between “shift work without night shifts” and health outcomes in the prospective data, age- and sex-adjusted odds ratios (multivariate logistic regression) were lower for subjective compared to objective assessment (e.g. for fatigue during free-time compared to day work 1.21, 95% CI: 0.78–1.87 versus 1.89, 95% CI: 1.06–3.35). Non-responding (n = 2156) to the questionnaire was not associated to the objective shift system but 55% of the dayworkers had at least one year of earlier shift work experience. Contributions These findings suggest that the validity of self-reported assessment of shift work varies depending on the shift system. Exposure misclassification was most common in self-reported shift work without night shifts and regular day work, contributing to bias towards the null in analyses of health effects.

**006-3** SHIFT WORK AND THE INCIDENCE OF PROSTATE CANCER

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Objectives We investigated the association of shift and night work with the incidence of prostate cancer using data of the population-based prospective Heinz Nixdorf Recall Study (HNR) from the highly industrialised Ruhr Area in Germany.

Methods Participants for the baseline survey of the HNR, which included questions with respect to shift work, lifestyle, and socioeconomic status, were recruited between 2000–2003 (n = 4,814). A follow-up survey was conducted from 2011–2014.

We included 1,757 men who answered a detailed follow-up interview and did not report a history of prostate cancer at baseline. Incident prostate cancers were recorded through September 2014. We calculated hazard ratios (HR) of shift exposure by Cox proportional hazards regression with age at event as time scale, adjusting for physical activity (Metabolic Equivalent Task (MET)-hours), alcohol consumption (g/week), smoking status (never, former, current smoker), family history of prostate cancer, vitamin D status at baseline (low, high), school education (≤13, 14–17, ≥18 years), and equivalent income (low, medium, high).

Results During follow-up 76 men with shift work information were diagnosed with primary prostate cancer. We observed a two-fold increased HRs for prostate cancer both among shift and night workers (HR (unadjusted) = 2.01; 95% CI: 1.28–3.18), HR (adjusted) = 2.29; 95% CI: 1.43–3.67). Being employed for ≥20 years in shift or night work was associated with strongly elevated risks (e.g. for night work HR (unadjusted) = 2.99; 95% CI: 1.68–5.29, HR (adjusted) = 4.01; 95% CI: 2.15–7.46). Further adjustment for body mass index did not change these results.

Conclusions We identified increased risks for prostate cancer among men with increasing duration of employment in shift or night work. Risk estimates were strongly elevated among long-term employed shift workers.