

# Country profile: Greece



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## Key takeaways

- **Without a national chronic kidney disease (CKD) policy or guidelines, resources are wasted and patients receive inconsistent care.** Currently, there are no national policies or treatment guidelines for CKD. Adopting national guidelines would provide consistency in how practitioners identify and test patients at risk for CKD, enabling more timely intervention. Guidelines would also create appropriate referral pathways from primary to specialist nephrology care.
- **The national public health plan does not include CKD among its priorities.** The latest National Action Plan on Public Health is focused on improving population health and preventing disease, but CKD is not one of the chronic diseases listed as a targeted priority despite its high disease burden in the country.<sup>1</sup> This is a missed opportunity to raise awareness and address and initiate important changes to CKD detection and care pathways.
- **Greece's CKD registry has much room for improvement.** Although Greece has had a national renal registry in place since 2000 researchers and providers have limited access to it.<sup>2,3</sup> Greece's covid-19 registry, however, was more easily accessible and interconnected—and played a critical role in its pandemic mitigation measures.<sup>4</sup> This demonstrates Greece's capacity for such robust infrastructure. This can be used as a blueprint for a reformed and universally accessible CKD registry.
- **National digital and digital health strategies are laying important groundwork.** Greece has introduced certain networks and projects to improve the exchange and integration of data and medical information.<sup>5</sup> Having such initiatives in place that allow for data to be exchanged and shared can assist with developing registries and evidence-based policies.
- **Improved CKD awareness is recommended among primary care physicians, healthcare leaders and the general public.** In one study of Greek adults, about two-thirds could identify CKD as a kidney disease and most respondents said they're fearful of its physical, social and economic burdens. Education programmes about the disease, means of prevention and early detection can help populations approach CKD with more confidence. Furthermore, clinical education programmes targeting primary physicians can help initiate important CKD discussions with at-risk patients.<sup>6</sup>

## Guidelines

Greece has one of the highest rates of end-stage renal disease (ESRD) in developed nations yet there are no national treatment guidelines for CKD. There are variations across the country in diagnostics and referral pathways to specialists have been observed.<sup>7</sup>

One of the most noted challenges is a lack of referral guidelines from healthcare practitioners to nephrologists. There is currently easy access to nephrologists, but not all of these visits are necessary. The issue is compounded by patients' access to their laboratory test results, which they actively monitor. This includes high blood pressure readings, albuminuria levels in the urine (and the associated estimated Glomerular Filtration Rate [eGFR]) and other CKD risk indicators.<sup>7</sup> While this encourages self-care, it can be alarming without further context.<sup>7</sup>

Furthermore, CKD, and its five stages, are best diagnosed through a combination of eGFR and albumin/creatinine tests. By extending their access to albumin/creatinine test results, patients co-operating with their primary care physician could better decide the level and type of specialty care needed.<sup>7</sup>

Nephrologists and other experts make the following recommendations as standard across Greece:

- Strong and consistent guidelines on nephrologist referrals and appropriate treatment pathways, with specific and exacting thresholds.<sup>7</sup>
- Treatment guidelines to boost the role of primary care in CKD detection and management.<sup>7</sup>

## Policies

Greece has no national policy on CKD, and it has been noticeably absent in all of the last decade's national health plans.

CKD was missing from the 2012 long-term National Action Plan on Public Health developed by the Ministry of Health.<sup>1</sup> It prioritised four other non-

communicable diseases (cardiovascular disease, cancer, diabetes and chronic respiratory disease).<sup>1</sup>

There will soon be another opportunity to give CKD its deserved promotion and prioritisation. Expertise France, a French public international cooperation agency, is currently supporting a project that is modernising the Greek public health system.<sup>8</sup> This project, which started in 2021 and is expected to be completed in 2023, emphasises “technical support for improving health monitoring, surveillance, and rapid reaction to health threats”, improving the efficiency and effectiveness of public health services and digitalising public health. Many of these reforms' objectives and strategies align with the early detection of CKD.

## Registries

In 2000 the Hellenic Society of Nephrology (HSN) created a registry to collect renal data (see table below). While an important step, the registry currently only collects data on end-stage renal failure, not all five stages.<sup>2,3,7</sup>

The registry also has limitations to its use by external researchers. It does not have open access to external providers, and researchers and healthcare providers cannot request access.<sup>3</sup>

Elevating the registry infrastructure is within Greece's capabilities.<sup>3</sup> This was evidenced during the peak of the covid-19 pandemic when the government created a national web-based registry of covid-19 patients. It was successful in collecting detailed patient data,<sup>4</sup> which is still used now, to better assess and plan for future needs and better coordination of care.<sup>4</sup>

## Digital health and integrated health information systems

Traditional models of healthcare delivery are challenged by Greece's remote villages and the fact that it is an archipelago. This makes digitalising healthcare a geographic necessity.

**Table 1. Hellenic Society of Nephrology** <sup>2,3,7,9</sup>

Renal Registry	Greek registry (HSN)
<b>Year established</b>	2000
<b>Accessibility</b>	(Limited/unclear): very limited information available publicly or unclear
<b>Patient-level data availability</b>	Not available to external researchers or access process unclear
<b>Stages included</b>	ESRD <sup>2,3,7</sup>
<b>Outcome data</b>	No reported outcomes or surrogate data, or availability unclear
<b>Data collected</b>	Incidence and prevalence, treatment modality, Renal replacement therapy (RRT), patient data, including: gender, date of birth, primary renal disease (European Renal Association codes), treatment modality, survival rates (and expected remaining lifetime), transplants by donor type.

The first significant step towards digital health was in 2015, with the creation of Greece's National Council of e-Health Management to accelerate digital health policies.<sup>4</sup> And in 2016 the government took the important step of introducing a five-year National Digital Strategy.<sup>10</sup> It sought to improve national digital development and harmonise it with digital access standards across Europe. From a public health perspective, the strategy emphasises the use of digital to support the shift from cure to prevention.<sup>11</sup> This is an opportunity to bring attention to the importance of detecting CKD early. Optimised EHRs and registries could assist with identifying and monitoring patients at risk and therefore assist with early detection. Even the most remote patients can benefit from timely alerts for early screening examinations and receive the most up-to-date advice and care.

Progress is underway. Greece has started to develop an electronic health record (EHR) system similar to that in the UK, however, interoperability is lacking which hinders integration and exchange of data. This work is under development.<sup>5</sup> A secure network, called "SYZEFXIS," has been developed. This network aims to interconnect health and welfare states across regions,

particularly in primary healthcare.<sup>5,12</sup> Parallel to this is the development of an Integrated Hospital Information System that will connect all existing applications that manage medical information in the different healthcare regions.<sup>5</sup>

Greece could incorporate eGFR results – indicators of CKD – into its electronic prescription system. This could be a significant update that would allow the system to automatically notify prescribers, who could then make necessary adjustments to medications in order to avoid adverse effects.<sup>13</sup> The prescription system could also enable early detection, by screening for and alerting doctors to high-risk patients.

### Awareness

There is relatively little written about how much the general Greek population knows about CKD and their attitudes towards it, including their knowledge of risk factors and early detection.

Nevertheless, a 2018 study gives us a clue.<sup>6</sup> The study, which assesses the attitudes of healthy adults around all kidney diseases (including CKD), surveyed 204 healthy adults from Greece (97 men and 197 women, aged between 18 and 75). It found that 80% were able to identify CKD as a type of

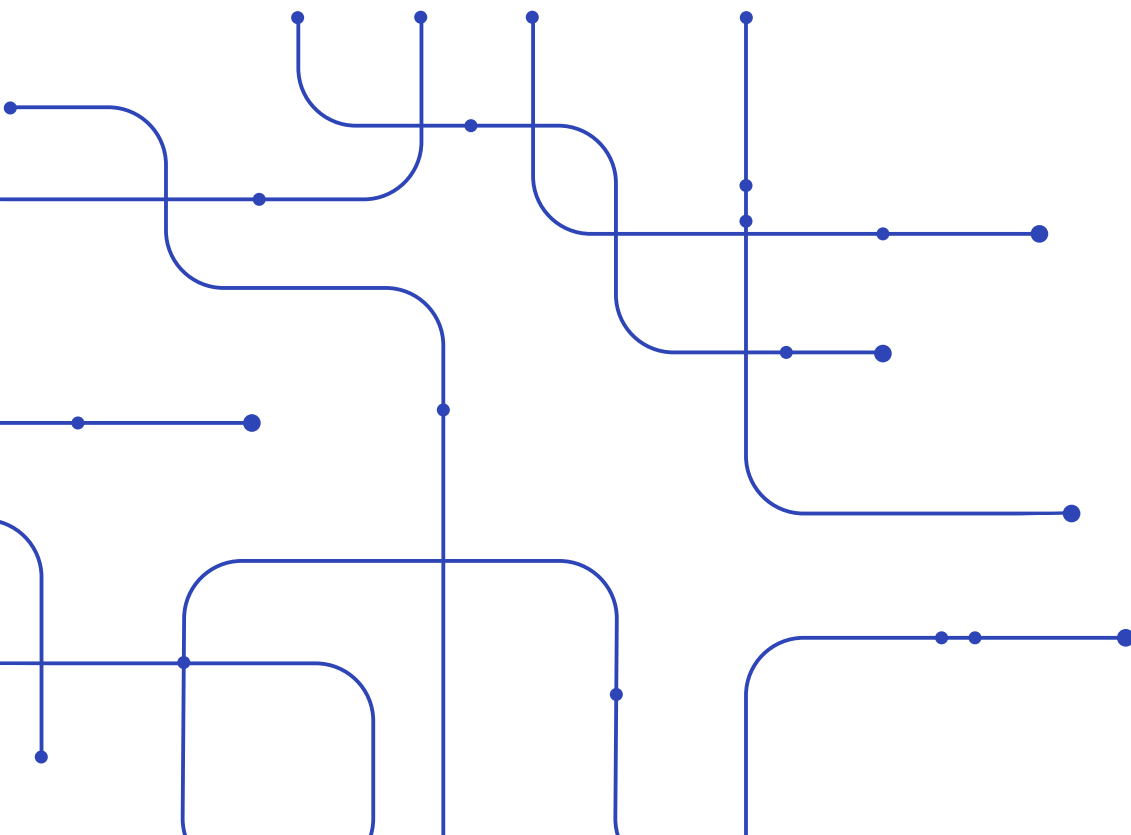
kidney disease.<sup>6</sup> Many indicated their fear of CKD and the associated physical disability and pain, as well as everyday problems in family and social life. They also expressed a fear of the financial burden.<sup>6</sup>

The study also found that 96% had not been screened for kidney disease in the year prior to the survey. While this may not be a concern for those on the younger side of the respondent pool, the risk of CKD increases with age.

The HSN partakes in World Kidney Day and organises events that aim to inform the general population, the government and healthcare professionals about CKD as well as preventative

measures.<sup>14</sup> The society also collaborates with the European Kidney Health Alliance with the aim of improving kidney care at a national level as well as supporting the education of its members in collaboration with The European Union Medical Specialists Renal Section.<sup>14</sup>

Among up-and-coming nephrologists, HSN provides scientific education. For example, it has hosted an annual intensive educational course in nephrology since 2009. The society also organises annual fellowship grants to its members through a competition, as well as an annual scientific meeting to share relevant scientific work with members.<sup>14</sup>



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