between serum markers of the disease. Previous studies attempted to address this issue by assessing outcomes in mutually exclusive BMD phenotypes based on patient’s calcium, phosphorus and PTH serum concentrations. However, this evidence is limited by relatively short follow up and insufficient statistical power for important clusters. Additionally, generalizability was questionable due to exclusive use of North American patients’ data. We aimed at evaluating survival and hospitalization risk associated with mutually exclusive BMD phenotypes in an international sample of hemodialysis patients.

METHODS: We conducted a historical cohort study by enrolling all patients registere-din EUCLID® network on 07/01/2011 (28 EMEA and South American countries), with at least 180 days of Renal Replacement Therapy before the index date (run-in) and at least 30 days of survival. We classified patients in mutually exclusive phenotypes based on 6-month averaged P, Ca and PTH serum concentrations classes (L: Low; N: Normal; H: High) defined by established normality cutoffs. We excluded patients with incomplete MBD assessment and those belonging to very small phenotype clusters (n<100). Patients’ outcomes have been observed for up to 5 years. Survival analysis (mortality and composite of mortality or hospitalization) was adjusted for age, sex, ethnicity, smoke, RRT vintage, BMI, etiology, albumin, hemoglobin, ferritin, glucose, diabetes, cardiac dysrhythmia, cancer, liver disease, COPD, Peripheral vascular disease, GI bleeding, and cardiovascular comorbidities.

RESULTS: There were 35763 patients satisfying inclusion/exclusion criteria and had full MBD assessment; 41 patients belonged to classes with less than 100 subjects (PTH/ Ca/P: HLL, HNL, LHL, NLL). Mean age was 61.8 (SD: 15.7), and the average time on dialysis was 5.3 years (SD: 4.9); 26.9% of patients had diabetes and 60.5% hypertension. There were 15773 deaths (128.9 deaths/1000 person-years). Global mortality risk was reported in figure 1. Adjusted association between MBD phenotypes, mortality and hospitalization is reported in figure 2.

CONCLUSIONS: We highlighted MBD phenotypes associated with substantial risk which should be addressed more aggressively. Data show that mortality and hospitalization risk is best explained by complex biomarkers configurations and cannot be directly inferred by the status of any single MBD marker alone.