

# Australian Kidney Transplantation in the Shadow of COVID-19: A Decade's Insight

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The journey of organ transplantation in Australia has been marked with progressive milestones since the inaugural kidney transplant in 1965. The practice has since blossomed, with most capital cities embracing it as a beacon of hope for those afflicted with end-stage kidney disease. The last decade in particular has witnessed a series of significant strides in the realm of kidney transplantation. The unfolding narrative from 2011 to 2021 paints a vivid picture of both triumphs and trials, the latter being predominantly precipitated by the COVID-19 pandemic that engulfed the globe. This tumultuous period epitomises a relentless pursuit of medical advancement, tempered by the need to adapt swiftly to a healthcare environment in flux. During this time, the sector exhibited remarkable resilience, evolving and adapting to meet the unprecedented challenges head-on.

## 1. The Prevailing Australian Healthcare Landscape

Australia's healthcare system, a well-coordinated mesh of public and private sectors, has been on the frontline of addressing the complex healthcare challenges ushered in by the pandemic. The public system, termed Medicare, supported by the federal government, works in tandem with a parallel private sector, granting patients the autonomy to choose their healthcare providers. This integrated approach underwent significant transformations to remain resilient against the COVID-19 pandemic, shielding critical healthcare services, including kidney transplantation, to a certain extent [1].

Kidney-related diseases in particular have been on an upward trajectory in Australia, influenced by factors like aging, diabetes, and hypertension. By 2018, kidneys accounted for over half of all transplanted organs in the country [2]. Rising demand, juxtaposed against a stagnant donor pool, has created substantial waiting lists, with patients often spending years on dialysis before receiving a transplant.

## 2. A Steady Climb: 2011 to 2019

In the period stretching from 2011 to 2019, the kidney transplantation sector in Australia showed promising growth, underpinned by remarkable advancements in medical technology and procedural efficiency (Figure 1). During this time frame, the Australian and New Zealand Dialysis and Transplant Registry (ANZDATA) recorded a substantial increase in kidney transplants, with rates bolstered by a promising 34% [3].

At the start of this era in 2011, there were 37 transplants per 100,000 population, which peaked at 44 per 100,000 by 2019 [3]. This not only reflects a growth in numbers but also mirrors the enhanced quality of life experienced by recipients, making it a period of substantial progress and heightened hopes.



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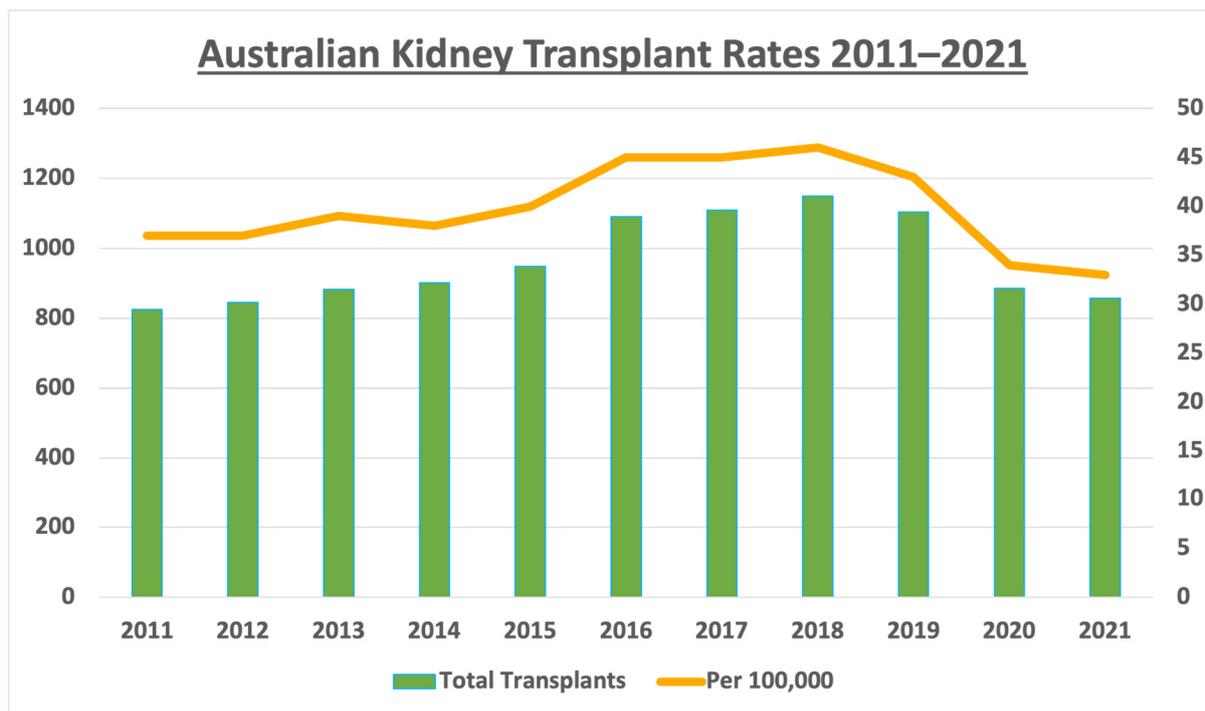
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**Figure 1.** Australian kidney transplantation rates from 2011 to 2021.

### 3. COVID-19: The Unanticipated Disruptor

The COVID-19 pandemic descended upon the global community at the very end of 2019, inducing a seismic shift in medical priorities. With medical systems overwhelmed and a significant portion of resources redirected to manage and mitigate the pandemic, several areas of healthcare, including organ transplantation, found themselves grappling with unforeseen challenges.

Globally, a 16% decline in transplant activity was reported in the wake of the pandemic, primarily due to concerns about donor and recipient safety, resource allocation, and the potential impact of immunosuppression in the context of an active COVID-19 infection [4].

In Australia, the ripples of the pandemic were distinctly palpable, with renal transplantation rates decreasing to a mere 33 per 100,000 in 2021, a 10-year low. This decline is worrying, especially when studies have shown that kidney transplantation, in the long run, is more cost-effective than dialysis and provides recipients with a significantly improved quality of life [5].

### 4. The Consequences of Suspension

The federal-government-mandated suspension of adult kidney transplantation programs for almost two months in 2020 had significant ramifications. Transplants from living donors, which often have better outcomes because of reduced ischemic times and enhanced HLA matching [6], were hit especially hard because of to the suspension of elective surgeries.

### 5. Resilience and Adaptation

Despite these challenges, the Australian medical community has exhibited resilience. Embracing a multi-faceted approach that encompasses stringent screening protocols for both donors and recipients, modifying immunosuppressive regimens, and deploying telemedicine for pre- and post-operative care, they have endeavoured to strike a delicate balance between risk and reward [5].

Furthermore, there has been a push for increased public awareness campaigns. Understanding the transformative power of organ transplantation and dispelling myths can mobilise more potential donors, alleviating some of the supply–demand disparities [6].

## 6. Looking Ahead

The full spectrum of COVID-19's impact on kidney transplantation in Australia remains unknown. Preliminary insights underscore the pressing need for targeted strategies to bolster the transplantation framework in the face of such disruptions.

These could include enhanced public health campaigns promoting organ donation, policy reforms to simplify donor registration processes, and an increased emphasis on living donor transplants backed by robust support systems [7].

The pandemic has spotlighted areas of vulnerability but has also highlighted the resilience and adaptability of the Australian transplantation community. The lessons imbibed during this period can sculpt the sector's future trajectory, ensuring those in need are not left in the lurch.

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