

Tissue Recovery Activity in Japan: Current Status and Perspective

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Purpose:

Organ donation in Japan from deceased donor is at the lowest among developed countries. Recent data suggests it remains around 0.8 per million population (pmp) despite legal revisions regarding brain death which came in to effect in 2010. Development of tissue donation activity, however, has not been described in detail in English literature.

We here in present the experience at the University of Tokyo Tissue Bank (UTT) and National Cerebral and Cardiovascular Center (NCVC), the two core facilities based in Eastern and Western Japan respectively. UTT is the information hub for East Japan Tissue Transplantation Network (EJTTN) covering all tissue categories in Eastern Japan region (total population 61.4 million). Likewise, NCVC is the hub for West Japan Tissue Transplantation Network (WJTTN) (total population 65.2 million). UTT and NCVC are also tissue banks specializing in recovery of heart valve and vessel grafts, the only two of its kind in the country. Combined data provides most updated and comprehensive picture of Tissue recovery activity in Japan.

Methods:

Retrospective analysis of donor information reported to EJTTN and WJTTN during the period of 2018-2022 was performed.

Results:

Total number of tissue donor with actual recovery reported to EJTTN and WJTTN between 2018 and 2022 was 96 cases (19.2 cases per year), of which 58 were under cardiac death and 38 under brain death. EJTTN and WJTTN combined, heart-valves and vessels were recovered from 60 donors during this period (EJTTN 27 cases, WJTTN 33 cases: 12 cases per year). Adjusted by population, total recovery in Japan was 0.15 donor pmp-year. Heart-valve and vessel graft recovery was available in 0.1 donor pmp-year.

Discussion:

Revision of the Organ Donation Act enacted in 2010 intended in part to enlighten donation in a wider aspect has shown some positive effect regarding organ donation to date. However, the change is modest

and organ donation remains as low as 0.72% of the US when adjusted by population. Even more striking is the struggle of tissue donation and recovery, which unlike organ donation, lacks legal supportive framework. Our study suggests that available tissue donor in Japan is 0.03% of that in the US (19.2 cases/year, 0.15 pmp-year versus 58000 cases/year, 174.8 pmp-year).

Conclusions:

In addition to the difficulties faced in organ donation, the struggle of tissue donation in Japan should also be recognized. Spreading awareness and education both about organ and tissue donation is crucial, and must be combined in future activities.

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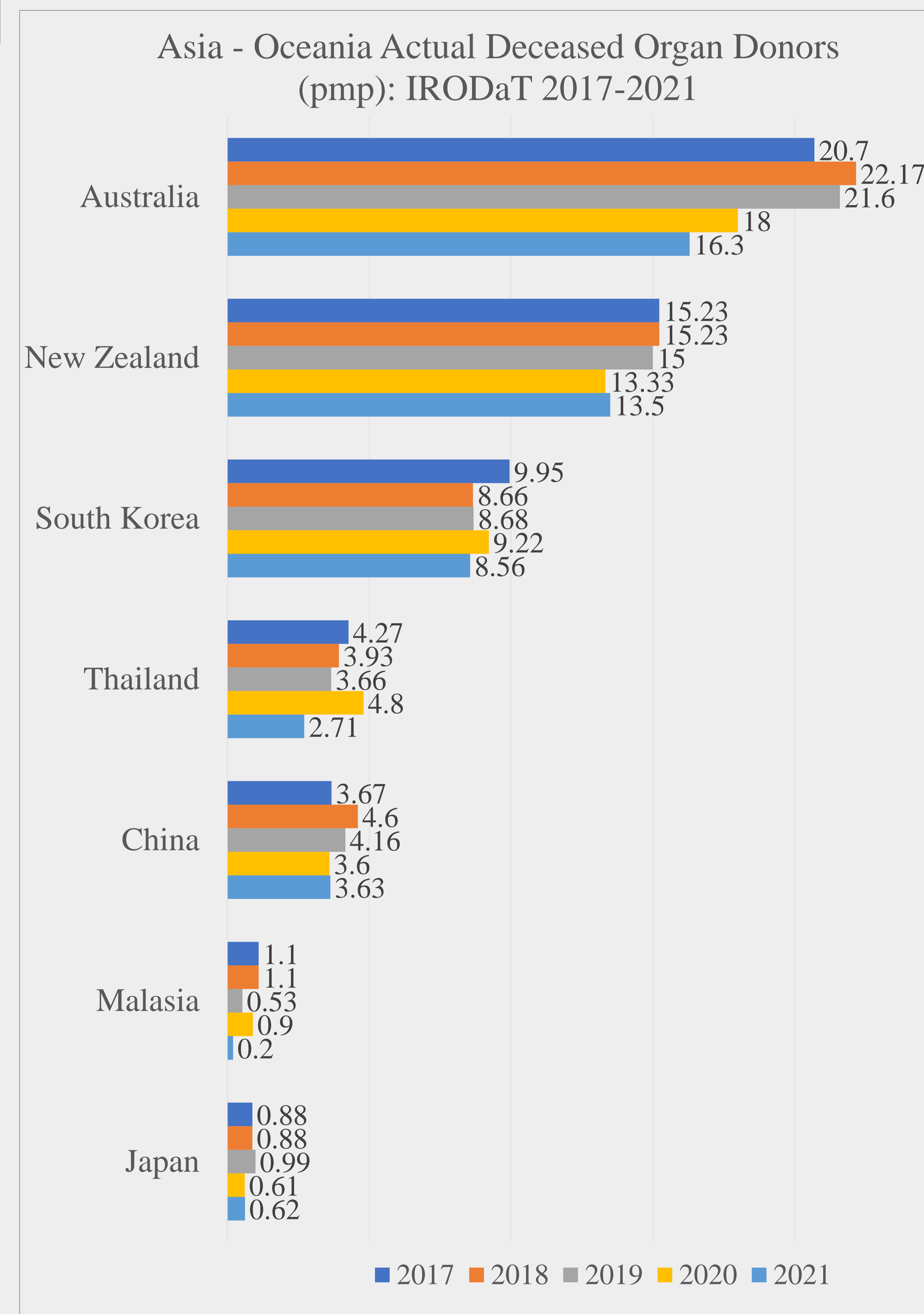
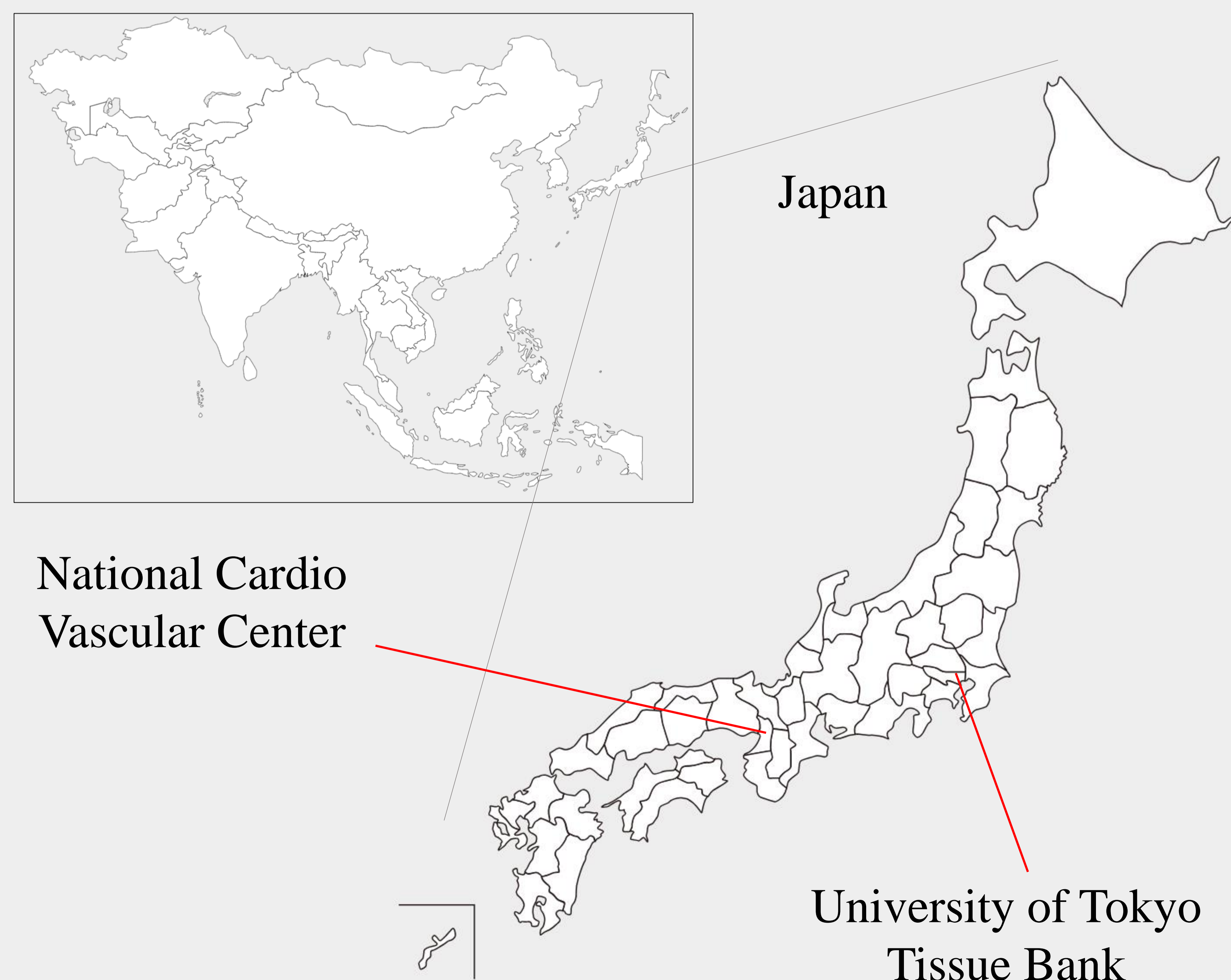
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Tissue Bank



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Years	Pancreatic islets	Heart valves, vessels	Skin	Bone
2018	2	14	9	8
2019	1	26	11	3
2020	0	6	2	1
2021	2	6	5	1
2022	6	8	4	2
Total	11	60	31	15

Discussion

Revision of the Organ Donation Act enacted in 2010 intended in part to enlighten donation in a wider aspect has shown some positive effect regarding organ donation to date. However, the change is modest and organ donation remains as low as 0.72% of the US when adjusted by population. Even more striking is the struggle of tissue donation and recovery, which unlike organ donation, lacks legal supportive framework. Our study suggests that available tissue donor in Japan is 0.03% of that in the US (19.2 cases/year, 0.15 pmp-year versus 58000 cases/year, 174.8 pmp-year).

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