

Resolve the unmet needs of kidney patients in
"The Decade of the Kidney"

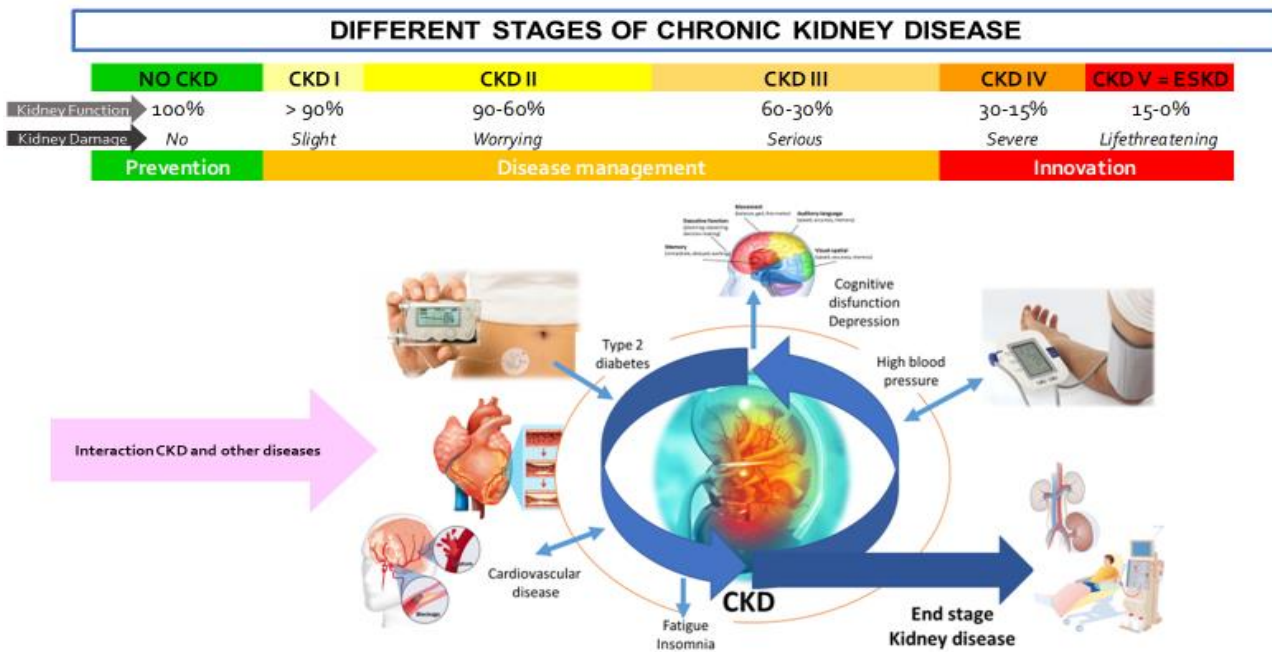


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The urgent need for innovative & affordable kidney care!

Chronic kidney disease (CKD) is becoming an increasing health threat to the European society. Next to the risk of developing End Stage Kidney Disease (ESKD) and the need for dialysis or transplantation, CKD significantly contributes to early death by worsening cardiovascular disease and diabetes mellitus¹. Adequate treatment options are lacking or are not tailored to the needs of kidney patients.

The European Kidney Health Alliance (EKHA) is calling for action to improve the availability and affordability of innovative drugs and devices for treatment of kidney failure.



CKD: A RISING AND COSTLY PROBLEM

At this moment kidney disease is not listed amongst one of the main health focus points of the European Union for research and innovationⁱ whereas the increasing prevalence rates indicate that CKD should deserve more attention. About 75 million (one in ten) Europeans suffer from CKD. By 2040, CKD will have risen to the 5th cause of death globallyⁱⁱ. Without adequate treatment, CKD culminates in advanced kidney failure with the need for a costly kidney replacement therapy (KRT), i.e. dialysis or transplantation.

There is a shortage of donor organs and not every kidney patient is fit to receive transplantation. Survival with dialysis is shorter than for many forms of cancer, but general awareness of this is very low. The costs of treatment of kidney patients *costs for society are in the same range as for cancer*^{iii-iv}, but *investments to develop innovative kidney disease therapies are much lower than for cancer*^{v-vi}.

This is a clear example where efforts to develop innovative therapies are not aligned to public health and health systems’ needs. More should be done to develop drugs that can treat progressive kidney damage as well as devices that replace the function of the kidney more effectively, at lower cost, and with less impact on the patients’ well-being.

ACCESS, AVAILABILITY AND AFFORDABILITY IN KIDNEY CARE

The best treatment for a kidney patient with end stage kidney disease at this moment is transplantation, but in many countries the waiting list and time is long. Sometimes too long, and hundreds of patients on the waiting list die every year. So out of necessity kidney patients have to dialyze to survive. Ever since the invention of the dialysis machine in 1945, access, availability and affordability has been an issue in kidney care. Still hemodialysis – the most frequent Kidney Replacement Therapy (KRT) option – is among the most expensive treatments and large inequality in availability still exists across Europe.

KRT consumes 2% of overall healthcare expenditure in Europe, for only 0.1% of the population^{vii}

Hospital-based hemodialysis – the most common form of dialysis – alone costs up to €90,000 per year per patient^{viii}. The total 'direct' cost of dialysis across Europe is unknown, but an estimate puts it at over €23 billion per year^{ix}. In addition, there is a persisting lack of donor kidneys in all European countries, leaving dialysis treatment as the only (and last) option for most patients. More importantly the impact of early stages of chronic kidney disease on quality of life and productivity has been neglected for decades^x. The main focus has been on End Stage Kidney Disease (ESKD) and not on side effects of CKD in the earlier phases. More than half of the Europeans suffering from CKD are unaware of their disease and therefore do not have access to proper disease management. In addition, this neglect of CKD caused a lack of innovation in this area, resulting in the lack of preventive treatments like those currently available for type 2-diabetes and cardiovascular disease.

KEY CHALLENGES FOR IMPROVING ACCESS, AVAILABILITY AND AFFORDABILITY OF KIDNEY CARE

1. Drug development programs need more focus on CKD management.

Healthcare organizations across Europe are setting up screening programs for the early detection of CKD for people at risk. However, as soon as CKD has been diagnosed, pharmaceutical interventions are limited to antihypertensives that slow down the deterioration of kidney function, or to drugs that treat the complications that arise from CKD (anaemia and bone disease). There is a need for drugs that directly target the kidney itself and help restore or preserve kidney function. To this end, this unmet need is largely neglected by the pharmaceutical industry, even though adequate treatment of CKD would directly reduce the risk for cardiovascular disease, cancer, and all other associated chronic diseases and improve the outcomes as well as reduce the costs .

Breakthrough?

A recent study showed that a drug called dapagliflozin reduces the risk of kidney dialysis, hospitalization due to heart failure and death in patients with chronic kidney disease by forty-four percent^{xi} (unpublished data). Professor Lambers Heerspink (Groningen, The Netherlands) presented this hopeful message together with his British colleague David Wheeler at the international online conference of the European Society of Cardiology (ESC). "Thanks to this drug, patients can live longer with fewer complaints," says Lambers Heerspink. "It is the first drug to extend the life expectancy of patients with chronic kidney disease." Because the drug has already been registered, it can also be prescribed to patients with chronic kidney disease in a relatively short term. The medicine dapagliflozin is an existing medicine used to lower blood sugar in diabetic patients. **It is paramount that this drug will be available and affordable for all European Kidney Patients in need, awaiting other new drugs that can improve kidney function.**

REGENERATIVE KIDNEYS: THE ULTIMATE SOLUTION?

The ultimate solution for kidney disease could be found in harnessing the regenerative capacity of the kidney and creating new kidney parts by tissue engineering.

Europe is home to several academic institutes that are world-leading in the field of regenerative medicine. In 2017 the Flemish-Dutch public-private initiative RegMed XB (regmedxb.com) was launched focussing on innovative research programs in regenerative medicine for new solutions for kidney failure, type 1 diabetes, osteoarthritis and cardiac disease.

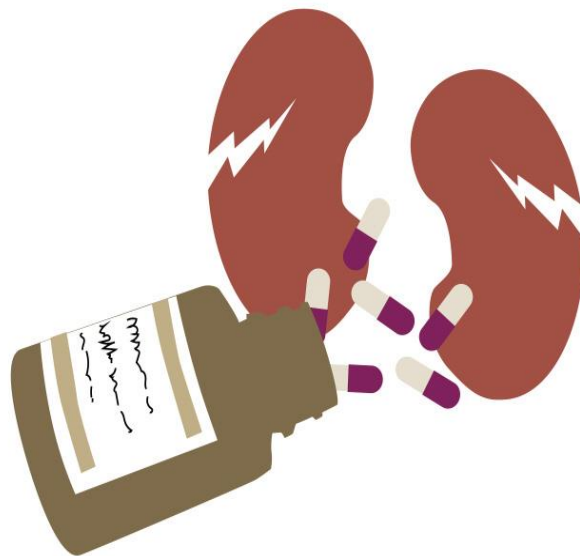
The final goal is to repair damaged tissues and organs, including stem cell therapy. With an intended research budget of 250 million euros, the institute bundles the strengths of hundreds of top researchers, physicians and entrepreneurs. Also outside Europe, in Asia and the United States, impressive progress is being made in regenerative medicine.

We call for a dedicated action on the EU-level to support the initiatives in the area of regenerative medicine and forge new drugs and devices aimed at replacing and restoring kidney function in order to maintain our competitiveness and warrant access and affordability for all European citizens in the future.

2. Too many drugs are not tailored to the specific needs of kidney patients.

Because many drug trials exclude kidney patients, this group of patients does not receive the right medication nor the adequate dose to be safe or effective. Hence, kidney patients are at increased risk for overdosing and hospitalisations that otherwise could have been avoided. Inclusion of kidney patients in drug safety trials and a better pharmacovigilance for patients with diminished kidney function in general will reduce the number of medication-related hospitalisations and their costs.

Due to multiple need of antibiotics, kidney patients also are at high risk of antimicrobial resistance (AMR). AMR is estimated to be responsible for at least 700,000 deaths globally each year. Patients – especially those with chronic conditions as kidney patients – are particularly vulnerable to healthcare-associated infections (HAIs) and resistant bacteria and fungi. AMR therefore requires concerted efforts by the EU.



3. Innovation should not be limited to new drugs but should also include the design and development of medical devices that replace kidney functions, such as portable, biological or implantable artificial kidneys or devices that aid in disease monitoring.

For more than 50 years chronic hemodialysis is saving the lives of kidney patients. But in contrast to many other medical devices, the technology has barely evolved and survival and quality of life remain dismal. Patients are hoping for new inventions that help them gaining more control of their lives and alleviate or even cure kidney disease and its complications.

IMPACT OF COVID-19

All these shortcomings were extra highlighted during the COVID-19 pandemic. The pandemic disclosed how kidney patients were among the most vulnerable groups and showed the shortcomings in how treatments are delivered to them. CKD patients are more susceptible to COVID-19 and have worse outcomes than other chronic diseases. Preliminary studies suggest that 20% or more patients on kidney replacement therapy diagnosed with COVID-19 may not survive^{xii}. Also, the COVID-19 crisis has a large impact on the quality of dialysis care. As closed communities, incenter hemodialysis units were susceptible for COVID-19 outbreaks affecting both patients and personnel. Peritoneal Dialysis (PD) catheter insertions in patients in need of dialysis have been postponed as non-urgent, forcing them to start on incenter hemodialysis at much higher risk or to wait for a necessary therapy.

A majority of hospitalized patients developed acute kidney injury (AKI) and a subsequent need for acute dialysis in those patients led to shortages in supplies. Preliminary data from the US Centers of Disease Control suggests that almost 35% of patients with AKI did not survive. As many patients with AKI subsequently evolve into CKD (in non-COVID-19 databases about 30%), a similar evolution is likely in COVID-19 patients surviving AKI. The USA have started an investigation on what percentage of COVID-19 survivors develop CKD as a *result* of the virus.

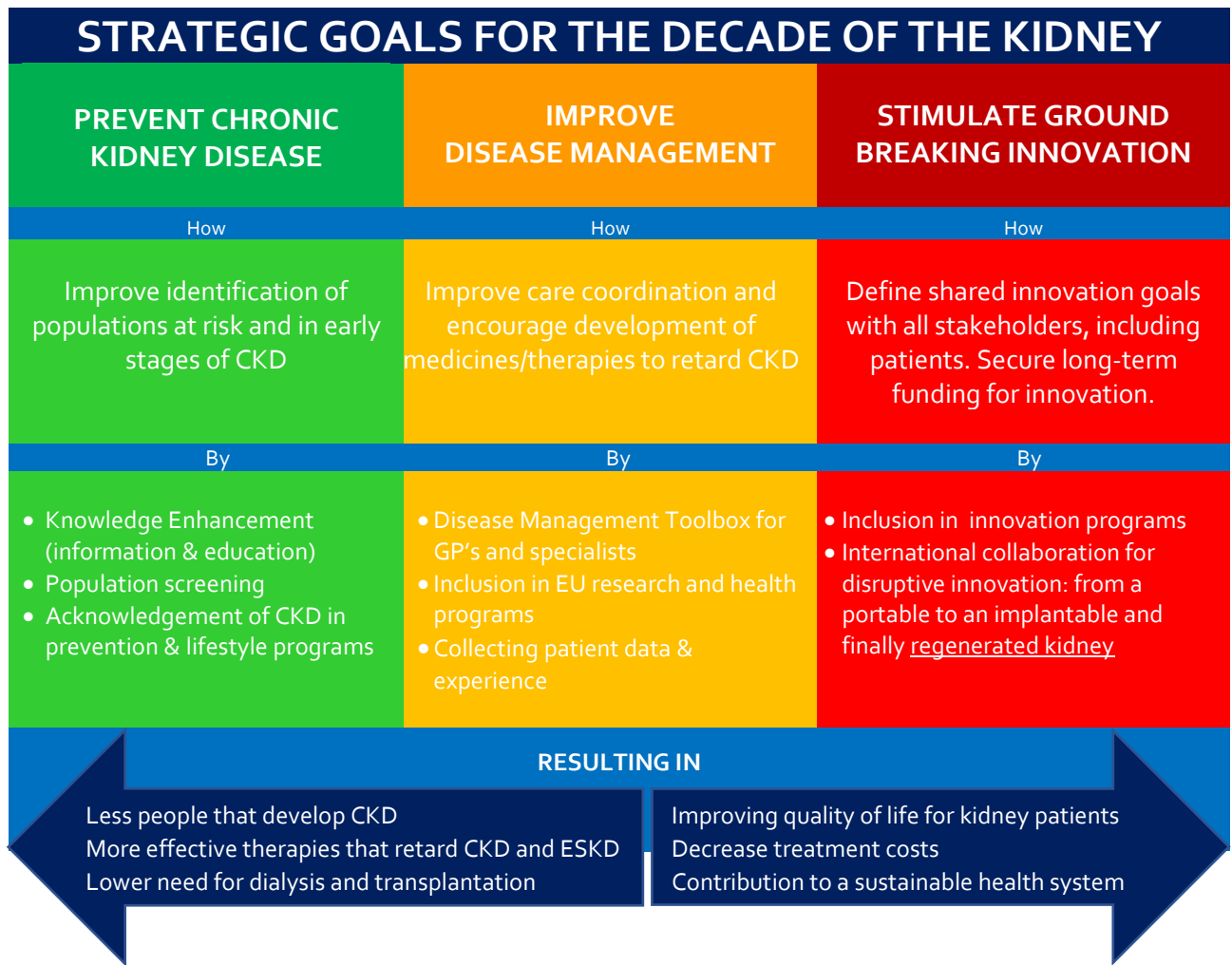
In addition, COVID-19 has profoundly impacted organ (including kidney) donation and transplantation activities across Europe. The need to shift the focus of intensive care units – where most donors are recruited from usual treatment – to COVID-19 treatment together with difficulties ensuring safety for transplanted patients, have compounded transplantation rate. As one in five waitlisted patient dies per year before receiving the organ they are waiting for, this causes great uncertainty for the patient community. In addition, COVID-19 could have a long-lasting impact on donation rates if patients who recovered from COVID-19 would impose a risk of transmitting the disease, thus potentially disqualifying them as donors?

Since the early phase of the COVID-19 crisis, the European Renal Association – European Dialysis and Transplant Association (ERA-EDTA), one of the members of EKHA has established a pan-European COVID-19 database^{xii}. Through this database doctors are now learning to identify which patients are at risk for COVID-19 and how to tailor the management of COVID and CKD in these patients in the future. The ERACODA registry illustrates the importance of European collaboration for aligning efforts to adjust and innovate therapies.

EKHA COLLABORATION IMPROVES MANAGEMENT & QUALITY OF LIFE KIDNEY PATIENTS

With the help of kidney patients and other stakeholders, EKHA is building a collaborative network to spur innovation in kidney disease therapies. Together we want to improve therapeutic approaches and make the voice of kidney patients heard to meet their needs.

We call for the EU commission to embrace our strategic goals and make the next decade one where quality of life and outcomes of kidney patients are improved by better drugs and devices.



We applaud and fully support the goals of the European Commission to ensure that all European patients can benefit from therapeutic innovation, while containing the pressure of increasing costs of medicines as stated in the roadmap to build a new pharmaceutical strategy. **Investing in innovative therapies for kidney disease (not only pharmaceutical but also related to blood purification – dialysis – and transplantation) can surely help to achieve this goal.**

A roadmap without proper attention for kidney disease will be largely incomplete by missing a substantial number of severe ill Europeans and an even larger portion of healthcare costs. We urgently ask to include kidney disease as one of the central focus points of the European Commission and to make it an integral part of the novel route that is planned to be deployed.

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