understand differences in reported satisfaction between countries and by maternal educational level.

P55 DESIGNING EXPERT HEARINGS: HOW TO USE DELIBERATIVE RESEARCH METHODS FOR PUBLIC HEALTH EVIDENCE

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Background Deliberative methods, such as citizen juries, are used in public policy as a form of democratic engagement. Because they stimulate dialogue between actors and allow consideration of different evidence sources including lived experience, such methods are often used to examine contentious or complex issues. There are few examples of where deliberative methods have been used in population health research. Deliberative methods have the potential to improve the policy relevance of research and hence its impact - particularly where evidence might be contested. This presentation will consider the application of deliberative expert hearings as a method of collecting, interpreting and validating public health evidence and discuss critical design choices that shape implementation.

Methods Three case studies are presented to illustrate use of expert hearings and methodological choices:

i. A series of expert hearings conducted for a qualitative study into lay people's roles in public health
ii. An expert hearing bringing together stakeholders from across the criminal justice system as part of a systematic review on peer education
iii. Two hearings conducted to test the meaning and application of evidence collected as part of a What Works Centre programme.

The main features were incorporation of democratic principles of deliberation; valuing diverse evidence sources including experiential evidence; in-depth exploration of complex and contested issues; enabling actors to question evidence; testing arguments. Design and sampling choices created the conditions for deliberation on agreed topics. In each case, qualitative data from presentations and discussions were collected and later analysed with a framework, plotting different perspectives on a matrix.

Discussion These studies enabled us to build experience of expert hearings as a research method. In each case, we documented design issues and reflections. This has generated a set of design choices:

Development of research questions - by researchers or with stakeholders;