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World's Best Specialized Hospitals 2023 – Methodology

Table of contents

1	Introduction.....	1
2	Study Design.....	2
2.1	Methodology.....	3
	Reputation Score	3
	PROMS Score	4
	Accreditations/Certification Score	6
2.2	Methodological input by the Expert Board.....	6
2.3	Scoring Model.....	7
3	Disclaimer	8

1 Introduction

Hospitals have a crucial role in modern health care systems since they perform a wide variety of medical services in different medical fields, ensuring adequate medical care for the general population in the surrounding area. General hospitals are best suited to deliver care for patients with the most common diagnoses and illnesses; however, the more specialized hospitals become, the more they can treat cases that are more difficult, complex, or rare. These hospitals are often at the forefront of scientific development in their medical fields and excel in certain surgeries or procedures which lead other hospitals or doctors to transfer their patients to these facilities to get the best treatment. Specialized Hospitals can be leading general hospitals which excel in certain areas or smaller hospitals which focus on a few or even just one area of expertise. On a health care system level, almost all developed countries trend towards more centralization of medical expertise in the hospital sector, ensuring more specialization and deeper know-how in areas of expertise.

For patients, the decision to choose the right hospital for their specific condition is often determined mainly by the hospital's reputation and expertise in the medical field they require, while the overall reputation of the hospital is only of secondary importance. However, many of the existing web-based portals, websites and news articles only compare on a hospital level, with data also only being reported on a hospital level (if at all). Most available resources also only focus on one specific country. To date, there is no methodologically sound international ranking of specialized hospitals by medical fields.

The World's Best Specialized Hospitals 2023 ranking is a project which aims to close this gap by **ranking the best hospitals in 11 medical fields across the world.**

The medical fields included are:

- Cardiology
- Cardiac Surgery
- Oncology
- Endocrinology
- Neurology
- Neurosurgery
- Orthopedics
- Gastroenterology
- Pulmonology

- Pediatrics
- Urology (new)

The ranking features the top 300 hospitals for Cardiology and Oncology, the top 200 for Pediatrics, the top 150 for Endocrinology and Cardiac Surgery, and the top 125 for Neurology, Neurosurgery, Orthopedics, Gastroenterology, Pulmonology and Urology. While global top hospitals are represented in multiple medical fields, it is of note that leading specialized hospitals that are highly renowned in one or two specific medical fields or treatments, also made it into the list relevant to their specialization.

Hospitals which are not accessible to the public and/or are very small were excluded from the ranking since they were very unlikely to receive enough recommendations to make the final list.

Since most internationally available hospital KPIs only report on an aggregated hospital level (e.g. infection rates) and the few available KPIs on a specialty level are mostly not comparable across countries (e.g. staffing ratios) the ranking is based mostly on a peer recommendation for specific areas of expertise from a global survey of medical professionals.

Accreditations/Certifications by JCI, CARF, and IAC, on the other hand, were considered in this edition for the first time, as these are international and relevant at the medical field level (where available). Lastly, this year, Statista introduces a new survey for hospitals regarding their advances in Patient Reported Outcome Measures (PROMs). The results from this survey were also included in the scoring process of the ranking for the first time.

2 Study Design

The following sections provide an overview of the study design and the underlying methodology used to determine the ranking. First, the general approach is outlined in chapter 2.1, followed by a description of the role of the Global Expert Board in chapter 2.2 and the approach that was used to create the lists in the ten medical fields in chapter 2.3

2.1 Methodology

The study design of the “World’s Best Specialized Hospital 2023” project is based on a global survey among tens of thousands of medical professionals (doctors, health care professionals and hospital managers).

The recommendation score is based on two sub-scores, for primary recommendations and secondary recommendations. In cooperation with Newsweek, Statista invited over 40,000 medical experts (medical doctors, healthcare professionals, hospital managers and directors) in over 20 countries to an online survey. Additionally, experts from all over the world were able to participate in the survey for “World’s Best Specialized Hospitals 2023” on newsweek.com. The data was collected by Newsweek and Statista during an initial survey period from July to August 2022.

Reputation Score

As mentioned above, participants were asked to recommend hospitals based on their expertise in one primary medical field (e.g. Cardiology for Cardiologists) and were able to choose an optional secondary and tertiary area of expertise in which they are also knowledgeable (e.g. due to frequent cooperation with other medical fields). These secondary/tertiary recommendations were given a lower weight than primary recommendations (see 2.3 for scoring details). The questionnaire did not suggest a list of recommended hospitals, therefore respondents were free to suggest any hospital they deemed recommendable (aided by an autocomplete function for convenience). Self-recommendations were not allowed. Statista performed plausibility checks on all data to prevent self-nomination.

In the second portion of the survey, Statista asked specialists from the 11 medical fields to classify a set number of hospitals. The list was comprised of leading hospitals from the previous year’s ranking as well as highly specialized hospitals in each medical field (both criteria had a huge overlap). Participants were asked to assign a ranking position to these hospitals (e.g. Top 1, Top 5, Top 10, Top 20, Top 50, Top 75, Top 100, Top 150, Not in the Top 150).

Answers were then weighted by a) working experience by profession, with primary recommendations from doctors in the relevant medical field receiving the highest weight (e.g. Cardiologists for Cardiology) and b) the confidence respondents had in their vote (0-100%). Combined, the two survey parts resulted in over 23,500 individual hospital recommendations.

Finally, the combined data was analyzed and an overall reputation score (0-100%) was calculated for every hospital in every medical field based on the total weighted number of recommendations and the ranking score. The hospital with the highest number of weighted recommendations received a recommendation score of 100% while the next best hospitals received a score relative to the weighted number votes they received, e.g. when hospital A received the most votes with 100, hospital B with 80 votes receives a score of "80" / "100" "=80%".

The reputation score accounts for 92,5% of the overall hospital score. Hospitals that specialize in more than one medical field received specific recommendation scores for each medical field based on the respective recommendations. Therefore, one hospital can be represented in more than one list if it receives enough recommendations in each medical field (up to being represented in all ten lists).

PROMS Score

Patient Reported Outcome Measurements (PROMs) are defined as standardized, validated questionnaires completed by patients to measure their perception of their functional well-being and quality of life. In recent years, PROMs measurement and the pursuit for patient centered care has become a key topic in health care systems worldwide. Newsweek and Statista have recognized the importance of this topic for global advancements in health care delivery and, together with the guidance of the Expert Board, have developed a survey about the implementation and use of PROMs across different specialties and departments in hospitals. The survey was sent out to hospitals in summer 2022.

The overall purpose of this survey is to determine the status quo of implementation of generic and condition specific PROMS in hospital settings as well as the hospital's efforts towards reporting and using the data both internally and externally for the purpose of improving health care delivery. For this, the Expert Board provided methodological input and guidance regarding the importance and development of the PROMs topic in a clinical setting. Furthermore, the board provided feedback on each of the questions within the survey to capture the most relevant PROMs information from the hospitals. An outline of the questions can be found below and the full questionnaire can be accessed via this [link](#).

PROMS Questions:

- The hospital has a unified platform for PROMS collection? (Yes/No)
- Number of standardized PROM instruments are measured and the departments they are being measured for.
- The condition and/or department measuring PROMs, whether case-mix adjustment was taken into account, and the percentage of patients that complete the PROMs questionnaire for each condition.
- Auditing of the data prior to being published. (Internal/External/Both)
- Internal reporting of PROMs data to clinicians and/or patients? (Yes/No)
- External reporting your PROMs results?
- Use of PROMs data to optimize care processes. (Yes/No)
- Use of PROMs data to support therapeutic decisions in real-time (Yes/No)
- Sharing and comparing of PROMs data with other institutions to learn from each other. (Yes/No)

Furthermore, in collaboration with the Expert Board, a grading system was built to determine the PROMS Score which has been added for the first time. The PROMS Score range was defined as 70-100%, meaning that only hospitals which achieved a minimum of 70% (of the maximum 100% score) were eligible to be graded on the PROMs Score curve (as shown in the scoring model in 2.3). The PROMS Score accounts for 2.5% of the overall hospital score.

The long-term goal is to establish this questionnaire, as the leading measure for PROMs implementation on an international level.

To highlight hospitals which participated in the survey and received a PROMS Score, those that reported measuring PROMs are displayed in the corresponding column of the ranking.

Accreditations/Certification Score

For the first time, hospital accreditations/certifications have been added to the scoring model (where available). Accreditations/certifications reflect a range of structural and/or quality requirements which are now relevant for the specialized rankings.

The following accreditations/certifications from the following institutions were considered:

- CARF International (Commission on Accreditation of Rehabilitation Facilities)
- IAC (Intersocietal Accreditation Commission)
- JCI (Joint Commission International)

In addition to general hospital certifications, any available accreditations/certifications relevant to specific medical fields (e.g. Pediatric Specialty Program for Pediatrics, Brain Injury Specialty Program for Neurology) were used as well.

The Accreditations/Certifications Score accounts for 5% of the overall hospital score.

2.2 Methodological input by the Expert Board

The following section outlines the function of the global board of medical experts which was founded by Statista to support the World's Best Specialized Hospital Project.

The idea behind the board of experts was to create an independent body that was tasked with the continuous development of the quality and scope of the project. The board of experts was tasked to provide input on possible improvements and expansions of the current questionnaires and methodology, most notably the PROMs survey. The members of the board of experts were carefully chosen based on their national and international expertise and decade-long experience in their respective medical fields as well as their scientific output. Current members of the board of experts are:

Global Board of Experts

Prof. Dr. David Bates
Professor of Medicine, Harvard Medical School, USA

Dr. Gary Kaplan
CEO, Virginia Mason Health System, USA

Prof. Dr. med. Christoph Meier
Chief Medical Officer, University Hospital Basel, Switzerland

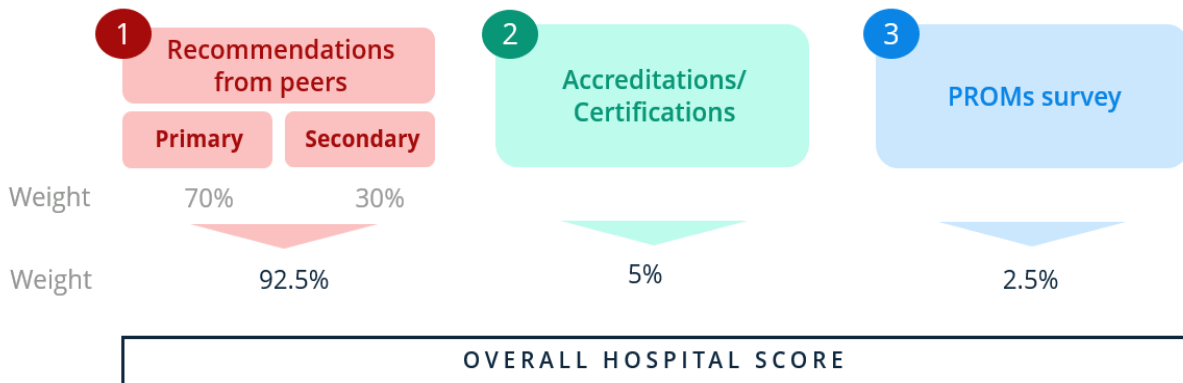
Dr. med. Jens Deerberg-Wittram
CEO, RoMed Kliniken, Germany

Dr. Eyal Zimlichman, MD
Chief Medical Officer, Sheba Medical Center, Israel

Prof. Dr. Gregory Katz
Chair of Innovation Management & Value in Health, University of Paris Medical School, France

2.3 Scoring Model

The scoring model is based on the reputation score, the accreditations/certification score, and the PROMs score and uses different weights for the individual components as shown in this overview:



As shown above, primary recommendations from experts in each medical field account for 70% of each hospital's reputation score. Secondary and tertiary recommendations from medical professionals with knowledge in more than one medical field received a weight of 30% towards the reputation score. The total reputation score accounts for 70%, the accreditations/certifications accounts for 5% and the PROMS survey score accounts for 2.5% of the overall hospital score.

Based on the overall hospital score, hospitals are ranked top to bottom in lists for each medical field. The results of this ranking are displayed in the lists published by Newsweek.

3 Disclaimer

The rankings are comprised exclusively of hospitals that are eligible regarding the scope described in this document. A mention in the ranking is a positive recognition based on peer recommendations and publicly available data sources at the time. The ranking is the result of an elaborate process which, due to the interval of data-collection and analysis, is a reflection of the last calendar year. Furthermore, events preceding or following the period 17/08/2021-17/08/2022 and/or pertaining to individual persons affiliated/associated to the facilities were not included in the metrics. As such, the results of this ranking should not be used as the sole source of information for future deliberations.

The information provided in this ranking should be considered in conjunction with other available information about hospitals or, if possible, accompanied by a visit to a facility. The quality of hospitals that are not included in the rankings is not disputed.