

How many clinical Histocompatibility and Immunogenetics laboratories are there in the world? A glance at their geographical distribution and accreditation

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BACKGROUND

Histocompatibility laboratories (HL) provide essential testing services in support of organ and stem cell transplantation, diagnosis of diseases and risk of drug-induced adverse reactions associated to HLA variants. Their geographical distribution across the world and the organizations that can accredit them have never been profiled. To understand the global distribution of HL a taskforce of the ASHI Accreditation Review Board (ARB) gathered this data.

METHODS

Information about HL was retrieved from ASHI, CAP, EFI and UNOS websites, as well as market estimates provided by industrial partners. Data from 6 countries (Cuba, Iran, North Korea, Sudan, and Syria) were excluded or may be incomplete (Russia) due to US government sanctions that prevent commercial relationships. The counts may be underestimated due to incomplete data for some countries.

CONCLUSIONS

- Our best estimate indicates 551 HL in total, currently operating in 58 countries across 6 continents.
- HL are unequally distributed around the world.
- The US is the country with the highest number of HL with 163 HL
- Differences in regulations and the political and socioeconomical development of countries create challenges to determine the HL number.
- The distribution of HL correlates with socioeconomical indicators such as GDP estimates from the International Monetary Fund (IMF) forecast for 2023, the World Bank (WB) estimates for 2024, and the United Nations (UN) estimates for 2024.
- Ten Histocompatibility and Immunogenetics (H&I) societies were identified.
- ASHI and EFI are the most widely used organizations for accreditation.

RESULTS

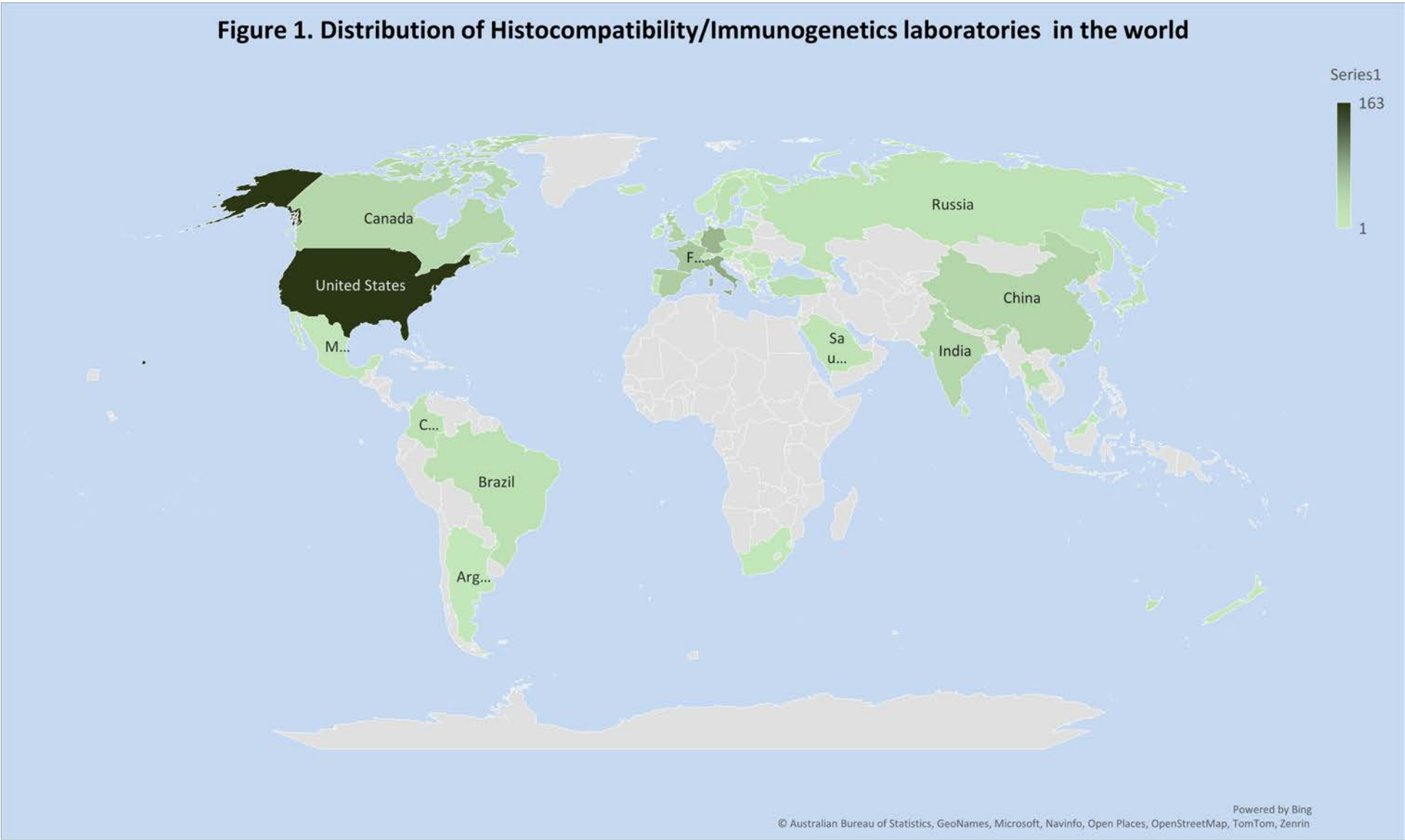


Table 1. Distribution of HLs in the world

Continent	# of countries with HLs	# of HLs
Africa	2	2
Asia	18	89
Europe	27	244
Europe/Asia	2	14
North America	4	181
Oceania	2	7
South America	3	14
Total	58	551

Table 2. Number of countries and HLs accredited by ASHI

Continent	# of countries with HLs	# of HLs
Africa	0	0
Asia	6	12
Europe	2	5
Europe/Asia	1	1
North America	4	170
Oceania	2	7
South America	1	1
Total	16	196

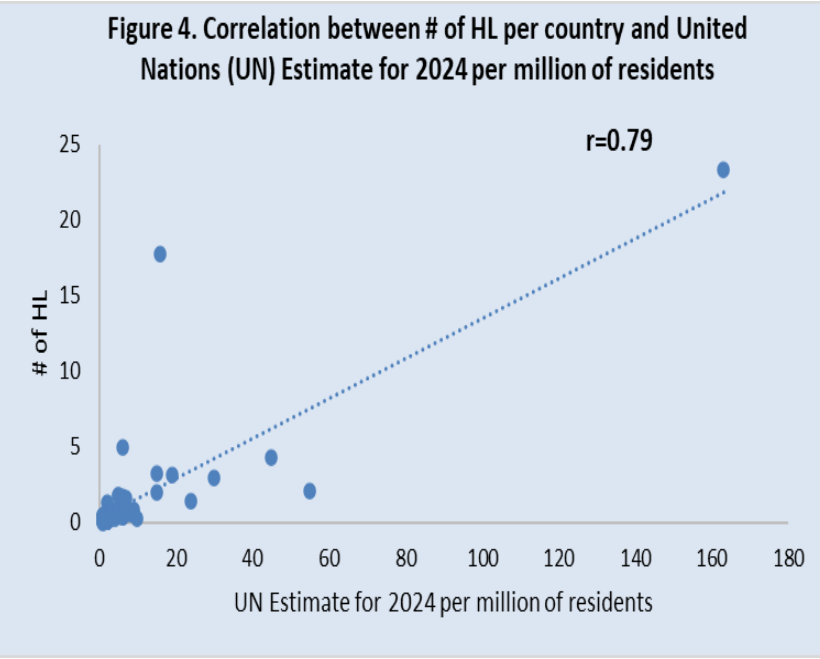
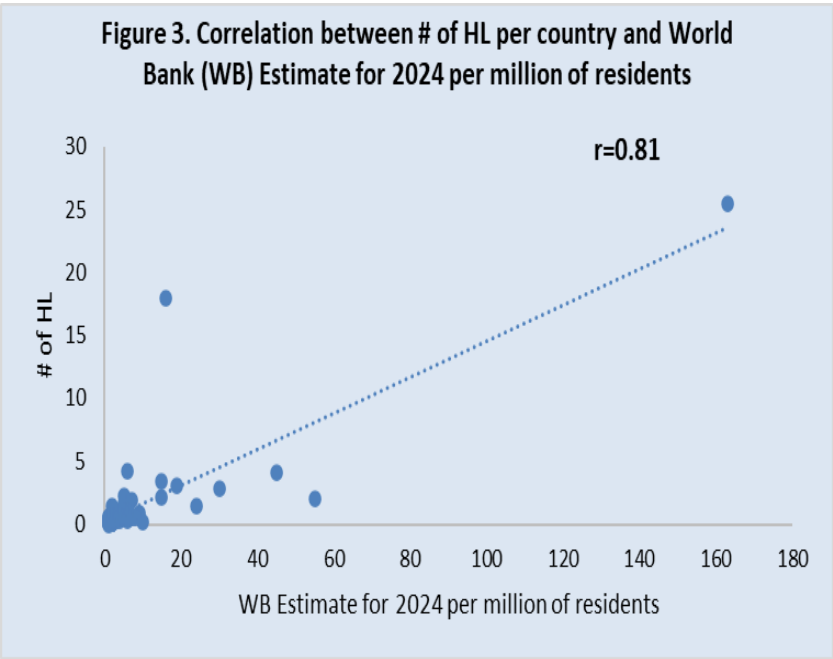
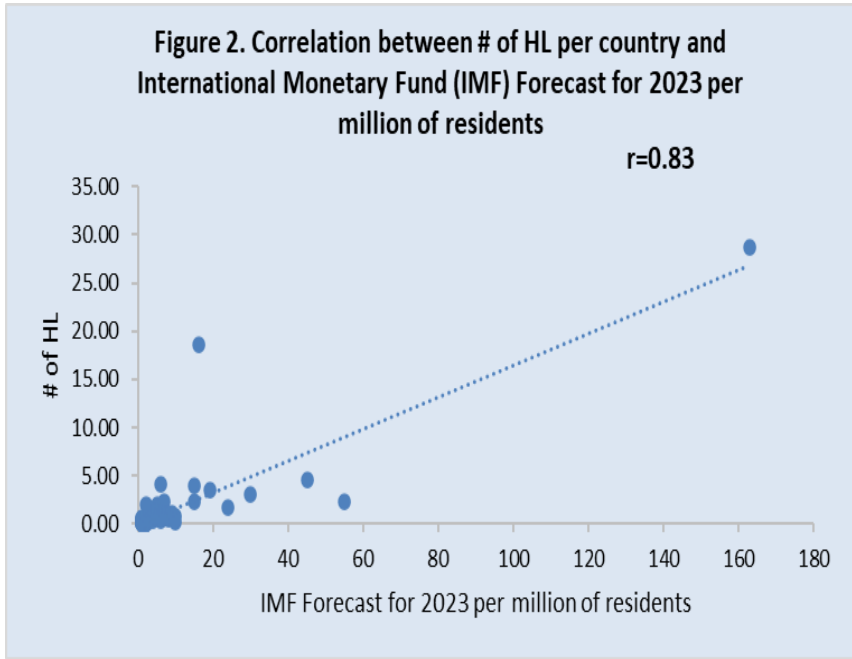
Table 3. Number of countries and HLs accredited by EFI

Continent	# of countries with HLs	# of HLs
Africa	2	2
Asia	4	9
Europe	32	247
Europe/Asia	1	8
North America	1	1
Oceania	0	0
South America	3	7
Total	43	274

Table 4. Correlations # of HL with global economical indicators

IMF forecast for 2023	0.83
WB estimate for 2024	0.81
UN estimate for 2024	0.79

Table 5. Histocompatibility and Immunogenetics Societies around the world	
Organization name	Webpage address
American Society for Histocompatibility and Immunogenetics (ASHI)	https://www.ashi-hla.org/
Arabian Society for Histocompatibility and Immunogenetics (ARSHI)	https://arshi-hla.org/
Asian-Pacific Histocompatibility and Immunogenetics Association (APHIA)	https://www.aphia.org.au/
Brazilian Association for Histocompatibility and Immunogenetics (ABHI)	https://www.abhi.com.br/
British Society for Histocompatibility and immunogenetics (BSHI)	https://bshi.org.uk/
European Federation of Immunogenetics (EFI)	https://efi-web.org/
Hong Kong Society for Histocompatibility and immunogenetics (HKSHI)	http://www.hkshi.org
Indian Society for Histocompatibility and Immunogenetics (ISHI)	https://ishi-hla.org/index.php
Japanese Society for Histocompatibility and immunogenetics (JSHI)	https://jsi.smoosy.atlas.jp/ja
Taiwan Society for Histocompatibility and Immunogenetics	https://sites.google.com/site/tshihla/home



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