**The REG Procedure**

**Model: MODEL1**

**Dependent Variable: new\_case\_rate\_percent**

|  |  |
| --- | --- |
| **Number of Observations Read** | 539 |
| **Number of Observations Used** | 539 |

| **Analysis of Variance** | | | | | |
| --- | --- | --- | --- | --- | --- |
| **Source** | **DF** | **Sum of Squares** | **Mean Square** | **F Value** | **Pr > F** |
| **Model** | 1 | 29.46565 | 29.46565 | 64.02 | <.0001 |
| **Error** | 537 | 247.17463 | 0.46029 |  |  |
| **Corrected Total** | 538 | 276.64028 |  |  |  |

|  |  |  |  |
| --- | --- | --- | --- |
| **Root MSE** | 0.67845 | **R-Square** | 0.1065 |
| **Dependent Mean** | 0.86465 | **Adj R-Sq** | 0.1048 |
| **Coeff Var** | 78.46428 |  |  |

| **Parameter Estimates** | | | | | |
| --- | --- | --- | --- | --- | --- |
| **Variable** | **DF** | **Parameter Estimate** | **Standard Error** | **t Value** | **Pr > |t|** |
| **Intercept** | 1 | 1.19949 | 0.05104 | 23.50 | <.0001 |
| **fully\_vaccinated\_rate\_percent** | 1 | -0.01083 | 0.00135 | -8.00 | <.0001 |

**The REG Procedure**

**Model: MODEL1**

**Dependent Variable: new\_case\_rate\_percent**

Diagram, engineering drawing

Description automatically generated

Chart, scatter chart

Description automatically generated

Chart, scatter chart

Description automatically generated

**The MEANS Procedure**

| **month** | **N Obs** | **Variable** | **Std Dev** | **Mean** |
| --- | --- | --- | --- | --- |
| 20-01 | 49 | new\_case\_rate\_percent  new\_death\_rate\_percent | 0.000025691  0 | 4.6796232E-6  0 |
| 20-02 | 49 | new\_case\_rate\_percent  new\_death\_rate\_percent | 0.000200143  3.4180466E-6 | 0.000051203  7.7428289E-7 |
| 20-03 | 49 | new\_case\_rate\_percent  new\_death\_rate\_percent | 0.0436509  0.0012885 | 0.0430506  0.0010174 |
| 20-04 | 49 | new\_case\_rate\_percent  new\_death\_rate\_percent | 0.2206704  0.0161207 | 0.2192816  0.0120132 |
| 20-05 | 49 | new\_case\_rate\_percent  new\_death\_rate\_percent | 0.1513629  0.0122495 | 0.2188304  0.0112353 |
| 20-06 | 49 | new\_case\_rate\_percent  new\_death\_rate\_percent | 0.1583585  0.0041954 | 0.2348704  0.0056339 |
| 20-07 | 49 | new\_case\_rate\_percent  new\_death\_rate\_percent | 0.3659906  0.0070773 | 0.4883821  0.0070958 |
| 20-08 | 49 | new\_case\_rate\_percent  new\_death\_rate\_percent | 0.2182805  0.0065045 | 0.3980471  0.0074000 |
| 20-09 | 49 | new\_case\_rate\_percent  new\_death\_rate\_percent | 0.2556934  0.0042299 | 0.4147673  0.0061750 |
| 20-10 | 49 | new\_case\_rate\_percent  new\_death\_rate\_percent | 0.5806056  0.0062581 | 0.7860898  0.0086989 |
| 20-11 | 49 | new\_case\_rate\_percent  new\_death\_rate\_percent | 0.9525782  0.0116928 | 1.7132582  0.0165960 |
| 20-12 | 49 | new\_case\_rate\_percent  new\_death\_rate\_percent | 0.5528120  0.0124951 | 1.9157149  0.0288628 |
| 21-01 | 49 | new\_case\_rate\_percent  new\_death\_rate\_percent | 0.5906240  0.0119467 | 1.6115385  0.0270337 |
| 21-02 | 49 | new\_case\_rate\_percent  new\_death\_rate\_percent | 0.2066676  0.0080082 | 0.6222629  0.0145738 |
| 21-03 | 49 | new\_case\_rate\_percent  new\_death\_rate\_percent | 0.2228607  0.0037639 | 0.5033505  0.0073915 |
| 21-04 | 49 | new\_case\_rate\_percent  new\_death\_rate\_percent | 0.2791528  0.0030524 | 0.5379624  0.0048631 |
| 21-05 | 49 | new\_case\_rate\_percent  new\_death\_rate\_percent | 0.0999289  0.0021633 | 0.2753937  0.0040812 |
| 21-06 | 49 | new\_case\_rate\_percent  new\_death\_rate\_percent | 0.0797702  0.0012026 | 0.1251203  0.0026749 |
| 21-07 | 49 | new\_case\_rate\_percent  new\_death\_rate\_percent | 0.3273475  0.0021941 | 0.3882812  0.0027549 |
| 21-08 | 49 | new\_case\_rate\_percent  new\_death\_rate\_percent | 0.7556476  0.0090247 | 1.2433628  0.0091745 |
| 21-09 | 49 | new\_case\_rate\_percent  new\_death\_rate\_percent | 0.6293651  0.0098716 | 1.3785252  0.0153337 |
| 21-10 | 49 | new\_case\_rate\_percent  new\_death\_rate\_percent | 0.5349099  0.0081717 | 0.9096919  0.0126066 |

Chart, histogram

Description automatically generated

Chart, histogram

Description automatically generated

**The MEANS Procedure**

| **indicator** | **N Obs** | **Variable** | **N** | **Mean** | **Median** | **Std Dev** | **Minimum** | **Maximum** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ≥ 50% vaccination rate | 14 | new\_case\_rate\_percent  new\_death\_rate\_percent | 14  14 | 1.0515463  0.0193878 | 0.6900666  0.0156363 | 0.6867853  0.0108914 | 0.3799468  0.0062135 | 2.2169753  0.0411994 |
| < 50% vaccination rate | 35 | new\_case\_rate\_percent  new\_death\_rate\_percent | 35  35 | 0.8529502  0.0098941 | 0.8400238  0.0093434 | 0.4604348  0.0047337 | 0.3276257  0.0028808 | 3.0001732  0.0195296 |

Chart, histogram

Description automatically generated

**The UNIVARIATE Procedure**

**Variable: new\_case\_rate\_percent**

**indicator=≥ 50% vaccination rate**

| **Moments** | | | |
| --- | --- | --- | --- |
| **N** | 14 | **Sum Weights** | 14 |
| **Mean** | 1.05154626 | **Sum Observations** | 14.7216476 |
| **Std Deviation** | 0.68678533 | **Variance** | 0.4716741 |
| **Skewness** | 0.71149645 | **Kurtosis** | -1.4381054 |
| **Uncorrected SS** | 21.6122567 | **Corrected SS** | 6.13176325 |
| **Coeff Variation** | 65.3119471 | **Std Error Mean** | 0.1835511 |

| **Basic Statistical Measures** | | | |
| --- | --- | --- | --- |
| **Location** | | **Variability** | |
| **Mean** | 1.051546 | **Std Deviation** | 0.68679 |
| **Median** | 0.690067 | **Variance** | 0.47167 |
| **Mode** | . | **Range** | 1.83703 |
|  |  | **Interquartile Range** | 1.25672 |

| **Tests for Location: Mu0=0** | | | | |
| --- | --- | --- | --- | --- |
| **Test** | **Statistic** | | **p Value** | |
| **Student's t** | **t** | 5.728902 | **Pr > |t|** | <.0001 |
| **Sign** | **M** | 7 | **Pr >= |M|** | 0.0001 |
| **Signed Rank** | **S** | 52.5 | **Pr >= |S|** | 0.0001 |

| **Tests for Normality** | | | | |
| --- | --- | --- | --- | --- |
| **Test** | **Statistic** | | **p Value** | |
| **Shapiro-Wilk** | **W** | 0.792704 | **Pr < W** | 0.0041 |
| **Kolmogorov-Smirnov** | **D** | 0.288733 | **Pr > D** | <0.0100 |
| **Cramer-von Mises** | **W-Sq** | 0.249011 | **Pr > W-Sq** | <0.0050 |
| **Anderson-Darling** | **A-Sq** | 1.333107 | **Pr > A-Sq** | <0.0050 |

| **Quantiles (Definition 5)** | |
| --- | --- |
| **Level** | **Quantile** |
| **100% Max** | 2.216975 |
| **99%** | 2.216975 |
| **95%** | 2.216975 |
| **90%** | 2.045762 |
| **75% Q3** | 1.765749 |
| **50% Median** | 0.690067 |
| **25% Q1** | 0.509024 |
| **10%** | 0.499548 |
| **5%** | 0.379947 |
| **1%** | 0.379947 |
| **0% Min** | 0.379947 |

| **Extreme Observations** | | | |
| --- | --- | --- | --- |
| **Lowest** | | **Highest** | |
| **Value** | **Obs** | **Value** | **Obs** |
| 0.379947 | 6 | 1.65149 | 13 |
| 0.499548 | 8 | 1.76575 | 4 |
| 0.505550 | 3 | 1.89489 | 10 |
| 0.509024 | 7 | 2.04576 | 14 |
| 0.528204 | 2 | 2.21698 | 9 |

**The UNIVARIATE Procedure**

**indicator=≥ 50% vaccination rate**

Chart, scatter chart

Description automatically generated

**The UNIVARIATE Procedure**

**Variable: new\_case\_rate\_percent**

**indicator=< 50% vaccination rate**

| **Moments** | | | |
| --- | --- | --- | --- |
| **N** | 35 | **Sum Weights** | 35 |
| **Mean** | 0.85295015 | **Sum Observations** | 29.8532553 |
| **Std Deviation** | 0.4604348 | **Variance** | 0.2120002 |
| **Skewness** | 2.99151696 | **Kurtosis** | 13.6499645 |
| **Uncorrected SS** | 32.6713456 | **Corrected SS** | 7.20800694 |
| **Coeff Variation** | 53.9814429 | **Std Error Mean** | 0.07782769 |

| **Basic Statistical Measures** | | | |
| --- | --- | --- | --- |
| **Location** | | **Variability** | |
| **Mean** | 0.852950 | **Std Deviation** | 0.46043 |
| **Median** | 0.840024 | **Variance** | 0.21200 |
| **Mode** | . | **Range** | 2.67255 |
|  |  | **Interquartile Range** | 0.47391 |

| **Tests for Location: Mu0=0** | | | | |
| --- | --- | --- | --- | --- |
| **Test** | **Statistic** | | **p Value** | |
| **Student's t** | **t** | 10.95947 | **Pr > |t|** | <.0001 |
| **Sign** | **M** | 17.5 | **Pr >= |M|** | <.0001 |
| **Signed Rank** | **S** | 315 | **Pr >= |S|** | <.0001 |

| **Tests for Normality** | | | | |
| --- | --- | --- | --- | --- |
| **Test** | **Statistic** | | **p Value** | |
| **Shapiro-Wilk** | **W** | 0.728165 | **Pr < W** | <0.0001 |
| **Kolmogorov-Smirnov** | **D** | 0.169038 | **Pr > D** | 0.0123 |
| **Cramer-von Mises** | **W-Sq** | 0.231043 | **Pr > W-Sq** | <0.0050 |
| **Anderson-Darling** | **A-Sq** | 1.749596 | **Pr > A-Sq** | <0.0050 |

| **Quantiles (Definition 5)** | |
| --- | --- |
| **Level** | **Quantile** |
| **100% Max** | 3.000173 |
| **99%** | 3.000173 |
| **95%** | 1.281680 |
| **90%** | 1.181275 |
| **75% Q3** | 1.022706 |
| **50% Median** | 0.840024 |
| **25% Q1** | 0.548797 |
| **10%** | 0.419169 |
| **5%** | 0.340702 |
| **1%** | 0.327626 |
| **0% Min** | 0.327626 |

| **Extreme Observations** | | | |
| --- | --- | --- | --- |
| **Lowest** | | **Highest** | |
| **Value** | **Obs** | **Value** | **Obs** |
| 0.327626 | 19 | 1.14857 | 29 |
| 0.340702 | 21 | 1.18127 | 49 |
| 0.356867 | 17 | 1.23451 | 45 |
| 0.419169 | 27 | 1.28168 | 30 |
| 0.433221 | 37 | 3.00017 | 15 |

**The UNIVARIATE Procedure**

**indicator=< 50% vaccination rate**

Chart, line chart, scatter chart

Description automatically generated

**The NPAR1WAY Procedure**

| **Wilcoxon Scores (Rank Sums) for Variable new\_case\_rate\_percent Classified by Variable indicator** | | | | | |
| --- | --- | --- | --- | --- | --- |
| **indicator** | **N** | **Sum of Scores** | **Expected Under H0** | **Std Dev Under H0** | **Mean Score** |
| **N** | 14 | 354.0 | 350.0 | 45.184806 | 25.285714 |
| **Y** | 35 | 871.0 | 875.0 | 45.184806 | 24.885714 |

| **Wilcoxon Two-Sample Test** | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Statistic (S)** | **Z** | **Pr > Z** | **Pr > |Z|** | **t Approximation** | | **Exact** | |
| **Pr > Z** | **Pr > |Z|** | **Pr >= S** | **Pr >= |S-Mean|** |
| **Z includes a continuity correction of 0.5.** | | | | | | | |
| 354.0000 | 0.0775 | 0.4691 | 0.9383 | 0.4693 | 0.9386 | 0.4695 | 0.9390 |

| **Kruskal-Wallis Test** | | |
| --- | --- | --- |
| **Chi-Square** | **DF** | **Pr > ChiSq** |
| 0.0078 | 1 | 0.9295 |

Chart, box and whisker chart

Description automatically generated