

## *Is kidney disease really such an important issue for Europe?*

**Quite simply, yes.** Chronic kidney disease (CKD) is not confined to patients with End Stage Renal Disease (ESRD) – now often referred to as CKD stage 5. **CKD is much more common and is thought to affect around 8% of the EU population.** Early forms of CKD are often asymptomatic, making this ‘silent epidemic’ all the more critical to bring to light because early and effective interventions have been shown to diminish the risk of complications.

The large number of people affected by CKD is of concern first because some will progress to ESRD which is a personal and economic tragedy for those affected and consumes disproportionate amounts of healthcare resources; and second because CKD even in its earliest stages greatly increases the risk of premature death from cardiovascular disease, the largest and most expensive health care threat we confront today.

Why are the numbers affected so high? The increasing prevalence of CKD is linked to an increase in other modern-day diseases such as hypertension, cardiovascular disease and diabetes, mainly associated to changing life style habits. The 21<sup>st</sup> century is the most diabetogenic environment in human history and diabetic kidney disease is an independent risk factor for cardiovascular disease, nephropathy, retinopathy, diabetic foot and a whole range of other conditions.

**There is an urgent need for improved public awareness, prevention strategies, early detection, education and subsequent management of CKD in clinical practice.**

### *Prevention*

The impact on the lives of patients as a result of late identification and diagnosis of CKD is incalculable. But the silent epidemic is also a huge burden on national healthcare systems, **with dialysis treatments alone accounting for 2% of national healthcare budgets. This figure is set to double in the next 5 years.** Moreover, the costs involved with kidney disease are over four times what could be expected from the number of patients affected, due to the high incidence of associated cardiovascular disease as well as associated anaemia, phosphate retention, hyperparathyroidism, electrolyte and acid-base disturbances, etc. These metabolic problems all add to healthcare costs and impact on the quality of life of the individual. The cost of implementing CKD prevention strategies, on the other hand, can be modest.

**“Despite the success of ‘treatments’ for uraemia today, we must recognise all forms of dialysis to be highly expensive palliation which still carries a totally unacceptable mortality...Thus dialysis and transplantation exist and flourish as a result of failure, not of success. We have to achieve an arrest of progression of renal failure, or better still, prevention.” Professor Stewart Cameron**

The need for a fundamental shift in policy and for much greater attention to primary and secondary prevention, is valid not only for CKD, but for other chronic diseases as well such as cardiovascular disease, cancer, diabetes and respiratory diseases.

**Currently, 97% of health expenses in the EU are spent on treatment, with only 3% invested in prevention.**

EKHA has built an Alliance with other EU-level chronic disease organizations, to form the European Chronic Disease Alliance. Bringing together the scientific knowledge and research of leading European organizations in the fields of health promotion, disease prevention and healthcare, priority recommendations have been formulated around four categories, to help the EU and Competent Authorities of the Member States tackle the main risk factors for chronic diseases: tobacco use, excessive alcohol consumption, poor nutrition and physical inactivity.

## *Early Detection*

As well as the need for widespread prevention policies, screening for the risk factors of CKD is fundamental for halting the CKD epidemic.

Early diagnosis may be achieved by implementation of routine reporting of estimated glomerular filtration rates (eGFRs) by simple serum creatinine measurement and by education of primary care physicians on the implications of detecting a decreased eGFR with respect to patient safety as well as to cardiovascular and renal outcomes.

Early detection may also be realised by screening for increased protein leakage into the urine. Upon diagnosis of increased proteinuria interventions to protect the kidneys and the cardiovascular system, should be provided. Screening and treatment of at-risk individuals is cost-effective because the risk for later dialysis and cardiovascular events may be prevented.

The Dutch PREVEND study, carried out amongst a large cohort of inhabitants of the city of Groningen in the Netherlands, shows that screening of urinary protein loss of more than 50mg/day costs 7,000 Euros per life year gained, a cost acceptable to most healthcare systems in the EU. To look at the issue from another angle, the cost of non-detection is enormous: for every person with kidney failure, there are at least 30 with lesser degrees of kidney damage who need treatment to minimize the risk of developing kidney failure. Added to this, the costs incurred to the individual in terms of decreased earnings, private insurance, healthcare bills etc, mean that CKD is an extremely expensive disease in EU.

**Improvement of existing technologies to detect CKD is needed so as to ensure that every European citizen has equal access to high-quality healthcare.**

## *Education*

As well as strategies for early detection, the importance of putting in place strategies for early education should not be underestimated. Education of both patients and their families and the general population, and guidelines and training for healthcare professionals, are required in order to help raise awareness of the disease and enable patients for greater involvement in the self-management of their disease.

Greater awareness of the links between diabetes and CKD is imperative. According to a recent survey, nearly 70% of individuals with diabetes had not discussed with their medical advisors what steps they should take to minimize the risk of kidneys damage.

Similarly, a recent European survey of people with cardiovascular disease showed a similar proportion (73%) of those being treated for hypertension were ignorant of the risk for developing CKD.

One of the most important steps for CKD patients is to assume responsibility for his or her own kidney health in order to stop or slow the progression of the disease and to minimize the symptoms and risks of complications.

**High priority should be given for provision of information to patients and their families on how to minimize the risks and complications of progressive kidney damage, together with support to help them make necessary lifestyle changes. This includes promoting a healthy lifestyle by eating healthily, taking regular exercise, controlling stress levels and not smoking; ensuring good control of blood pressure and blood sugar; as well as taking the correct doses of medication.**

## Renal Replacement Therapy

At present, more than 250,000 patients in Europe are being treated with kidney dialysis machines or have kidney transplants, a number that has more than doubled over the past fifteen years. If this trend were to continue, national governments would need to spend between 3 and 5 per cent of their annual healthcare budgets on renal replacement therapies without taking into account its wider costs in terms of additional medical expenses, decreased quality of life and life expectancy, increased morbidity and reduced capacity to work. Patients on renal replacement therapy currently face enormous problems: the access to, extent and quality of services for RRT varies greatly throughout the EU and most importantly opportunities for the best and most cost-effective treatment – kidney transplantation - are severely restricted because of the significant shortage of kidney donors.

Both living donation and deceased donor donation are now recognized as critical to the capacity of nations to develop self-sufficiency for organ transplantation. **Harmonize national legislations amongst EU countries, where opting-in (consent to organ donation has to be explicitly given) and opting -out (organ donation is presumed accepted unless refusal of organ donation has been explicitly given) systems coexist, provide reimbursement of donor costs, create registries of people who have donated their kidneys are some of the initiatives which can be taken and would tremendously help increase the number of donors.**

## Research

Research covering all aspects of CKD is important in order to both increase understanding about CKD and to devise novel strategies for improving outcomes along the entire spectrum of the disease, from prevention to early detection and diagnosis, management and treatment.

The EU has an important role to play in increasing collaboration between investigators in the field and in integrating European kidney research.

EKHA was delighted that the EU awarded 12 million euros of FP7 funds to SysKid (Systems Biology towards Novel Chronic Kidney Disease Diagnosis and Treatment). The project focuses global attention on proteomics in approaching the development of biomarkers in Europe. Further Research Framework Programme funds should be earmarked for projects focusing on mechanisms of glomerular injury and repair but also in systemic diseases, such as hypertension and diabetes, and some genetic diseases of the kidney.

The **European Kidney Health Alliance (EKHA)** is an Alliance of not-for-profit organisations who represent the key stakeholders in kidney health issues in Europe.

