

Satisfaction at HHC HOSPITALS

Data Analysis



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Team members

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**Extracted information:**

|  |  |
| --- | --- |
| **Id** | **Hospital** |
| 1 | BELLEVUE HOSPITAL CENTER |
| 2 | CONEY ISLAND HOSPITAL |
| 3 | ELMHURST HOSPITAL CENTER |
| 4 | HARLEM HOSPITAL CENTER |
| 5 | JACOBI MEDICAL CENTER |
| 6 | KINGS COUNTY HOSPITAL CENTER |
| 7 | LINCOLN MEDICAL & MENTAL HEALTH CENTER |
| 8 | METROPOLITAN HOSPITAL CENTER |
| 9 | NORTH CENTRAL BRONX HOSPITAL |
| 10 | QUEENS HOSPITAL CENTER |
| 11 | WOODHULL MEDICAL AND MENTAL HEALTH CENTER |

|  |  |
| --- | --- |
| **Id** | **Questions** |
| 1 | How often were the patient’s rooms and bathrooms kept clean? |
| 2 | How often did nurses communicate well with patients? |
| 3 | How often did doctors communicate well with patients? |
| 4 | How often did patients receive help quickly from hospital staff? |
| 5 | How often was the patient’s pain well-controlled? |
| 6 | How often did staff explain about medicines before giving them to patients? |
| 7 | Were patients given information about what to do during their recovery at home? |
| 8 | How do patients rate the hospital overall? |
| 9 | How often was the area around patients’ rooms kept quiet at night? |
| 10 | Would patients recommend the hospital to friends and family? |

* Each hospital got a list of questions, (10) of them.
* Each question has been asked to each hospital.

**Q1)** For every hospital in the survey, calculate the basic statistics for all questions, including mean, median, and mode.

* Mean = sum (questions scores) / count(questions)
* Median = middle value
* Mode = the most occurrence value

1. **BELLEVUE HOSPITAL CENTER**

* Mean = (56 + 63 + 77 + 49 + 55 + 54 + 80 + 56 + 41 + 63) / 10

**Mean = 59.4**

* Median = 56 + 63 + 77 + 49 + 55 + 54 + 80 + 56 + 41 + 63 = (55 + 54) / 2

**Median = 54.5**

* Mode

**Mode = {56, 63}**

1. **CONEY ISLAND HOSPITAL**

* Mean = (64 + 68 + 74 + 57 + 64 + 52 + 79 + 56 + 51 + 54) / 10

**Mean = 61.9**

* Median = 64 + 68 + 74 + 57 + 64 + 52 + 79 + 56 + 51 + 54 = (64 + 52) / 2

**Median = 58**

* Mode

**Mode = 64**

1. **ELMHURST HOSPITAL CENTER**

* Mean = (57 + 57 + 74 + 44 + 59 + 45 + 80 + 52 + 35 + 58) / 10

**Mean = 56.1**

* Median = 57 + 57 + 74 + 44 + 59 + 45 + 80 + 52 + 35 + 58 = (59 + 45) / 2

**Median = 52**

* Mode =

**Mode = 57**

1. **HARLEM HOSPITAL CENTER**

* Mean = (61 + 64 + 78 + 48 + 57 + 51 + 77 + 42 + 56 + 50) / 10

**Mean = 58.4**

* Median = 61 + 64 + 78 + 48 + 57 + 51 + 77 + 42 + 56 + 50 = (57 + 51) / 2

**Median = 54**

* Mode

**Mode = there is no mode available**

1. **JACOBI MEDICAL CENTER**

* Mean = (63 + 63 + 75 + 47 + 53 + 51 + 76 + 50 + 49 + 58) / 10

**Mean = 58.5**

* Median = 63 + 63 + 75 + 47 + 53 + 51 + 76 + 50 + 49 + 58 = (53 + 51) / 2

**Median = 52**

* Mode

**Mode = 63**

1. **KINGS COUNTY HOSPITAL CENTER**

* Mean = (73 + 67 + 76 + 45 + 56 + 59 + 79 + 59 + 56 + 64) / 10

**Mean = 63.4**

* Median = 73 + 67 + 76 + 45 + 56 + 59 + 79 + 59 + 56 + 64 = (56 + 59) / 2

**Median = 57.5**

* Mode

**Mode = {56, 59}**

1. **LINCOLN MEDICAL & MENTAL HEALTH CENTER**

* Mean = (65 + 66 + 79 + 52 + 57 + 53 + 75 + 51 + 53 + 57) / 10

**Mean = 60.8**

* Median = 65 + 66 + 79 + 52 + 57 + 53 + 75 + 51 + 53 + 57 = (57 + 53) / 2

**Median = 55**

* Mode

**Mode = {57, 53}**

1. **METROPOLITAN HOSPITAL CENTER**

* Mean = (63 + 62 + 78 + 49 + 55 + 57 + 82 + 58 + 50 + 56) / 10

**Mean = 61**

* Median = 63 + 62 + 78 + 49 + 55 + 57 + 82 + 58 + 50 + 56 = (55 + 57) / 2

**Median = 56**

* Mode

**Mode = there is no mode available**

1. **NORTH CENTRAL BRONX HOSPITAL**

* Mean = (62 + 67 + 79 + 49 + 60 + 53 + 75 + 58 + 53 + 61) / 10

**Mean = 61.7**

* Median = 62 + 67 + 79 + 49 + 60 + 53 + 75 + 58 + 53 + 61 = (60 + 53) / 2

**Median = 56.5**

* Mode

**Mode = 53**

1. **QUEENS HOSPITAL CENTER**

* Mean = (68 + 63 + 79 + 56 + 60 + 61 + 80 + 58 + 52 + 71) / 10

**Mean = 64.8**

* Median = 68 + 63 + 79 + 56 + 60 + 61 + 80 + 58 + 52 + 71 = (60 + 61) / 2

**Median = 60.5**

* Mode

**Mode = there is no mode available**

1. **WOODHULL MEDICAL AND MENTAL HEALTH CENTER**

* Mean = (65 + 68 + 75 + 48 + 58 + 55 + 81 + 54 + 50 + 59) / 10

**Mean = 61.3**

* Median = 65 + 68 + 75 + 48 + 58 + 55 + 81 + 54 + 50 + 59= (58 + 55) / 2

**Median = 56.5**

* Mode

**Mode = there is no mode available**

**Summary**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Id** | **Hospital** | **Mean** | **Median** | **Mode** |
| 1 | BELLEVUE HOSPITAL CENTER | 59.4 | 54.5 | {56, 63} |
| 2 | CONEY ISLAND HOSPITAL | 61.9 | 58 | 64 |
| 3 | ELMHURST HOSPITAL CENTER | 56.1 | 52 | 57 |
| 4 | HARLEM HOSPITAL CENTER | 58.4 | 54 | null |
| 5 | JACOBI MEDICAL CENTER | 58.5 | 52 | 63 |
| 6 | KINGS COUNTY HOSPITAL CENTER | 63.4 | 57.5 | {56, 59} |
| 7 | LINCOLN MEDICAL & MENTAL HEALTH CENTER | 60.8 | 55 | {57, 53} |
| 8 | METROPOLITAN HOSPITAL CENTER | 61 | 56 | null |
| 9 | NORTH CENTRAL BRONX HOSPITAL | 61.7 | 56.5 | 53 |
| 10 | QUEENS HOSPITAL CENTER | 64.8 | 60.5 | null |
| 11 | WOODHULL MEDICAL AND MENTAL | 61.3 | 56.5 | null |

**Q2**) For every topic (Question in the survey), identify the best hospital-based on patients’ satisfaction levels (show this in graph).

**Q3)** Assume that all questions have the same weight, recommend the two best hospitals given that our patients are very concerned about cleanliness and pain control.

* To choose the best two hospitals, we look at the HCAHPS answer score and also show this in the graph, which is considered feedback making things clearer for patients and providers alike, to determine the best hospital
  + Hospital one is KINGS COUNTY HOSPITAL CENTER
    - Room was "always" clean That got a mark out of 73 in the question ‘How often were the patient’s rooms and bathrooms kept clean?’
  + CONEY ISLAND HOSPITAL
    - Pain was "always" well controlled That got a mark out of 64 in the question ‘How often were patients’ pain well-controlled?’

**Q4)** List the hospital(s) that have scores < the mean score in all questions in the survey. (Show the result(s) in ascending order)

*Hint: the answer should include only one list. Don’t provide a list for each question.*

-the mean score in all questions in the survey 60.6

1.ELMHURST HOSPITAL CENTER, Mean = 56.1

2. HARLEM HOSPITAL CENTER, Mean = 58.4

3. JACOBI MEDICAL CENTER, Mean = 58.5

4. BELLEVUE HOSPITAL CENTER, Mean = 59.4

**Q5)** Assume that all questions have the same weight, rank the hospitals based on their HCAHPS scores.

* The ranking will depend on the mean to each hospital in descending order:
  + 11: QUEENS HOSPITAL CENTER
  + 10: KINGS COUNTY HOSPITAL CENTER
  + 9: CONEY ISLAND HOSPITAL
  + 8: NORTH CENTRAL BRONX HOSPITAL
  + 7: WOODHULL MEDICAL AND MENTAL HEALTH CENTER
  + 6: METROPOLITAN HOSPITAL CENTER
  + 5: LINCOLN MEDICAL & MENTAL HEALTH CENTER
  + 4: BELLEVUE HOSPITAL CENTER
  + 3: JACOBI MEDICAL CENTER
  + 2: HARLEM HOSPITAL CENTER
  + 1: ELMHURST HOSPITAL CENTER