



IRODaT: The International Online Registry for Organ Donation and Transplantation 2007

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ABSTRACT

Objective. IRODaT, an international registry for organ donation and transplantation, presents preliminary data reports on global trends on a regular basis and at various times of the year. The purpose of this report was not only to present statistics, but also to make organ donation effectiveness rates a useful tool to reveal similarities between various countries on an international level.

Materials and Methods. The IRODaT database produced this report for 2007 thanks to early reporting performed by professionals in coordination and transplant services from 49 countries. The countries were grouped as follows: countries with >200 total donors, countries with 50 to 200 donors, and countries with <50 donors.

Results. The percentages of deceased and living donors according to the total number of donors from the 49 countries showed that countries performing >200 effective donation procedures yearly in 2007 showed a clear positive trend when compared for number of living donors, donors per million inhabitants, and number of transplantable organs per donor.

Conclusions. The results obtained through this new presentation of the IRODaT provide a quick, clear, and illustrative view of organ donation activity in various countries.

ORGAN TRANSPLANTATION has become an accepted treatment for end-stage organ failure worldwide.¹ Not only from a lifesaving point of view, but also improved quality of life and economic benefit, transplantation has become the standard treatment of choice.^{2,3} The numbers on organ donations and available organs for transplantation differ greatly from country to country.^{4,5} Various analyses have suggested that donation and transplantation numbers and results depend on cultural, social, religious, legal, administrative, and organizational factors.^{6–9}

IRODaT, an international registry for organ donation and transplantation, presents preliminary data reports on global trends on a regular basis and at various times of the year. Continuous improvement of the network of national contacts and key persons allows IRODaT to produce extensive data on national trends in more than 40 countries.^{10,11}

The purpose of this report was not only to present statistics, but also to make organ donation effectiveness rates a useful tool to reveal similarities between various countries on an international level. The aim was to report, in an illustrative

way for 2007, the trends of effective organ donation rates to identify points on which countries can improve.

MATERIALS AND METHODS

The IRODaT database produced this report thanks to early reporting performed by professionals in coordination and transplant services from 49 countries. The countries were grouped as follows: those with >200 total donors, those with 50 to 200 donors, and those with <50 donors. Percentages were calculated by dividing deceased donations by the total on living donations by the total. In the related graph, countries were mapped by the percentage distance between deceased donors and living donors. The distance was measured based on the difference between these 2 values. The vertical bar cutting through the graph indicated the midpoint of the country list, with the same number of countries on both the right and left sides. The per million population (pmp) value was calculated by dividing the donations by the total population of the country, with deceased donors and living donors analyzed separately. In the related graph, countries were arranged by the pmp distance between deceased donors and living donors. The distance was measured based on the difference between these 2 values. The horizontal bar cutting through the graph indicated a pmp of 20, which was set as the minimum yield threshold to be achieved for

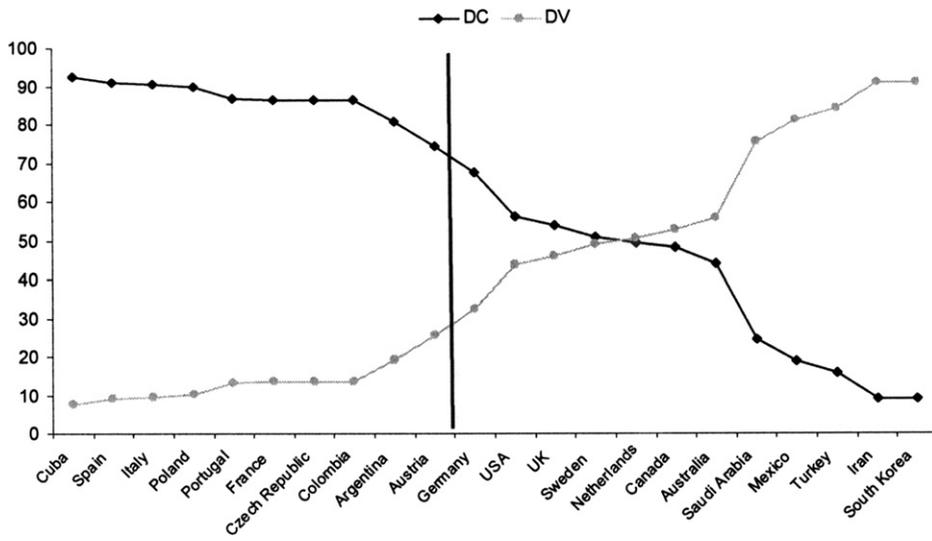


Fig 1. Percentages of deceased (DC) and living (DV) donors: countries with >200 total donors.

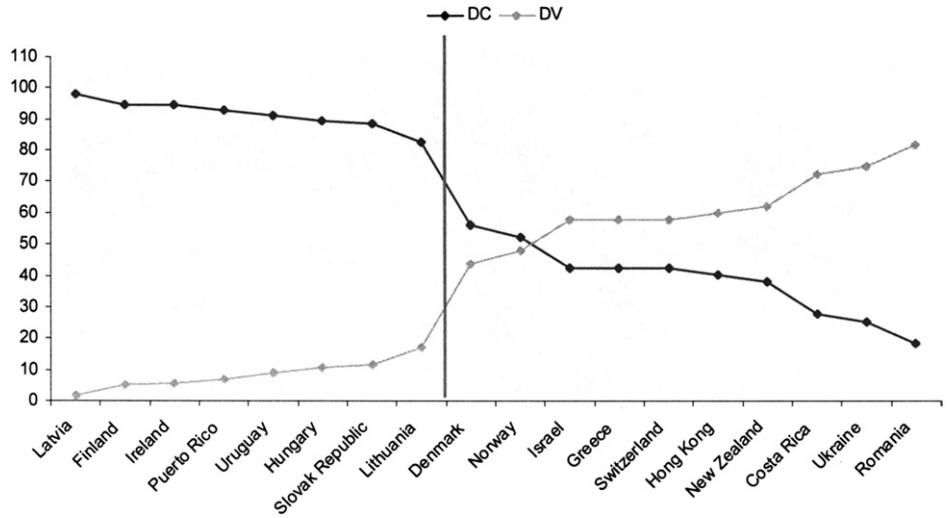


Fig 2. Percentages of deceased (DC) and living (DV) donors: countries with 50-200 total donors.

Fig 3. Percentages of deceased (DC) and living (DV) donors: countries with <50 total donors.

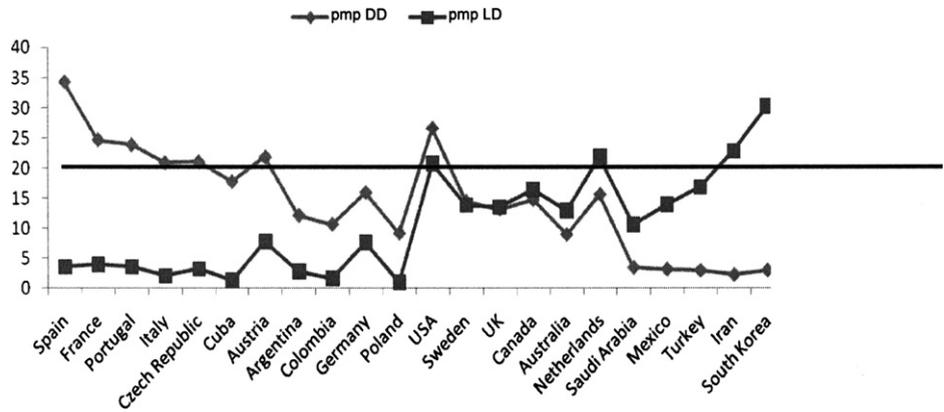


Fig 4. Countries with >200 total donors: deceased donors per million population (pmp DD) vs living donors per million population (pmp LD).

deceased donations. The number of valid organs for transplantation was calculated by dividing the sum of deceased donor organs transplanted by the total number of deceased donors. In combined transplantations (2 kidneys, 2 lungs, kidney/pancreas, kidney/liver, heart/lung), the value was doubled to obtain the real number of organs. In some figures and graphs, DC stands for deceased donors or DD and DV stands for living donation or LD.

RESULTS

According to the total number of donors, this comparison provided an illustrative trend of the percentage distribution of deceased and living donors. The percentages of deceased and living donors according to the total number of donors from the 49 countries showed that: deceased donation was more prevalent in countries with >200 total donors and in countries with 50 to 200 donors, whereas living donation was more prevalent in countries with <50 total donors. Within the group that achieved >200 total donors, the number of countries that reported more than double the number of deceased donors than living donors was significantly higher. Countries with 50 to 200 donors were divided into 2 groups: those with more than double the deceased donors compared with living donors and those with 10% to 50% more living donors than deceased donors. Countries

with <50 total donors were concentrated in the 2 extremes with more than double the deceased donors compared with living donors and vice versa, namely, more than double the living donors compared with deceased donors (Figs 1–3). The number of countries with >20 deceased donors pmp depended on the total number of donors resulting in more than double for the group of >200 total donors. Regarding deceased donors, the numbers declined as the total number of donors declined (Figs 4–6). When countries were arranged by the number of valid organs for transplantation from deceased donors, a horizontal bar crossing the graph indicated the value of 3 valid organs per donor, which was set as the minimal threshold to be obtained in deceased donors (Figs 7–9).

DISCUSSION

The results obtained through this new presentation of the IRODaT provided a quick, clear, and illustrative view of organ donation activity in various countries, while allowing for comparisons based on the total number of donors pmp, on deceased and living donor percentages, and on the numbers of valid organs from deceased donors.

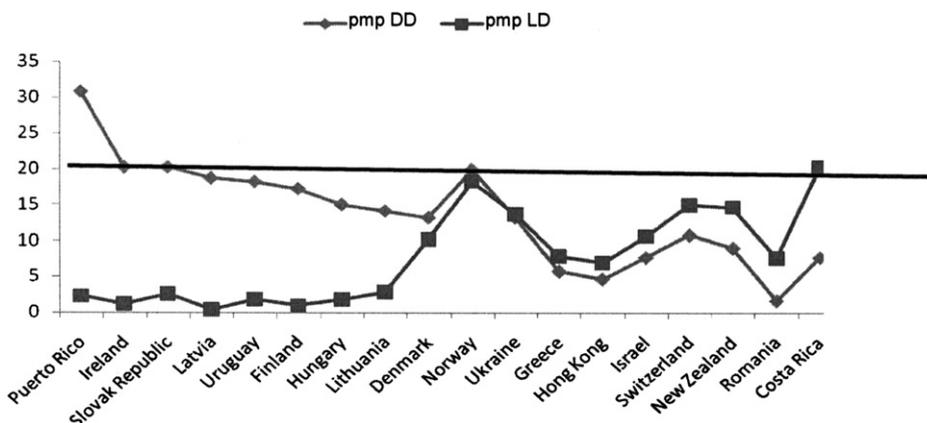


Fig 5. Countries with 50–200 total donors: deceased donors per million population (pmp DD) vs living donors per million population (pmp LD).

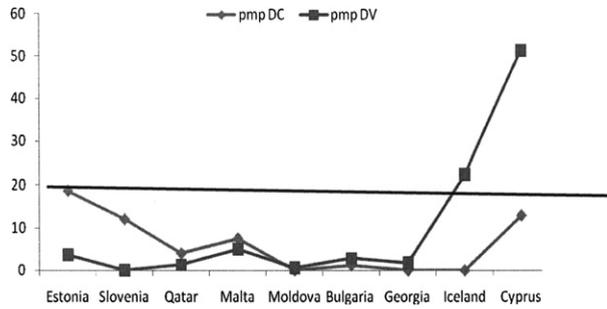


Fig 6. Countries with <50 total donors: deceased donors per million population (pmp DC) vs living donors per million population (pmp DV).

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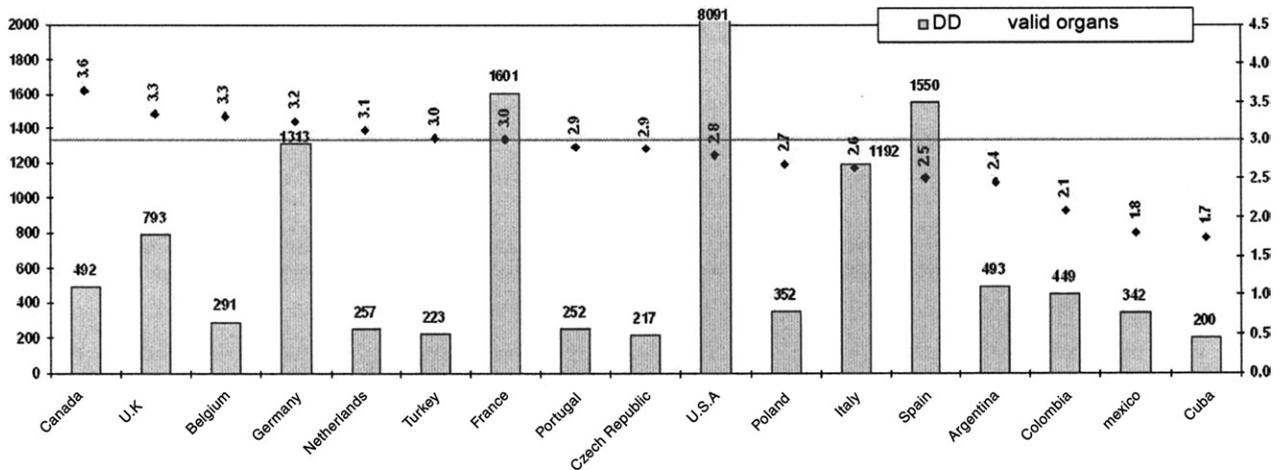


Fig 7. Numbers of valid organs for transplantation from deceased donors (DD): countries with >200 DD.

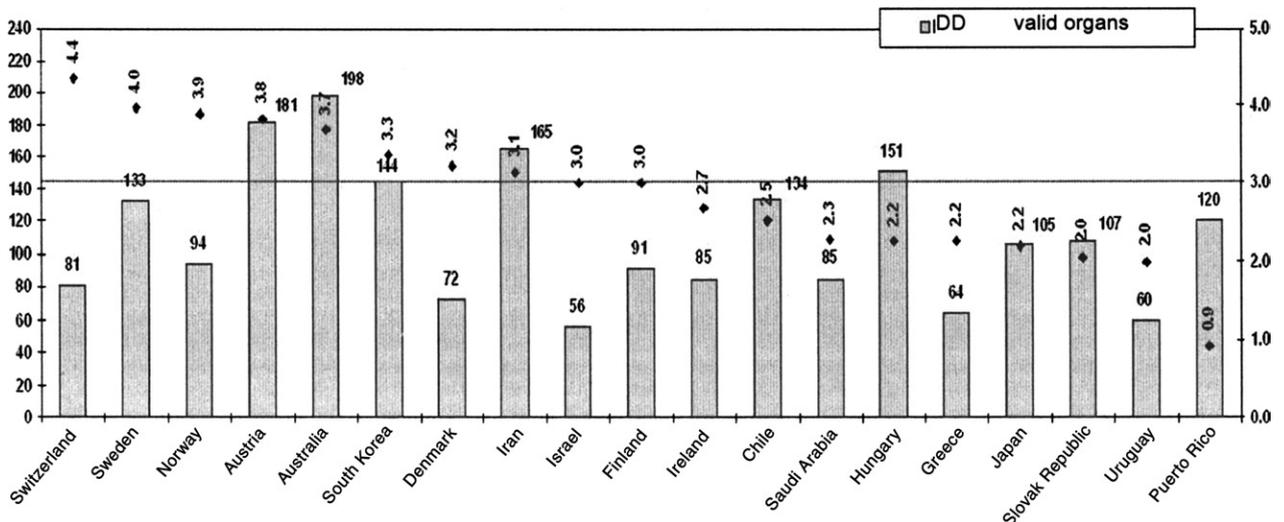


Fig 8. Numbers of valid organs for transplantation from deceased donors (DD): countries with 50–200 DD.

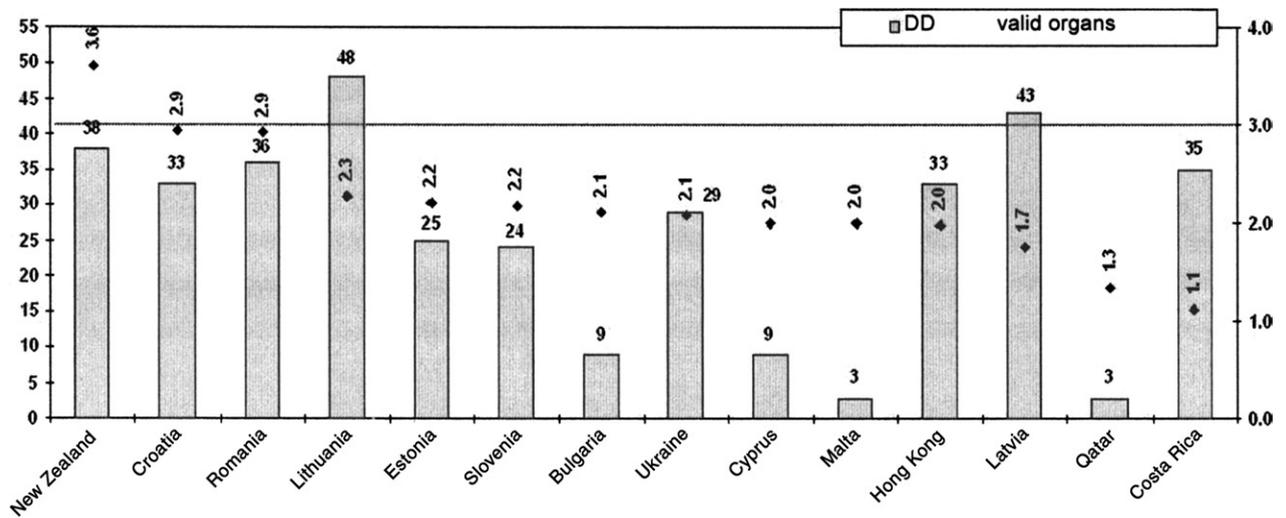


Fig 9. Numbers of valid organs for transplantation from deceased donors: countries with <50 DD.

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