Best Hospitals 2021-22: New Rehabilitation Methodology (June 30, 2021)

For the 2021-22 Best Hospitals specialty rankings, U.S. News & World Report is introducing a new methodology for the rehabilitation rankings. The primary change is that the specialty will no longer be solely based on expert opinion but has introduced new measures in structure and outcomes providing a data-driven ranking of rehabilitation facilities. The changes 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 are eligible if they appear in the December 2020 CMS Inpatient Rehabilitation Facilities Compare (IRF Care Compare) reporting program (link: https://www.medicare.gov/inpatientrehabilitationfacilitycompare/) public use files and have an aggregate volume of “Conditions treated” in Stroke, Brain injury (traumatic), and Spinal cord injury (traumatic) of 50 or more in IRF Care Compare. If available from the Uniform Data System for Medical Rehabilitation (UDSMR)¹ or eRehabData², two key registries in rehabilitation, all-payor volumes for these conditions have been used to determine eligibility. Note that for certain conditions a facility’s Medicare volume, as reported in IRF Care Compare, may be substantially lower than its total volume.

A second path is also available for facilities that provide acute inpatient rehabilitation services but are not included in IRF Care Compare reporting, 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. 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 in rehabilitation are eligible, regardless of whether they meet all 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 are ranked as Best Hospitals (i.e., 1-50).

In addition, while not being eligible, facilities listed in the AHA survey database as having a primary service code indicating that they are a Rehabilitation hospital (AHA variable: SERV=46), or the AHA service of “physical rehabilitation care” (AHA variable: REHABHOS), are located in the state of Maryland but do not have a 1% or greater expert opinion score, or have received accreditation for inpatient rehabilitation from

¹ https://www.udsmr.org/
² https://web2.erehabdata.com/erehabdata/index.jsp
the Commission on Accreditation of Rehabilitation Facilities (CARF) are considered to be rehabilitation facilities and are listed in the directory on the rankings website, but have not received scores or a rank.

**Structure**

*Structure* refers to resources related directly to patient care and is one of three domains of quality originally articulated by Avedis Donabedian\(^3\). 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 serves as a key indicator of quality. For the volume data, we utilize data from the IRF component of Care Compare website maintained by CMS. In addition, two key rehabilitation registries (UDSMR and eRehabData) allowed hospitals to opt into public reporting with U.S. News for the rehabilitation rankings through early February 2021\(^4\). 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. For hospitals that participate in public reporting, the rankings compare available volumes for each of the three conditions from CMS and the registries using the largest volume available for scoring purposes. For hospitals that have treated one or more cases but less than 11, we treat them as having a value of 10 for purposes of scoring. 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 have also included a number of data elements from the 2019 AHA Annual Survey including:

- **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:
  - Case management;
  - Employment support services;
  - Enabling services;
  - Translators;
  - Neurological services;
  - Occupational health services;
  - Pain management program;
  - Patient representative services;
  - Patient education center;
  - Physical rehabilitation outpatient services;

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\(^4\) Note that hospitals will be able to opt into public reporting in the future with both registries. U.S. News will continue to work with the registries to establish an ongoing plan for allowing hospitals to join the public reporting program in the future.
- Psychiatric services - psychiatric consultation-liaison services;
- Social work services;
- Support groups;
- 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; and
  - Positron emission tomography/CT (PET/CT).

Accreditation from the Commission on Accreditation of Rehabilitation Facilities (CARF International) 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. Certification data was obtained from CARF International on January 29, 2021. This accreditation is worth a total of 1% of the ranking.

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://msktc.org/). Designations are available in the areas of Spinal Cord Injury (SCI), Burns (BMS), and Traumatic Brain Injury Model Systems (TBIMS). Facilities received credit if they had one or more model systems designations awarded by NIDILRR. Data for this element was obtained from NIDILRR on February 10, 2021. 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 one process measure related to patient safety and one proxy measure of the expert opinion of a hospital.

**Patient safety.** A patient safety measure is drawn from IRF Care Compare and focuses on influenza vaccination rates of healthcare personnel, an important risk factor for patient safety within a healthcare setting. Data from this measure is treated as a continuous variable in order to maximize use of the
information contained in the variable, and to minimize the risk of measurement error due to categorization. This measure is worth 5% of the final ranking.

**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 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 were conducted in 2019, 2020 and 2021. 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 could nominate as many as five hospitals.

The 2019, 2020 and 2021 physician survey samples were 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/BH_Methodology_2020-21](https://health.usnews.com/media/best-hospitals/BH_Methodology_2020-21). 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](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 in prior years, a higher weight for this component has been used to maintain the continuity with past rankings. For the 2021-22 rankings, the expert-opinion measure is 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 Care 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 2021-22 ranking in rehabilitation, the weight for each component is 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 Care Compare data, the rankings have used a modeling technique to rank each facility without regard to the missing IRF Care Compare data. This is done by calculating the overall rehabilitation U.S. News Score two different ways. First, an overall score was calculated for all eligible hospitals (including those missing the IRF Care Compare measures) using a measure weight of zero for all IRF Care Compare measures and the measure weights described above for all other measures. Then, the overall score was computed again for all hospitals that have IRF Care 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 was used as the U.S. News Score for hospitals that are missing IRF Care Compare data, and the overall score from the second calculation is used for hospitals that have IRF Care 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. The rehabilitation rankings continue to factor into the Honor Roll methodology in the same manner as in past years. Specifically, the No. 1-ranked hospital in rehabilitation receives 10 Honor Roll points and lower-ranked hospitals progressively receive one less point down to 1 point for all hospitals ranked 10-50. Since 2015, the rehabilitation rankings have not been a factor in the Best Regional Hospital rankings.