

# ISHLT Registry Data and Country Registries: Comparison of Reported European/Israeli Lung Transplant Activities in 2016

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#### Background and Aims

- Lung transplantation can prolong survival and improve quality of life for individuals with end-stage lung disease. The International Society of Heart and Lung Transplantation (ISHLT) has reported data from 258 global lung transplant centres since its inception. The present analysis will focus on Europe/Israel. Other countries with lung transplant centres reporting to the ISHLT Registry include:
  - Argentina, Australia, Brazil, Canada, Columbia, Hong Kong, India, Iran,
     New Zealand, Panama, Peru, Republic of Korea, Russia, Saudi
     Arabia, South Africa, Taiwan, Turkey, and the United States
- Reporting to the ISHLT Registry is optional for non-US countries. Data submission to the ISHLT Registry is estimated to represent approximately 80% of worldwide thoracic transplant activity.<sup>2</sup>
- The aim of this analysis was to review the total annual number of lung transplants reported by each country in Europe and Israel and compare these values with ISHLT Registry data for the defined area.

#### Methods

• As 2016 is the most recent year with available data, a systematic review of the ISHLT Registry<sup>3</sup> and national reports stating 2016 lung transplant activities,<sup>4-11</sup> as well as Scandiatransplant,<sup>12</sup> Eurotransplant,<sup>13</sup> and Newsletter Transplant,<sup>14</sup> were screened.

#### Results

- Lung transplant centres in 20 European countries and Israel reported to the ISHLT (either individually or through other contributors).<sup>3</sup>
- The ISHLT Registry reported 1687 lung transplants in Europe/Israel in 2016.<sup>3</sup> From national reports, as well as Scandiatransplant, Eurotransplant, and Newsletter Transplant reports of lung transplant activities, 2060 transplants were identified in 2016 (**Figure** 1).<sup>4-14</sup>
  - This represents 373 lung transplants (22%) more than stated in the ISHLT Registry.
- Ireland, Lithuania, and Portugal have lung transplant programmes, but were not reported in the ISHLT Registry.<sup>3</sup>
- There were several European countries that did not have a transplant programme as of 2016.

### Results (cont'd)

Figure 1. Total Number of Lung Transplants Reported in Europe/Israel in 2016, by Country

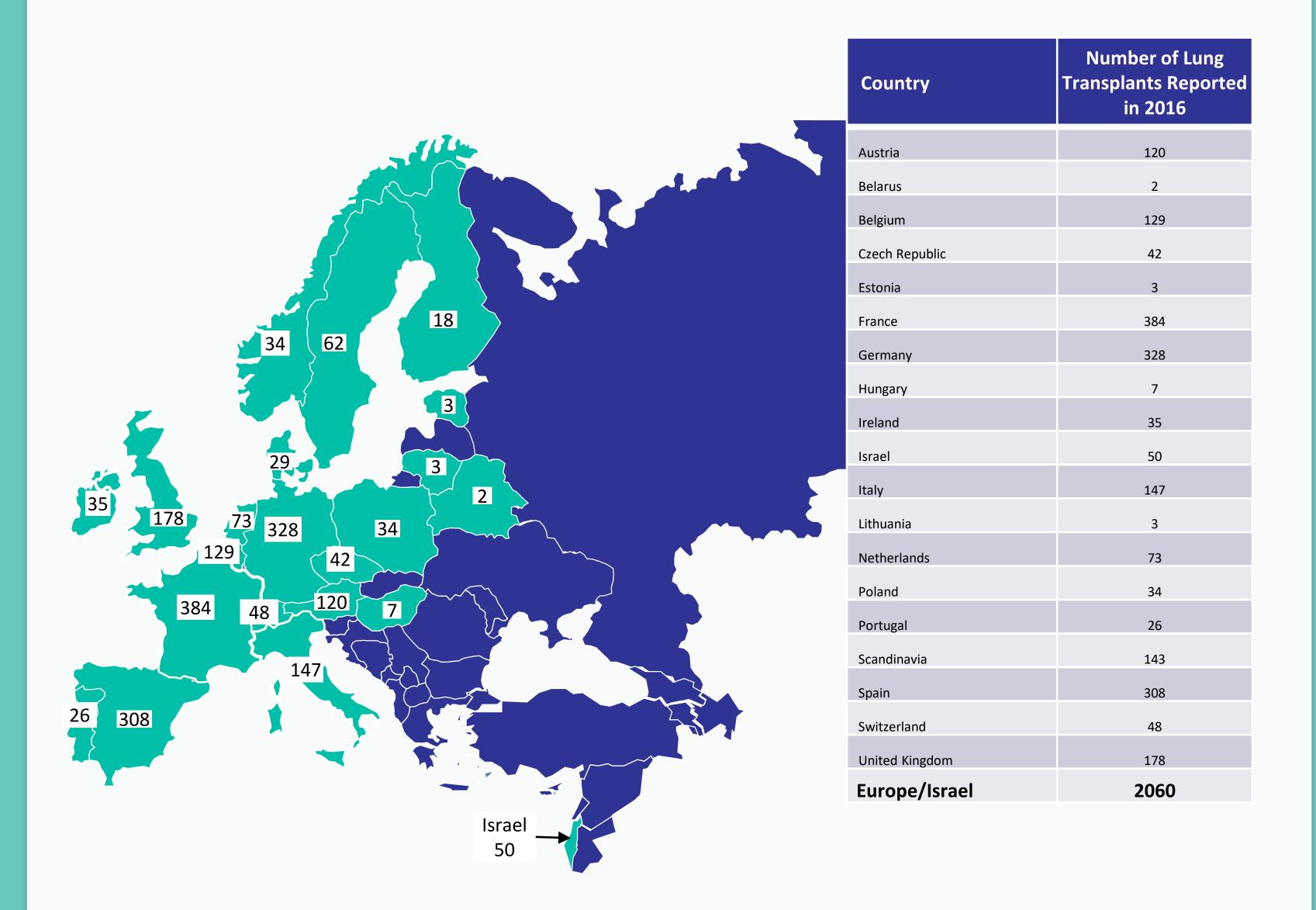
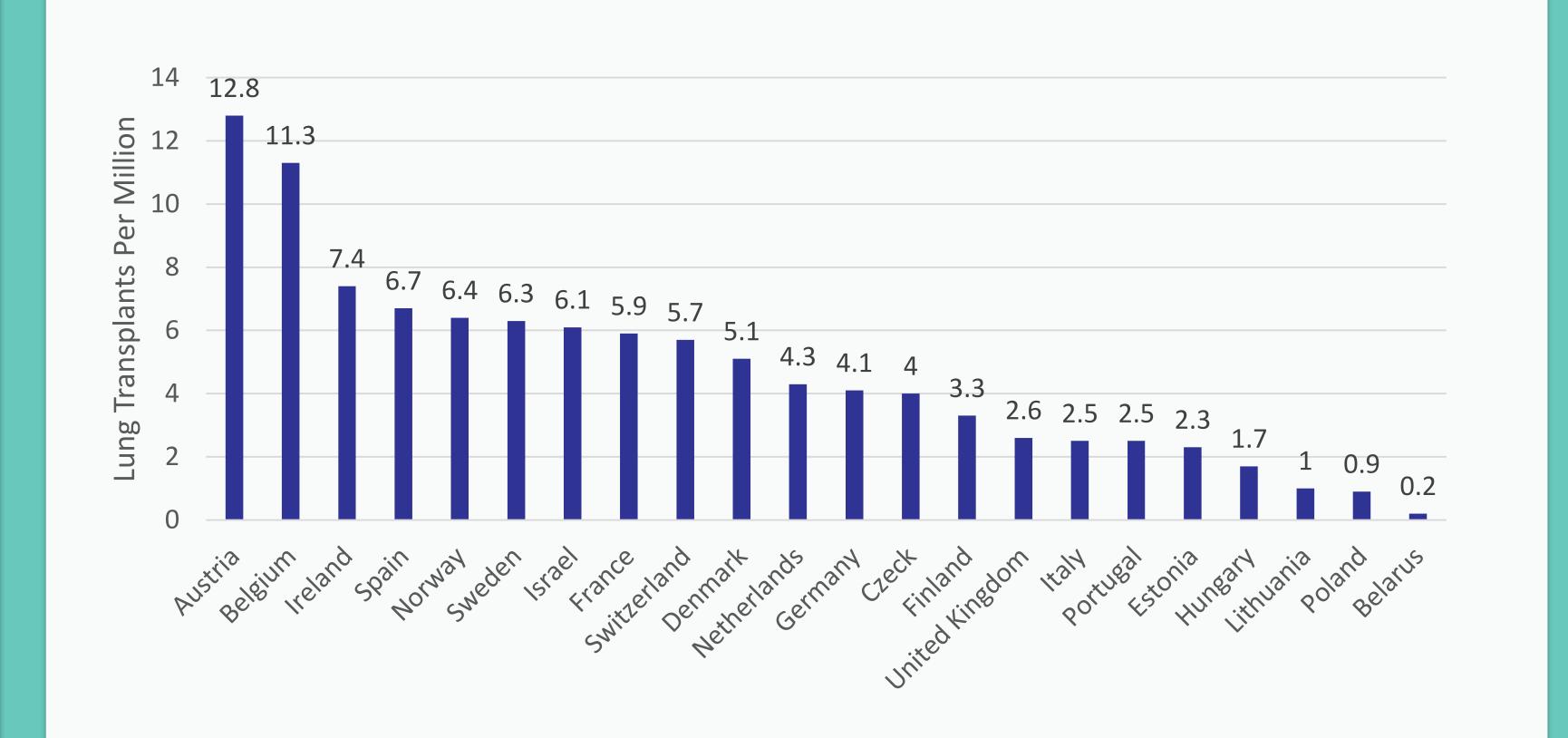


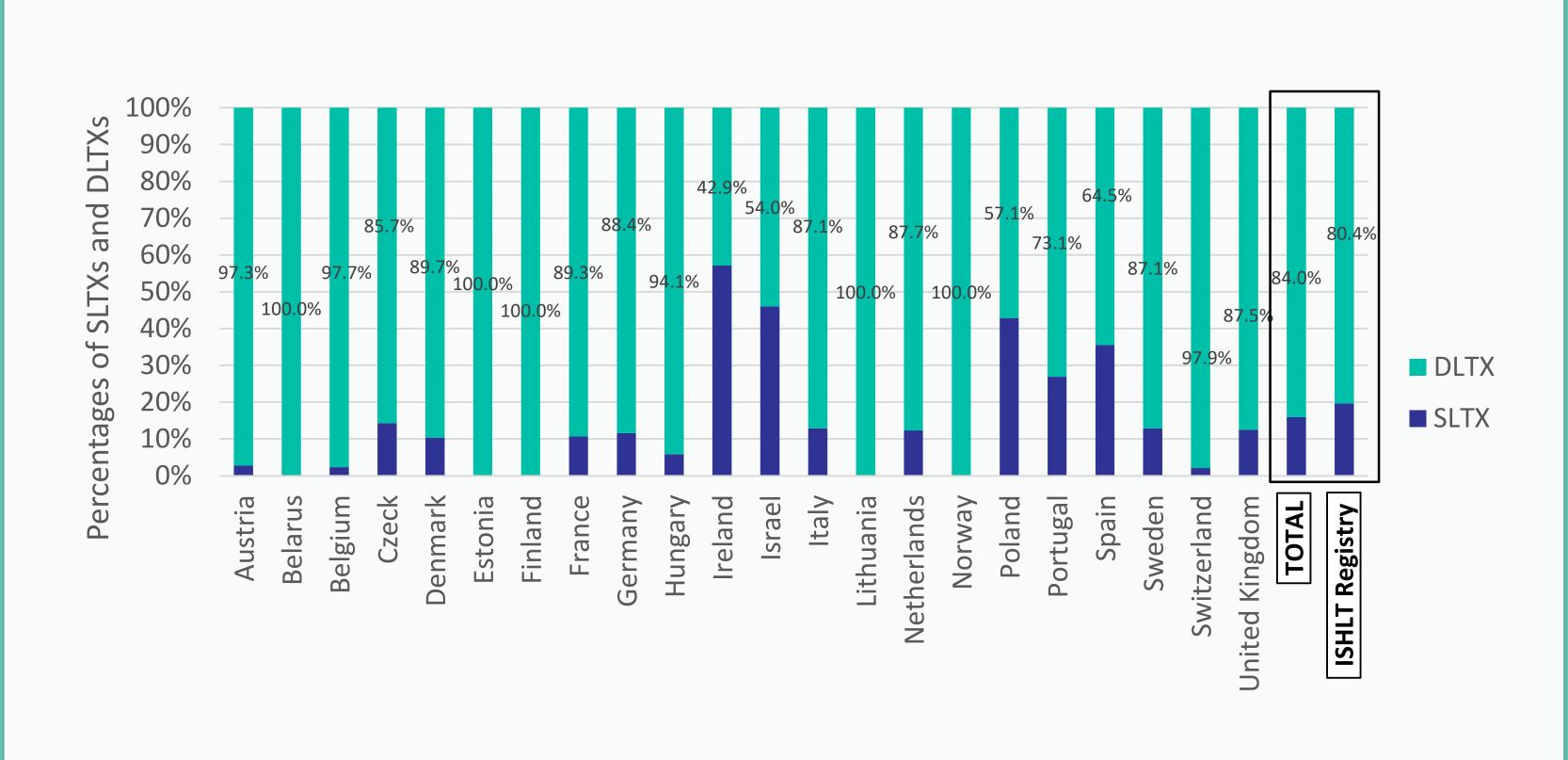
Figure 2. Lung Transplants Performed in Europe/Israel Per Million Inhabitants, by Country



#### Results (cont'd)

- Within Europe, the number of lung transplants per million inhabitants varies significantly, ranging from 0.2 (Belarus) to 12.8 (Austria, **Figure 2**). 14
- Two European countries, Austria and Belgium, are currently above 10 lung transplants per million inhabitants; 8 countries perform between 5 and 10 lung transplants per million inhabitants (**Figure 2**).<sup>14</sup>

# Figure 3. Percentages of Single- vs Double-Lung Transplants in Europe/Israel



Abbreviations: DLTX, double-lung transplant; ISHLT, International Society for Heart and Lung Transplantation; SLTX, single-lung transplant.

- Double-lung transplant procedures have become more prevalent in recent years<sup>2</sup> and now represent the majority of lung transplants performed in Europe/Israel (**Figure 3**).<sup>14</sup>
- However, there is substantial variability in single-lung transplant rates (range 0% to 57%, **Figure 3**) within Europe. 14
- The ISHLT Registry reports a greater percentage of single-lung transplants, compared with reporting from individual countries in Europe:
  - The ISHLT reports that, of the lung transplants performed worldwide in 2016, approximately 19.6% were single-lung transplants and 80.4% were double-lung transplants.<sup>3</sup>
  - Newsletter Transplant reports that, of the lung transplants performed in Europe in 2016, 16% were single-lung transplants and 84% were double-lung transplants.<sup>14</sup>

#### Conclusions

- There is an identified gap of approximately 22% between the total number of lung transplants in the European data submitted to the ISHLT Registry and the country-specific reported data for 2016.
- The gap is most likely due to the fact that reporting to the ISHLT is optional in Europe/Israel, as it is in most of the world.
- Rates of lung transplantation vary considerably in Europe/Israel, ranging from 0.2 to 12.8 transplants per million inhabitants.
- The percentages of single- vs double-lung transplantations vary among countries across Europe/Israel (42.9% to 100% double-lung transplants), but overall the double-lung transplantation rate reported by Newsletter Transplant is higher than that reported by the ISHLT (84.0% vs 80.4%).

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