

## Tackling Chronic Kidney Disease at European level

*Recommendations for the French Presidency of the Council of the European Union (January-June 2022)*

*Document written on behalf of the European Kidney Health Alliance (EKHA), the French-speaking Society of Nephrology, Dialysis and Transplantation (SFNDT), France Rein and Renaloo.*

### Facts & figures

#### Prevalence

Chronic Kidney Disease (CKD) is a serious disease that damages the kidneys so that they can no longer filter blood properly. In Europe, 100 million people<sup>1</sup> suffer from CKD, and the incidence of CKD worldwide is estimated at 700-800 million people<sup>2,3</sup>. Among these patients, at least 10% have a rare kidney disease for which there is no specific treatment<sup>4,1</sup>. It is estimated that CKD will become the fifth leading cause of death globally by 2040<sup>5</sup>. The disease usually develops slowly, with no initial symptoms, but can progress to total loss of kidney function.

#### Risk factors and comorbidities

The best-known causes of CKD are hypertension, cardiovascular disease and diabetes. However, cancer, liver and autoimmune diseases, pre-eclampsia and infections are also risk factors for CKD<sup>1</sup>. In addition, the risk of Acute Kidney Injury (AKI) increases with age and frailty. Elderly patients with AKI often require maintenance dialysis in the following months or years. In addition to ageing, poor diet, smoking, physical inactivity, obesity and excess salt contribute greatly to the development of CKD<sup>1</sup>.

#### Annual cost

Costs per patient increase as CKD worsens and reaches more advanced stages. It is estimated that CKD alone increases the cost of many other chronic diseases by a factor greater than two<sup>1,6</sup>. The overall costs of CKD are at least as high as or higher than those of cancer and diabetes<sup>1,7</sup>. These costs are estimated at 140 billion euros per year in Europe<sup>1</sup>. Among the Renal Replacement Therapy (RRT) options, in-centre haemodialysis is the most common treatment option, although it has the highest per-patient costs. In Europe, annual reimbursement per country can be as high as €80,000/patient<sup>1,7,8</sup>.

## Recommendations

### 1) Prevent CKD or at least delay its progression

Many causes of CKD could be prevented by primary intervention, i.e. by reducing or eliminating the lifestyle risk factors that are common to the majority of Non-Communicable Diseases<sup>9</sup> (NCDs). Each year, 790,000 European Union (EU) citizens die prematurely due to these risk factors (e.g. smoking, alcohol consumption, poor diet and lack of physical activity)<sup>10</sup>. In addition, the majority of deaths in the NCDs group are associated with metabolic syndrome, a group of conditions that increase the risk of CKD<sup>9</sup>. Despite this, only 3% of health expenditure in the EU is currently spent on disease prevention<sup>11</sup>.

Secondary prevention is equally important for the early detection of CKD and slowing its progression. Screening should be particularly encouraged in high-risk population groups such as the elderly and people with diabetes, hypertension, obesity, cardiovascular disease or cancer. Increased awareness among patients and doctors in primary care would help to overcome these shortcomings.

#### **Our recommendations:**

- Eliminate or reduce the exposure of European citizens to lifestyle-related risk factors for CKD, including through Europe's Beating Cancer Plan,
- Fund projects, notably through the EU4Health programme, to train primary care workers in the identification of at-risk patients and in the importance of early detection,
- Implement a major Europe-wide communication campaign on primary and secondary prevention of CKD to raise awareness and increase screening.

## 2) Improve access to existing treatment options and stimulate research to develop more innovative treatments

Currently, kidney transplantation is the best treatment option in terms of life expectancy, quality of life and cost, compared to dialysis. Home dialysis also has a significant advantage in terms of quality of life and cost over centre or hospital dialysis for patients who cannot be transplanted. However, there are many disparities in access to these options between Member States and often between certain regions within a country, creating inequalities in access to care.

The International Society of Nephrology's<sup>12</sup> survey of country capacity for renal care services identified gaps in the ability to fund services for CKD patients and to provide full dialysis and transplantation services, particularly in Central and Eastern Europe.

Furthermore, treatments for kidney failure have not changed significantly in the last 50 years and, despite some improvements, remain on the whole very burdensome for patients. The basic concept of haemodialysis is very similar to the original prototype developed in 1942. Similarly, all other RRT options and pharmacological approaches to delay progression to renal failure, have not progressed at the same pace as those for cancer, HIV, cardiovascular disease or diabetes<sup>1</sup>.

Studies on the development of mobile or implantable artificial kidneys to replace current dialysis machines, on the potential of regenerative medicine to treat CKD, or on xenotransplantation, offer much hope to patients. However, in contrast to the funding committed in the US in recent years, there is a severe lack of funding to exploit the potential of these advances in Europe.

### **Our recommendations:**

- Optimise organ donation and transplantation and the access to home-dialysis in Europe, through targeted activities via the EU4Health programme and increased cooperation between national competent authorities,
- Make research for more innovative CKD treatments a priority of the Horizon Europe programme and the Innovative Health Initiative (IHI),
- Contribute to improving access to cost-effective treatments outside Europe, notably through the Africa-EU partnership and the partnership with African, Caribbean and Pacific (ACP) countries.

### 3) Recognise the high vulnerability of patients and their needs in times of pandemic

People with kidney disease have been heavily affected by the COVID-19 pandemic. Recent data show that patients with CKD are more exposed to COVID-19 than those with other known risk factors, including chronic heart and lung disease<sup>9</sup>. Mortality rates in patients with COVID-19 are of concern : 20% in kidney transplant patients and 21% in dialysis patients<sup>13</sup>.

In addition, vaccine efficacy for immunocompromised people (especially transplant patients) is very low. After three vaccinations, a third have no antibodies and a majority have insufficient protection. Finally, given the risks involved, the forced isolation and the sometimes vague recommendations from the authorities, the social, family and professional life as well as the mental health of people with kidney disease have been severely affected since the beginning of the pandemic.

Recent studies have shown that maintaining the quality of health care during the COVID-19 health crisis has been and continues to be a major challenge<sup>14,15</sup>. The pandemic has led to shortages of medical devices and nephrology staff<sup>15</sup>, the latter being particularly at risk of mental and physical exhaustion during a health crisis<sup>14</sup>. The European Union has a central role to play in encouraging Member States to improve their health care systems, protect health care workers during pandemics and make the health care profession more attractive.

#### **Our recommendations:**

- Recognise the high vulnerability of people with kidney disease and their needs in times of pandemic in the European recommendations to Member States to fight COVID-19 and future pandemics,
- Develop research, via Horizon Europe, on vaccine boosting strategies and preventive or therapeutic treatments adapted to renal patients. For example, pre-exposure monoclonal antibodies,
- Encourage cooperation between Member States on different approaches to strengthening the resilience of European health systems, in particular through the Steering Group on Health Promotion, Disease Prevention and Non-Communicable Disease Management.

#### 4) Promote green dialysis

All CKD treatments have a considerable carbon footprint and cause significant pollution. This is due to frequent therapeutic interventions, hospitalisations, the use of consumables, the regular use of a large number of drugs requiring energy for their production and the transport of goods and people<sup>16-18</sup>.

Moreover, dialysis generates a lot of plastic waste and consumes huge amounts of water, corresponding to >169 billion litres per year worldwide. Only 65% of the water consumed per dialysis session is used for dialysis itself, and the remaining 35% is reverse osmosis wastewater that ends up in the sewer system although it could be used for other purposes<sup>16</sup>.

##### **Our recommendations:**

- Develop organ transplantation, a more efficient treatment that is also significantly less polluting than dialysis,
- Fund European projects, notably Horizon Europe and LIFE 2021-2027, to develop more environmentally friendly dialysis machines and care practices,
- Strengthen prevention efforts to reduce the incidence of CKD, and therefore the use of polluting treatment options such as dialysis.

##### **General recommendation:**

Chronic Kidney Disease has a major impact on patients' lives and health systems. In addition to these targeted recommendations, we believe it is important to address the specific nature of the disease by adopting a single European action plan. This would facilitate the implementation of the above recommendations and consequently improve the prevention, treatment and management of CKD in Europe.

**We therefore strongly call on European policy makers to make CKD a priority area, alongside other important chronic diseases such as cardiovascular, respiratory, mental health, neurological diseases and diabetes, in the new EU initiative on Non-communicable Diseases 'Healthier Together'.**

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