Best Hospitals: New Rehabilitation Methodology

For the 2020 Best Hospitals specialty rankings, U.S. News & World Report expects to introduce a new methodology for the rehabilitation rankings. The primary change is that the specialty will no longer be solely based on expert-opinion but will introduce new measures in structure and outcomes providing a data-driven ranking of rehabilitation facilities. The changes will provide consumers with more information about the quality of care in inpatient rehabilitation facilities across the U.S. and will continue to evolve over time as additional data are available for inclusion in the rankings. The key research question for the rehabilitation rankings is which facilities provide the best care for complex inpatient cases.

Eligibility

No application, data submission or other action is required by inpatient rehabilitation facilities to be considered in the rehabilitation specialty rankings. Except for military and federally owned hospitals, all facilities listed in the AHA annual survey database of U.S. hospitals are automatically considered but, as with other Best Hospitals specialty rankings, must meet a series of eligibility requirements in order to be evaluated in rehabilitation. Eligibility for the new rankings in rehabilitation has two paths for consideration. For the first path to eligibility, facilities that appear in the AHA annual survey database and also in the CMS Inpatient Rehabilitation Facilities Compare (IRF Compare) reporting program (link: https://www.medicare.gov/inpatientrehabilitationfacilitycompare/) are eligible if they meet all of the following four conditions:

- The AHA survey database lists a primary service code (AHA variable: SERV) for the facility that is one of the following: General medical/surgical (10), Hospital unit of an institution (11), Rehabilitation (46), Other specialty treatment (49);
- The AHA survey indicates that “physical rehabilitation care” is provided at the facility (AHA variable: REHABHOS, REHABSYS, REHABVEN);
- According to the AHA survey, the facility is a member of Council of Teaching Hospitals and Health Systems (COTH), has a Medical School Affiliation (AMA or AOA), or has 30 or more physical rehabilitation care beds (AHA variables: MAPP5, MAPP8, MAPP11, REHABBD);
- As reported in the December 12, 2019 IRF Compare dataset, the facility had a minimum volume of 50 Medicare patients across three key “Conditions treated” categories: Stroke, Brain injury (traumatic), Spinal cord injury (traumatic). Note that for certain conditions a facility’s Medicare volume may be substantially lower than its total volume.

We recognize that some facilities that provide acute inpatient rehabilitation services, including many IRFs located in Maryland (which may opt into but are not required to participate in the IRF PPS) and certain specialized long-term care hospitals, are not included in IRF Compare reporting, so a second path for eligibility has been established. Specifically, any hospital with an expert-opinion score of 1% or higher based on the most recent three years of U.S. News national physician surveys is eligible, regardless of whether it meets all four of the criteria for the first path for eligibility.
Being eligible for ranking does not guarantee that a hospital will be ranked. While all eligible hospitals are assigned a score in rehabilitation, only those achieving the highest scores will be ranked as Best Hospitals.

**Structure**

*Structure* refers to resources related directly to patient care and is one of three domains of quality originally articulated by Avedis Donabedian¹. The Best Hospitals rankings in specialties other than rehabilitation have factored various structural characteristics into their methodologies. For example, volume has been used as a structure indicator in all data-driven Best Hospitals rankings, as past research in diverse specialties has established a relationship between higher volume and better clinical outcomes.

For the rehabilitation rankings, *volume* of care will serve as a key indicator of quality. For the volume data, we utilize data from the IRF Compare website maintained by CMS. The volume measure focuses on the patient volume for conditions that are considered complex or difficult to treat in a rehabilitation setting. This includes patients with stroke, traumatic brain injury, and traumatic spinal cord injury. Each of these volume measures are scored separately relative to all other eligible hospitals and given a weight of 3.33%; the three volume measures together represent a total of 10% of the overall ranking in rehabilitation.

We also include a number of data elements from the 2018 AHA Annual Survey including:

- **CARF International Accreditation.** This is the accreditation from the Commission on Accreditation of Rehabilitation Facilities (CARF International) which designates a center as meeting standards of excellence in rehabilitation care. While specialty accreditations are offered by CARF International, we utilize the basic CARF International accreditation of rehabilitation facilities. This accreditation is worth a total of 1% of the ranking.

- **Patient Services.** This includes patient services that facilitate high quality rehabilitation care. Services are counted as present if they are available at the facility, through the health system, or via a partnership as indicted in the AHA survey. These services are worth a total of 6% of the ranking and include the following:
  - Cardiac rehabilitation;
  - Case management;
  - Enabling services;
  - Translators;
  - Neurological services;
  - Occupational health services;
  - Pain management program;
  - Palliative care program;
  - Patient-controlled analgesia;
  - Patient representative services;
  - Physical rehabilitation outpatient services;

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- Psychiatric services - psychiatric consultation-liaison services;
- Social work services;
- Wound-management services;
- Health research; and
- Hemodialysis.

- **Advanced Technologies.** This includes advanced technologies that facilitate high quality rehabilitation care. Technologies are counted as present if they are available at the facility, through the health system, or via a partnership as indicted in the AHA survey. These technologies are worth a total of 6% of the ranking and include the following:
  - Assistive technology center;
  - Electrodiagnostic services;
  - Prosthetic and orthotic services;
  - Robot-assisted walking therapy;
  - Simulated rehabilitation environment;
  - Computed tomography (CT) scanner;
  - Diagnostic radioisotope facility;
  - Positron emission tomography/CT (PET/CT); and
  - Single photon emission computerized tomography (SPECT)

The final structural element of the ranking is an indicator of whether the center has been designated as one of the Model Systems in Rehabilitation by the National Institute on Disability, Independent Living, and Rehabilitation Research (NIDILRR; see [https://mskte.org/](https://mskte.org/)). Designations are available in the areas of Spinal Cord Injury (SCI), Burns (BMS), and Traumatic Brain Injury Model Systems (TBIMS). Facilities will receive credit if they have one or more model systems designations awarded by NIDILRR. The model systems designation is worth a total of 2% of the ranking.

**Process**

The process dimension of the Donabedian paradigm reflects clinicians’ decisions and actions toward patients. It is difficult to obtain national measures of process that are discriminating and comparable from one hospital to another; U.S. News therefore previously has used physicians’ expert opinion as a proxy. The process component of the overall score in rehabilitation is represented by two process measures related to patient safety and one proxy measure of the expert opinion of a hospital.

**Patient safety.** The two patient safety measures are drawn from IRF Compare and focus on influenza vaccination rates of healthcare personnel and patients, an important risk factor for patient safety within a healthcare setting. Data from these measures are treated as continuous variables in order to maximize use of the information contained in the variable, and to minimize the risk of measurement error due to categorization. Each of these measures are worth 2.5%, for a total of 5% of the final ranking. (One of these two measures (patient influenza vaccination rate) will be retired next year, as it was recently removed from the IRF quality reporting program.)

**Expert opinion.** The concept of expert opinion speaks to an institutional ability to develop and sustain a system that delivers high-quality care to especially medically complex patients. A hospital’s expert
The opinion score is based on the average number of nominations from the three most recent annual surveys of board-certified physicians conducted for the Best Hospitals rankings which, for the 2020-21 rankings, will be those conducted in 2018, 2019, and 2020. For the rehabilitation physician survey, board-certified rehabilitation specialists (physiatrists) are asked to nominate hospitals in the field of rehabilitation medicine that they consider best for patients with serious or difficult conditions; they can nominate as many as five hospitals. Note that the 2020 survey will be completed in March.

The 2020 sample was drawn from the Doximity Masterfile. Similar to the AMA Physician Masterfile, which was used as the sampling frame prior to 2016, Doximity’s comprehensive Physician Database includes nearly every practicing U.S. physician. Physicians are included in the Masterfile and, therefore, may be surveyed by U.S. News whether or not they use any service offered by Doximity; a random sample of physicians who do not use Doximity services receive a survey invitation by mail, while physicians who have used Doximity services are surveyed electronically. More information on the sampling approach for the physician survey can be in the following report on pages 35-43: https://health.usnews.com/media/best_hospitals/Best_Hospitals_Methodology_2019-20. The physician sample was stratified by census region—West, Northeast, South and Midwest (https://www2.census.gov/geo/pdfs/maps-data/maps/reference/us_regdiv.pdf)—and by specialty to ensure appropriate representation. The final aggregated sample included both federal and nonfederal medical and osteopathic physicians in all 50 states and the District of Columbia.

Given the fact that the rehabilitation specialty was defined solely by expert-opinion prior to 2020, a higher weight for this component will be used to maintain the continuity with past rankings. For the 2020-21 rankings, the expert-opinion measure will be worth 50% of the total ranking.

Outcomes

The primary outcomes measure in the 12 data-driven rankings is 30-day patient survival; i.e., how many patients are alive at 30 days after inpatient hospital admission. However, death is not an informative outcome measure in rehabilitation care as the focus of care is patient functional improvement, community discharge and avoidance of future acute care where possible. This domain of the rankings is defined by outcomes available from IRF Compare including the following:

- Preventing potentially avoidable 30-day hospital readmissions after IRF discharge;
- Preventing potentially avoidable hospital readmissions during rehabilitation care; and
- Successful discharge to home and community.

Data from the two readmissions measures has been converted from a rate of readmissions to a rate of successful avoidance of readmissions while data from the discharge measure was taken as provided in IRF Compare. All three outcome measures are treated as continuous variables in order to maximum use of the information contained in the variable, and to minimize the risk of measurement error due to categorization. Each of these measures are worth 6.67%, for a total of 20% of the final ranking.

Weighting of the Ranking Components
For the 2020-21 ranking in rehabilitation, the weight for each component will be the following:

- **Structure**: 25%
- **Process**: 55%
- **Outcomes**: 20%

As new data become available in future years, the project will incorporate these elements and adjust the weighting accordingly.

**Adjustments for Missing Data**

For hospitals that meet the eligibility requirements but do not have IRF Compare data, the rankings will use a modeling technique to rank each facility without regard to the missing IRF Compare data. This is done by calculating the overall rehabilitation U.S. News Score two different ways. First, an overall score is calculated for all eligible hospitals (including those missing the IRF Compare measures) using a measure weight of zero for all IRF Compare measures and the measure weights described above for all other measures. Then, the overall score is computed again for all hospitals that have IRF Compare data, this time using the measure weights above for all measures, including those derived from IRF Compare. Finally, the overall score from the first calculation is used as the U.S. News Score for hospitals that are missing IRF Compare data, and the overall score from the second calculation is used for hospitals that have IRF Compare data. This ensures that eligible hospitals missing key data points are ranked relative to other rehabilitation hospitals only on the basis of the data available for all rehabilitation hospitals.

**Best Hospitals Honor Roll and Best Regional Hospitals Rankings**

U.S. News annually publishes two rankings—the Best Hospitals Honor Roll and the Best Regional Hospitals—that summarize a hospital’s quality of care across a wide range of specialties. Only general medical-surgical hospitals are eligible for these summary rankings; specialty hospitals, including rehabilitation facilities, are ineligible, as they do not provide a wide range of specialty care. Beginning this year, the rehabilitation rankings will not factor into the Honor Roll methodology; since 2015 they have not been a factor in the Best Regional Hospital rankings. The reason for the specialty’s removal this year from the Honor Roll methodology is that although high-quality rehabilitation care is crucial for patients, it's not necessarily optimal for their rehabilitation care to be provided at the same facility where they receive acute medical or surgical care. In fact, freestanding IRFs may be more capable of providing the level of care some patients need. This year’s Honor Roll methodology change evens the playing field between general medical-surgical hospitals that appropriately discharge patients to a separate rehabilitation facility and those that provide rehabilitation services in an onsite rehab unit.