



Establishing kidney transplantation

Up until the mid-20th century there was little that clinicians could do to help a patient with renal (kidney) failure: the condition was fatal. By the late 1960s, however, advancements in medical research had made it possible to replace diseased kidneys with healthy ones through transplantation and to keep patients alive with dialysis until donor kidneys became available. NHMRC-funded clinician researchers played key roles in transforming kidney transplantation from an experimental procedure to a world-leading health care service for Australians with renal disease.



Origin

The kidneys are essential organs within the body. If a person does not have at least one functioning kidney – or some other mechanism for cleaning their blood – they will die.

When, in 1957, the immuno-suppressive drug azathioprine became available, it became possible to treat kidney disease with a kidney transplant.

But patient mortality and graft loss rates were initially high. Research was needed if treatment was to improve.

Investment

NHMRC provided grants to researchers at a number of universities and hospitals to support work on kidney transplantation. Both NHMRC and the Australian Kidney Foundation (AKF) provided funding for a transplant registry.

An NHMRC committee made recommendations for rationalising facilities for organ transplantation and dialysis. This led to an integrated national approach based on organ exchange between renal units and the close integration of dialysis and transplantation.

Research

NHMRC-funded researchers developed kidney preservation solutions and storage/transport methods.

They played an important role in identifying the improved outcome of patients who had had pre-transplant blood transfusions.

They established a national tissue-typing register and developed a B-cell crossmatch test.

In 1976, they created the Australian and New Zealand Dialysis and Transplant Registry (ANZDATA).

Translation

By 1970, a national kidney exchange program had developed between all transplantation units in Australia and New Zealand that still exists today.

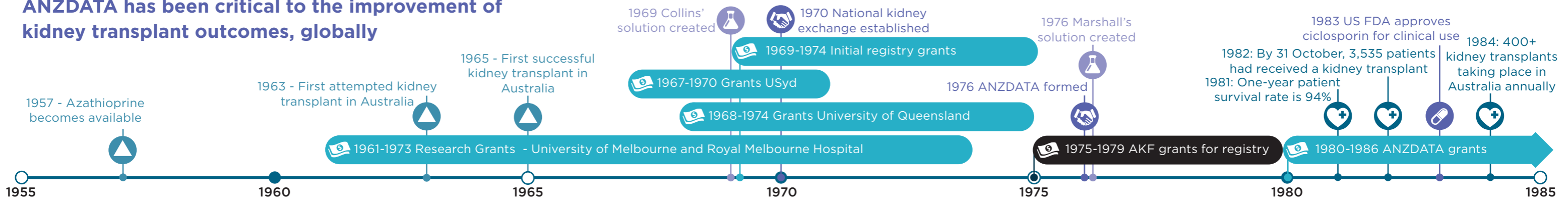
ANZDATA has recorded data on all patients in Australia who have ever been treated for end-stage kidney failure by dialysis or transplantation, making it the longest continuous dataset of its type in the world. It has been a central resource for kidney transplant and dialysis related research since its inception and has enabled Australian researchers to contribute to major international clinical trials.

Impact

By the early 1990s, average kidney transplant survival rate across Australia rivalled those of the better individual transplant units elsewhere in the world.

Australia's national kidney transplantation capability remains world-leading. It is based on a model of central coordination and collaboration and underpinned by the ANZDATA registry, which has been critical to the identification of key elements to successful kidney transplantation and assuring appropriate access to and outcomes of transplantation.

ANZDATA has been critical to the improvement of kidney transplant outcomes, globally



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