Table 1. *P*-value of t-test of mean comparison of SVM-based imputation and kNN-based imputation for k=1, 3, 5, 7, 9, 11, 13, 15; green background highlight statistically insignificantly differences with significance level 99%

| Attribute | SVD | 1NN | 3NN | 5NN | 7NN | 9NN | 11NN | 13NN | 15NN |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| TC-06\_GCS | 0.1401 | 0.2908 | 0.4731 | 0.5557 | 0.6363 | 0.6386 | 0.6567 | 0.7069 | 0.7177 |
| TC-08\_LOScc | 0.9967 | 0.9835 | 0.9935 | 0.9968 | 0.9985 | 0.9994 | 1.0000 | 0.9996 | 0.9995 |
| TC-32\_Charlson ComorbidityIndex | 0.9139 | 0.7178 | 0.8354 | 0.8311 | 0.8154 | 0.8176 | 0.8104 | 0.8159 | 0.8216 |
| TC-33\_ED\_GCS | <0.0001 | 0.2020 | 0.1465 | 0.1129 | 0.1037 | 0.0841 | 0.0754 | 0.0677 | 0.0631 |
| TC-34\_ED\_GCSEye | <0.0001 | 0.1286 | 0.1040 | 0.1153 | 0.1017 | 0.1041 | 0.0994 | 0.0865 | 0.0935 |
| TC-35\_ED\_GCSMotor | <0.0001 | 0.0239 | 0.0161 | 0.0238 | 0.0230 | 0.0209 | 0.0221 | 0.0235 | 0.0277 |
| TC-36\_ED\_GCSVerbal | <0.0001 | 0.6440 | 0.3298 | 0.2840 | 0.2557 | 0.2598 | 0.2289 | 0.2033 | 0.2103 |
| TC-37\_ED\_O2Sat | 0.4549 | 0.3497 | 0.4260 | 0.5203 | 0.4853 | 0.5443 | 0.5704 | 0.5877 | 0.6067 |
| TC-38\_ED\_Pulse | 0.0054 | 0.0491 | 0.0933 | 0.1101 | 0.1163 | 0.1457 | 0.1556 | 0.1571 | 0.1588 |
| TC-39\_ED\_RR | 0.6168 | 0.3228 | 0.1625 | 0.1829 | 0.1986 | 0.2058 | 0.2014 | 0.2053 | 0.2058 |
| TC-40\_ED\_SBP | 0.6755 | 0.8739 | 0.9824 | 0.9093 | 0.9421 | 0.9789 | 0.9687 | 0.9156 | 0.8777 |
| TC-41\_PreHosp\_GCS | 0.1683 | 0.1747 | 0.0869 | 0.0795 | 0.1036 | 0.1176 | 0.1202 | 0.1245 | 0.1288 |
| TC-42\_PreHosp\_GCSEye | <0.0001 | 0.0326 | 0.0212 | 0.0285 | 0.0605 | 0.0828 | 0.0883 | 0.0852 | 0.0867 |
| TC-43\_PreHosp\_GCSMotor | <0.0001 | 0.0029 | 0.0044 | 0.0058 | 0.0097 | 0.0125 | 0.0124 | 0.0098 | 0.0086 |
| TC-44\_PreHosp\_GCSVerbal | <0.0001 | 0.7070 | 0.1726 | 0.1522 | 0.1995 | 0.2669 | 0.2965 | 0.2884 | 0.2933 |
| TC-45\_PreHosp\_O2Sat | 0.5251 | 0.0238 | 0.0088 | 0.0080 | 0.0124 | 0.0133 | 0.0096 | 0.0108 | 0.0107 |
| TC-46\_PreHosp\_Pulse | 0.0031 | 0.3159 | 0.4651 | 0.3112 | 0.2255 | 0.1745 | 0.1529 | 0.1586 | 0.1316 |
| TC-47\_PreHosp\_RR | 0.0015 | 0.4706 | 0.2433 | 0.2080 | 0.1512 | 0.1284 | 0.1035 | 0.1145 | 0.1122 |
| TC-48\_PreHosp\_SBP | 0.5580 | 0.1837 | 0.2639 | 0.1169 | 0.0613 | 0.0395 | 0.0303 | 0.0228 | 0.0200 |
| RP-02\_PhysicalFactor | 0.6250 | 0.7603 | 0.8140 | 0.9808 | 0.9467 | 0.8799 | 0.8431 | 0.9002 | 0.9104 |
| RP-03\_CognitiveFactor | 0.7612 | 0.6660 | 0.5763 | 0.5530 | 0.5330 | 0.5346 | 0.5527 | 0.5688 | 0.5532 |
| RP-04\_PsychSocFactor | 0.4939 | 0.9474 | 0.9353 | 0.9746 | 0.9604 | 0.9772 | 0.9896 | 0.9875 | 0.9669 |
| Q1-03 | 0.9269 | 0.8257 | 0.9087 | 0.9048 | 0.9052 | 0.9021 | 0.9109 | 0.9113 | 0.9077 |
| Q1-04 | 0.9567 | 0.9903 | 0.9763 | 0.9651 | 0.9543 | 0.9530 | 0.9484 | 0.9451 | 0.9400 |
| Q1-05\_1 | 0.9913 | 0.9035 | 0.9354 | 0.9689 | 0.9639 | 0.9719 | 0.9682 | 0.9552 | 0.9509 |
| Q1-05\_2 | 0.9693 | 0.9909 | 0.9794 | 0.9848 | 0.9794 | 0.9860 | 0.9918 | 0.9904 | 0.9929 |
| Q1-05\_3 | 0.9903 | 0.9702 | 0.9557 | 0.9528 | 0.9578 | 0.9701 | 0.9741 | 0.9701 | 0.9759 |
| Q1-06\_1 | 0.9993 | 0.9616 | 0.9995 | 0.9917 | 0.9883 | 0.9865 | 0.9906 | 0.9935 | 0.9917 |
| Q1-06\_2 | 0.9609 | 0.9859 | 0.9635 | 0.9546 | 0.9604 | 0.9660 | 0.9798 | 0.9808 | 0.9770 |
| Q1-06\_3 | 0.9827 | 0.9829 | 0.9829 | 0.9829 | 0.9829 | 0.9829 | 0.9923 | 0.9909 | 0.9944 |
| Q1-07\_1 | 0.9878 | 0.9712 | 1.0000 | 0.9827 | 0.9917 | 0.9937 | 0.9974 | 0.9912 | 0.9905 |
| Q1-07\_2 | 0.9454 | 0.9946 | 0.9931 | 0.9980 | 0.9922 | 0.9890 | 0.9853 | 0.9855 | 0.9857 |
| Q1-07\_3 | 0.9724 | 0.9944 | 0.9944 | 0.9970 | 0.9873 | 0.9866 | 0.9823 | 0.9793 | 0.9828 |
| Q1-08 | 0.9635 | 0.9815 | 0.9796 | 0.9924 | 0.9803 | 0.9608 | 0.9451 | 0.9398 | 0.9332 |
| Q1-09 | 0.9893 | 0.9825 | 0.9657 | 0.9676 | 0.9700 | 0.9703 | 0.9547 | 0.9544 | 0.9552 |
| Q1-10 | 0.8130 | 0.9363 | 0.9531 | 0.9508 | 0.9537 | 0.9645 | 0.9538 | 0.9500 | 0.9437 |
| Q1-11 | 0.8661 | 0.9062 | 0.9254 | 0.9172 | 0.9042 | 0.9030 | 0.9166 | 0.9175 | 0.9247 |
| Q1-12 | 0.9303 | 0.9876 | 0.9658 | 0.9346 | 0.9388 | 0.9303 | 0.9321 | 0.9360 | 0.9390 |
| Q1-14\_1 | 0.7265 | 0.8767 | 0.8313 | 0.8583 | 0.8569 | 0.8747 | 0.8708 | 0.8589 | 0.8632 |
| Q1-14\_2 | 0.9436 | 0.9796 | 0.9985 | 0.8962 | 0.8873 | 0.9011 | 0.9022 | 0.9247 | 0.9242 |
| Q1-14\_3 | 0.9631 | 0.9609 | 0.9910 | 0.9813 | 0.9979 | 0.9822 | 0.9997 | 0.9909 | 0.9942 |
| Q1-14\_4 | 0.9903 | 0.9703 | 0.9703 | 0.9622 | 0.9814 | 0.9921 | 0.9836 | 0.9777 | 0.9846 |
| Q1-14\_5 | 0.9183 | 0.8786 | 0.9771 | 0.9955 | 0.9731 | 0.9897 | 0.9901 | 0.9817 | 0.9930 |
| Q1-14\_6 | 0.6395 | 0.8591 | 0.8491 | 0.8296 | 0.8316 | 0.8473 | 0.8507 | 0.8542 | 0.8480 |
| Q2-01 | 0.8194 | 0.9588 | 0.9691 | 0.9460 | 0.9484 | 0.9402 | 0.9330 | 0.9380 | 0.9301 |
| Q2-02 | 0.9178 | 0.8772 | 0.9171 | 0.8850 | 0.8941 | 0.8992 | 0.9060 | 0.9108 | 0.9009 |
| Q2-03\_1 | 0.9937 | 0.9933 | 0.9619 | 0.9879 | 0.9933 | 0.9649 | 0.9725 | 0.9778 | 0.9816 |
| Q2-03\_2 | 0.9252 | 0.8543 | 0.9388 | 0.9560 | 0.9981 | 0.9937 | 0.9949 | 0.9942 | 0.9721 |
| Q2-03\_3 | 0.9159 | 0.9479 | 0.8848 | 0.8690 | 0.8423 | 0.8465 | 0.8775 | 0.8713 | 0.8554 |
| Q2-03\_4 | 0.7936 | 0.8054 | 0.7659 | 0.7391 | 0.7276 | 0.7338 | 0.7515 | 0.7507 | 0.7362 |
| Q2-04\_1 | 0.9800 | 0.8528 | 0.9299 | 0.9486 | 0.9544 | 0.9299 | 0.9441 | 0.9383 | 0.9538 |
| Q2-04\_2 | 0.9427 | 0.9186 | 0.9909 | 0.9955 | 0.9897 | 0.9536 | 0.9472 | 0.9445 | 0.9516 |
| Q2-05\_1 | 0.9664 | 0.8260 | 0.8777 | 0.9042 | 0.9099 | 0.9086 | 0.9370 | 0.9381 | 0.9255 |
| Q2-05\_2 | 0.9093 | 0.8818 | 0.8377 | 0.8784 | 0.8709 | 0.9058 | 0.9080 | 0.9062 | 0.9166 |
| Q2-05\_3 | 0.9351 | 0.9298 | 0.9046 | 0.8845 | 0.8707 | 0.8692 | 0.8750 | 0.8805 | 0.8907 |
| Q2-05\_4 | 0.9647 | 0.9036 | 0.9271 | 0.9176 | 0.9186 | 0.9270 | 0.9389 | 0.9498 | 0.9483 |
| Q2-12 | 0.9135 | 0.9802 | 0.9679 | 0.9802 | 0.9801 | 0.9884 | 0.9936 | 0.9972 | 0.9998 |
| Q2-14 | 0.9383 | 0.9555 | 0.9760 | 0.9863 | 0.9863 | 0.9931 | 0.9975 | 0.9981 | 0.9986 |
| Q2-16 | 0.9215 | 0.9874 | 0.9874 | 0.9974 | 0.9969 | 0.9837 | 0.9889 | 0.9912 | 0.9940 |
| Q2-18\_1 | 0.9884 | 0.9591 | 0.9740 | 0.9591 | 0.9655 | 0.9674 | 0.9754 | 0.9752 | 0.9859 |
| Q2-18\_2 | 0.9677 | 0.9669 | 0.9992 | 0.9974 | 0.9960 | 0.9951 | 0.9900 | 0.9865 | 0.9940 |
| Q2-18\_3 | 0.9815 | 0.8350 | 0.8973 | 0.9485 | 0.9614 | 0.9685 | 0.9789 | 0.9812 | 0.9829 |
| Q2-18\_4 | 0.9707 | 0.9680 | 0.9680 | 0.9680 | 0.9830 | 0.9913 | 0.9966 | 0.9922 | 0.9890 |
| Q2-18\_5 | 0.9673 | 0.9478 | 0.9676 | 0.9716 | 0.9733 | 0.9759 | 0.9884 | 0.9901 | 0.9954 |
| Q2-20 | 0.8412 | 0.9240 | 0.9615 | 0.9600 | 0.9788 | 0.9690 | 0.9629 | 0.9690 | 0.9690 |
| Q2-22 | 0.9989 | 0.9211 | 0.8682 | 0.8829 | 0.9028 | 0.8927 | 0.8921 | 0.8941 | 0.9061 |
| Q2-25 | 0.7661 | 0.6744 | 0.9198 | 0.9755 | 0.9868 | 0.9906 | 0.9828 | 0.9560 | 0.9584 |
| NF-05 | 0.7379 | 0.6884 | 0.7521 | 0.7521 | 0.7848 | 0.7922 | 0.7887 | 0.7916 | 0.8075 |
| NF-06 | <0.0001 | 0.2844 | 0.2486 | 0.2732 | 0.2145 | 0.2128 | 0.2109 | 0.2220 | 0.2370 |
| NF-07 | 0.3260 | 0.3857 | 0.4096 | 0.4414 | 0.4531 | 0.4571 | 0.4761 | 0.4958 | 0.5184 |
| NF=-08 | 0.0048 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | 0.0001 |
| NF-09 | 0.0360 | 0.0684 | 0.0721 | 0.1498 | 0.1524 | 0.1687 | 0.1963 | 0.1966 | 0.1973 |
| NF-10 | 0.9849 | 0.8465 | 0.8194 | 0.8125 | 0.8419 | 0.8586 | 0.8707 | 0.8808 | 0.8896 |
| NF-11 | 0.9464 | 0.3681 | 0.3608 | 0.4698 | 0.4541 | 0.4374 | 0.4308 | 0.4521 | 0.4588 |
| NF=-12 | 0.0819 | 0.0001 | 0.0001 | 0.0002 | 0.0002 | 0.0002 | 0.0004 | 0.0005 | 0.0006 |
| NF-18 | 0.9920 | 0.9191 | 0.9170 | 0.9274 | 0.9322 | 0.9404 | 0.9474 | 0.9496 | 0.9403 |
| NF-20 | <0.0001 | 0.3938 | 0.3480 | 0.3226 | 0.3006 | 0.2574 | 0.2547 | 0.2112 | 0.2294 |
| NF-21 | <0.0001 | 0.1834 | 0.1646 | 0.1556 | 0.1535 | 0.1269 | 0.1265 | 0.1137 | 0.1306 |
| NF-22 | <0.0001 | 0.6882 | 0.5321 | 0.4041 | 0.3479 | 0.2988 | 0.2622 | 0.2194 | 0.2137 |

Table 2. *P*-value of F-test of variance comparison of SVM-based imputation and kNN-based imputation for k=1, 3, 5, 7, 9, 11, 13, 15; green background highlight statistically insignificantly differences with significance level 99%

| Attribute | SVD | 1NN | 3NN | 5NN | 7NN | 9NN | 11NN | 13NN | 15NN |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| TC-06\_GCS | 0.8348 | 0.4143 | 0.0039 | 0.0003 | 0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 |
| TC-08\_LOScc | 0.9958 | 0.9792 | 0.9988 | 0.9957 | 0.9950 | 0.9948 | 0.9948 | 0.9948 | 0.9948 |
| TC-32\_Charlson ComorbidityIndex | 0.7115 | 0.8676 | 0.5560 | 0.4944 | 0.4794 | 0.4675 | 0.4525 | 0.4487 | 0.4398 |
| TC-33\_ED\_GCS | <0.0001 | <0.0001 | 0.6535 | 0.1302 | 0.0148 | 0.0041 | 0.0014 | 0.0006 | 0.0003 |
| TC-34\_ED\_GCSEye | <0.0001 | <0.0001 | 0.7798 | 0.2326 | 0.0091 | 0.0007 | 0.0001 | <0.0001 | <0.0001 |
| TC-35\_ED\_GCSMotor | <0.0001 | <0.0001 | 0.0026 | 0.3253 | 0.5198 | 0.0953 | 0.0085 | 0.0013 | 0.0002 |
| TC-36\_ED\_GCSVerbal | <0.0001 | 0.0085 | 0.1037 | 0.0042 | 0.0002 | <0.0001 | <0.0001 | <0.0001 | <0.0001 |
| TC-37\_ED\_O2Sat | 0.0296 | 0.0071 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 |
| TC-38\_ED\_Pulse | 0.4788 | 0.1240 | 0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 |
| TC-39\_ED\_RR | 0.3417 | 0.3086 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 |
| TC-40\_ED\_SBP | 0.0441 | 0.6179 | 0.0002 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 |
| TC-41\_PreHosp\_GCS | 0.0001 | 0.0006 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 |
| TC-42\_PreHosp\_GCSEye | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 |
| TC-43\_PreHosp\_GCSMotor | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 |
| TC-44\_PreHosp\_GCSVerbal | 0.0073 | 0.0569 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 |
| TC-45\_PreHosp\_O2Sat | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 |
| TC-46\_PreHosp\_Pulse | 0.0002 | 0.0002 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 |
| TC-47\_PreHosp\_RR | <0.0001 | 0.0617 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 |
| TC-48\_PreHosp\_SBP | <0.0001 | 0.0014 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 |
| RP-02\_PhysicalFactor | 0.0002 | 0.0815 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 |
| RP-03\_CognitiveFactor | 0.1274 | 0.7050 | 0.0573 | 0.0276 | 0.0200 | 0.0170 | 0.0147 | 0.0134 | 0.0121 |
| RP-04\_PsychSocFactor | 0.1063 | 0.9547 | 0.0299 | 0.0057 | 0.0028 | 0.0018 | 0.0015 | 0.0013 | 0.0011 |
| Q1-03 | 0.9017 | 0.9716 | 0.7996 | 0.7850 | 0.7711 | 0.7641 | 0.7516 | 0.7475 | 0.7451 |
| Q1-04 | 0.7120 | 0.9635 | 0.6271 | 0.5695 | 0.5470 | 0.5407 | 0.5378 | 0.5318 | 0.5290 |
| Q1-05\_1 | 0.7535 | 0.8853 | 0.7905 | 0.7799 | 0.7523 | 0.7457 | 0.7403 | 0.7353 | 0.7323 |
| Q1-05\_2 | 0.8076 | 0.9923 | 0.8152 | 0.7695 | 0.7517 | 0.7522 | 0.7437 | 0.7339 | 0.7340 |
| Q1-05\_3 | 0.7440 | 0.8843 | 0.7518 | 0.7350 | 0.7308 | 0.7336 | 0.7349 | 0.7296 | 0.7281 |
| Q1-06\_1 | 0.8948 | 0.7951 | 0.9246 | 0.9028 | 0.8971 | 0.8948 | 0.8954 | 0.8953 | 0.8942 |
| Q1-06\_2 | 0.9718 | 0.9774 | 0.9097 | 0.9043 | 0.9033 | 0.8996 | 0.8966 | 0.8979 | 0.8969 |
| Q1-06\_3 | 0.9064 | 0.8915 | 0.8915 | 0.8915 | 0.8915 | 0.8915 | 0.9022 | 0.9005 | 0.8977 |
| Q1-07\_1 | 0.8717 | 0.9322 | 0.8948 | 0.8712 | 0.8682 | 0.8730 | 0.8707 | 0.8716 | 0.8698 |
| Q1-07\_2 | 0.9254 | 0.9945 | 0.8997 | 0.8743 | 0.8697 | 0.8647 | 0.8624 | 0.8624 | 0.8622 |
| Q1-07\_3 | 0.8771 | 0.9788 | 0.9053 | 0.8775 | 0.8664 | 0.8632 | 0.8607 | 0.8595 | 0.8588 |
| Q1-08 | 0.9223 | 0.9904 | 0.8481 | 0.8427 | 0.8212 | 0.8258 | 0.8255 | 0.8254 | 0.8233 |
| Q1-09 | 0.9217 | 0.9851 | 0.8817 | 0.8433 | 0.8128 | 0.8132 | 0.8159 | 0.8155 | 0.8145 |
| Q1-10 | 0.6823 | 0.9582 | 0.6368 | 0.5707 | 0.5272 | 0.5096 | 0.5032 | 0.4985 | 0.4941 |
| Q1-11 | 0.8848 | 0.9118 | 0.8097 | 0.7781 | 0.7677 | 0.7586 | 0.7553 | 0.7518 | 0.7495 |
| Q1-12 | 0.9177 | 0.9951 | 0.8235 | 0.7879 | 0.7758 | 0.7680 | 0.7655 | 0.7624 | 0.7591 |
| Q1-14\_1 | 0.7502 | 0.9543 | 0.7482 | 0.6993 | 0.6666 | 0.6610 | 0.6457 | 0.6440 | 0.6386 |
| Q1-14\_2 | 0.5663 | 0.9529 | 0.6971 | 0.6786 | 0.6352 | 0.6120 | 0.6107 | 0.5957 | 0.5904 |
| Q1-14\_3 | 0.6739 | 0.8298 | 0.6714 | 0.6273 | 0.6299 | 0.6483 | 0.6183 | 0.6015 | 0.5931 |
| Q1-14\_4 | 0.5541 | 0.5490 | 0.5490 | 0.7419 | 0.6438 | 0.6051 | 0.6049 | 0.6019 | 0.5882 |
| Q1-14\_5 | 0.6451 | 0.6178 | 0.6963 | 0.6344 | 0.5963 | 0.5916 | 0.5845 | 0.5760 | 0.5727 |
| Q1-14\_6 | 0.8350 | 0.9821 | 0.7592 | 0.7156 | 0.6921 | 0.6837 | 0.6738 | 0.6632 | 0.6622 |
| Q2-01 | 0.9873 | 0.9378 | 0.7858 | 0.7392 | 0.7339 | 0.7258 | 0.7225 | 0.7215 | 0.7194 |
| Q2-02 | 0.6186 | 0.5780 | 0.4430 | 0.3858 | 0.3829 | 0.3717 | 0.3649 | 0.3638 | 0.3611 |
| Q2-03\_1 | 0.2637 | 0.9405 | 0.3681 | 0.3745 | 0.3320 | 0.3418 | 0.3184 | 0.3042 | 0.2949 |
| Q2-03\_2 | 0.5247 | 0.9519 | 0.4703 | 0.3827 | 0.3501 | 0.3282 | 0.3151 | 0.3140 | 0.3059 |
| Q2-03\_3 | 0.6020 | 0.9725 | 0.4685 | 0.3955 | 0.3752 | 0.3538 | 0.3414 | 0.3396 | 0.3324 |
| Q2-03\_4 | 0.7517 | 0.7524 | 0.6229 | 0.5266 | 0.4734 | 0.4352 | 0.4118 | 0.4092 | 0.4059 |
| Q2-04\_1 | 0.7380 | 0.9280 | 0.6637 | 0.6189 | 0.5894 | 0.5726 | 0.5584 | 0.5522 | 0.5502 |
| Q2-04\_2 | 0.8089 | 0.8660 | 0.7038 | 0.5992 | 0.5852 | 0.5657 | 0.5574 | 0.5523 | 0.5504 |
| Q2-05\_1 | 0.5130 | 0.4331 | 0.8195 | 0.6456 | 0.6197 | 0.5958 | 0.5723 | 0.5577 | 0.5592 |
| Q2-05\_2 | 0.7698 | 0.9933 | 0.6863 | 0.5888 | 0.5654 | 0.5560 | 0.5437 | 0.5361 | 0.5307 |
| Q2-05\_3 | 0.6988 | 0.9212 | 0.6263 | 0.5582 | 0.5473 | 0.5368 | 0.5299 | 0.5231 | 0.5222 |
| Q2-05\_4 | 0.5811 | 0.7073 | 0.6028 | 0.5477 | 0.5300 | 0.5236 | 0.5199 | 0.5158 | 0.5135 |
| Q2-12 | 0.9144 | 0.9361 | 0.9830 | 0.9912 | 0.9684 | 0.9572 | 0.9519 | 0.9490 | 0.9473 |
| Q2-14 | 0.9747 | 0.8857 | 0.9985 | 0.9847 | 0.9725 | 0.9640 | 0.9600 | 0.9587 | 0.9593 |
| Q2-16 | 0.9613 | 0.9828 | 0.9591 | 0.9488 | 0.9435 | 0.9611 | 0.9544 | 0.9508 | 0.9487 |
| Q2-18\_1 | 0.8829 | 0.9933 | 0.9053 | 0.9083 | 0.8966 | 0.8886 | 0.8860 | 0.8822 | 0.8795 |
| Q2-18\_2 | 0.8639 | 0.8469 | 0.8942 | 0.8699 | 0.8608 | 0.8561 | 0.8522 | 0.8501 | 0.8521 |
| Q2-18\_3 | 0.8492 | 0.2159 | 0.9120 | 0.9275 | 0.8913 | 0.8750 | 0.8639 | 0.8592 | 0.8560 |
| Q2-18\_4 | 0.8909 | 0.8467 | 0.8467 | 0.8467 | 0.8543 | 0.8549 | 0.8581 | 0.8542 | 0.8517 |
| Q2-18\_5 | 0.9145 | 0.9925 | 0.9061 | 0.9063 | 0.9039 | 0.8938 | 0.8911 | 0.8871 | 0.8861 |
| Q2-20 | 0.9390 | 0.8755 | 0.7241 | 0.6798 | 0.6516 | 0.6413 | 0.6346 | 0.6344 | 0.6328 |
| Q2-22 | 0.9522 | 0.7886 | 0.5761 | 0.5713 | 0.5610 | 0.5553 | 0.5532 | 0.5491 | 0.5500 |
| Q2-25 | 0.8978 | 0.5154 | 0.6986 | 0.6412 | 0.5910 | 0.5710 | 0.5553 | 0.5477 | 0.5429 |
| NF-05 | 0.5461 | 0.9516 | 0.3703 | 0.2956 | 0.2682 | 0.2473 | 0.2367 | 0.2307 | 0.2246 |
| NF-06 | <0.0001 | 0.1385 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 |
| NF-07 | 0.3144 | 0.6842 | 0.1939 | 0.1251 | 0.1085 | 0.0948 | 0.0869 | 0.0829 | 0.0784 |
| NF=-08 | 0.1077 | 0.0658 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 |
| NF-09 | <0.0001 | 0.0671 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 |
| NF-10 | 0.6727 | 0.7246 | 0.5511 | 0.5168 | 0.4993 | 0.4871 | 0.4815 | 0.4820 | 0.4754 |
| NF-11 | 0.0230 | 0.2968 | 0.0264 | 0.0132 | 0.0105 | 0.0093 | 0.0088 | 0.0081 | 0.0074 |
| NF=-12 | 0.0049 | 0.0023 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 |
| NF-18 | 0.8217 | 0.9638 | 0.7654 | 0.7151 | 0.6989 | 0.6892 | 0.6825 | 0.6766 | 0.6748 |
| NF-20 | 0.0082 | 0.0036 | 0.4130 | 0.1097 | 0.0375 | 0.0194 | 0.0067 | 0.0033 | 0.0012 |
| NF-21 | 0.0077 | <0.0001 | 0.6324 | 0.5790 | 0.2797 | 0.1821 | 0.0882 | 0.0493 | 0.0182 |
| NF-22 | 0.0001 | 0.1037 | 0.0921 | 0.0138 | 0.0049 | 0.0028 | 0.0015 | 0.0008 | 0.0004 |

Table 3. *P*-value of F-test of distribution comparison of SVM-based imputation and kNN-based imputation for k=1, 3, 5, 7, 9, 11, 13, 15; green background highlight statistically insignificantly differences with significance level 99%

| Attribute | SVD | 1NN | 3NN | 5NN | 7NN | 9NN | 11NN | 13NN | 15NN |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| TC-06\_GCS | <0.0001 | 0.9715 | 0.0668 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 |
| TC-08\_LOScc | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| TC-32\_Charlson ComorbidityIndex | 0.9231 | 1.0000 | 0.9994 | 0.9034 | 0.8446 | 0.7605 | 0.6841 | 0.6685 | 0.6373 |
| TC-33\_ED\_GCS | <0.0001 | 0.9913 | 0.0004 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 |
| TC-34\_ED\_GCSEye | <0.0001 | 0.9997 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 |
| TC-35\_ED\_GCSMotor | <0.0001 | 0.9997 | <0.0001 | 0.0033 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 |
| TC-36\_ED\_GCSVerbal | <0.0001 | 1.0000 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 |
| TC-37\_ED\_O2Sat | 0.1107 | 0.4447 | 0.0004 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 |
| TC-38\_ED\_Pulse | 0.0526 | 0.1228 | 0.0141 | 0.0024 | 0.0009 | 0.0006 | 0.0001 | 0.0001 | <0.0001 |
| TC-39\_ED\_RR | 0.0219 | 0.1420 | 0.0008 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 |
| TC-40\_ED\_SBP | 0.0964 | 0.9200 | 0.1684 | 0.0267 | 0.0093 | 0.0028 | 0.0006 | 0.0003 | 0.0001 |
| TC-41\_PreHosp\_GCS | <0.0001 | 0.1954 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 |
| TC-42\_PreHosp\_GCSEye | <0.0001 | 0.9417 | 0.0080 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 |
| TC-43\_PreHosp\_GCSMotor | <0.0001 | 0.6876 | 0.0683 | 0.0683 | 0.0005 | <0.0001 | <0.0001 | <0.0001 | <0.0001 |
| TC-44\_PreHosp\_GCSVerbal | <0.0001 | 0.9298 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 |
| TC-45\_PreHosp\_O2Sat | <0.0001 | 0.0406 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 |
| TC-46\_PreHosp\_Pulse | 0.0042 | 0.0178 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 |
| TC-47\_PreHosp\_RR | <0.0001 | 0.1028 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 |
| TC-48\_PreHosp\_SBP | 0.0547 | 0.0231 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 |
| RP-02\_PhysicalFactor | <0.0001 | 1.0000 | 1.0000 | 0.9961 | <0.0001 | <0.0001 | <0.0001 | 0.1101 | <0.0001 |
| RP-03\_CognitiveFactor | 0.0005 | 1.0000 | 0.2946 | 0.1373 | 0.0242 | 0.0047 | 0.0004 | 0.0001 | <0.0001 |
| RP-04\_PsychSocFactor | <0.0001 | 1.0000 | 0.0625 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 |
| Q1-03 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Q1-04 | 0.9834 | 1.0000 | 1.0000 | 1.0000 | 0.3965 | 0.3965 | 1.0000 | 0.3965 | 1.0000 |
| Q1-05\_1 | 0.9987 | 1.0000 | 1.0000 | 1.0000 | 0.9932 | 1.0000 | 1.0000 | 1.0000 | 0.9932 |
| Q1-05\_2 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 0.9998 | 0.9993 | 0.9977 |
| Q1-05\_3 | 0.9997 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Q1-06\_1 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Q1-06\_2 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Q1-06\_3 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Q1-07\_1 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Q1-07\_2 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Q1-07\_3 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Q1-08 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Q1-09 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Q1-10 | 0.9739 | 1.0000 | 0.9962 | 0.9499 | 0.9253 | 0.9158 | 0.9058 | 0.9058 | 0.9058 |
| Q1-11 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Q1-12 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Q1-14\_1 | 0.9493 | 1.0000 | 0.9961 | 0.9821 | 0.9685 | 0.9563 | 0.9563 | 0.9417 | 0.9417 |
| Q1-14\_2 | 0.6361 | 1.0000 | 1.0000 | 0.9999 | 0.9850 | 0.9481 | 0.9229 | 0.9031 | 0.8569 |
| Q1-14\_3 | 0.9583 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Q1-14\_4 | 0.9178 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Q1-14\_5 | 0.8810 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 0.9998 |
| Q1-14\_6 | 0.9984 | 1.0000 | 1.0000 | 0.9993 | 0.9984 | 0.9989 | 0.9989 | 0.9984 | 0.9984 |
| Q2-01 | 0.9963 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 0.9742 | 1.0000 | 1.0000 | 1.0000 |
| Q2-02 | 0.7954 | 1.0000 | 0.0699 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 0.2242 | 1.0000 |
| Q2-03\_1 | 0.1331 | 1.0000 | 1.0000 | 1.0000 | 0.0136 | 1.0000 | 1.0000 | 1.0000 | 0.0136 |
| Q2-03\_2 | 0.4977 | 1.0000 | 0.8285 | 0.5270 | 0.2955 | 0.3517 | 0.3400 | 0.3285 | 0.2955 |
| Q2-03\_3 | 0.4744 | 1.0000 | 0.7480 | 0.3808 | 0.3214 | 0.2495 | 0.2495 | 0.2313 | 0.2060 |
| Q2-03\_4 | 0.3041 | 1.0000 | 0.9283 | 0.6154 | 0.3988 | 0.2729 | 0.2013 | 0.1785 | 0.1451 |
| Q2-04\_1 | 0.9843 | 1.0000 | 1.0000 | 0.9956 | 0.8784 | 0.9111 | 0.8899 | 0.8899 | 0.8784 |
| Q2-04\_2 | 0.9847 | 1.0000 | 1.0000 | 0.9999 | 0.9985 | 0.9925 | 0.9610 | 0.9219 | 0.8679 |
| Q2-05\_1 | 0.5580 | 1.0000 | 1.0000 | 1.0000 | 0.3519 | 0.9996 | 0.9990 | 0.9926 | 0.3519 |
| Q2-05\_2 | 0.9963 | 1.0000 | 0.9991 | 0.9888 | 0.9744 | 0.9744 | 0.9637 | 0.9637 | 0.9637 |
| Q2-05\_3 | 0.9730 | 1.0000 | 1.0000 | 0.9999 | 0.9960 | 0.9555 | 0.8929 | 0.7898 | 0.7302 |
| Q2-05\_4 | 0.9406 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 0.9999 |
| Q2-12 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Q2-14 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Q2-16 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Q2-18\_1 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Q2-18\_2 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Q2-18\_3 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Q2-18\_4 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Q2-18\_5 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Q2-20 | 0.9757 | 1.0000 | 1.0000 | 1.0000 | 0.8255 | 0.9983 | 0.9920 | 0.9837 | 0.9757 |
| Q2-22 | 0.9843 | 1.0000 | 0.4814 | 0.5181 | 1.0000 | 0.4814 | 0.6876 | 1.0000 | 0.8348 |
| Q2-25 | 0.8439 | 1.0000 | 0.5586 | 0.9860 | 0.9927 | 0.9551 | 0.9228 | 0.9030 | 0.7889 |
| NF-05 | 0.6466 | 1.0000 | 0.2267 | 0.5242 | 0.3497 | 0.2267 | 0.2446 | 0.2267 | 0.2267 |
| NF-06 | <0.0001 | 0.9985 | 0.0014 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 |
| NF-07 | 0.1720 | 0.9972 | 0.1229 | 0.0900 | 0.0416 | 0.0416 | 0.0460 | 0.0460 | 0.0437 |
| NF=-08 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 |
| NF-09 | <0.0001 | 0.6166 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 |
| NF-10 | 0.8306 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 0.9945 | 0.9478 | 0.9227 | 0.7888 |
| NF-11 | <0.0001 | 0.9994 | 0.4182 | 0.0340 | 0.0030 | 0.0004 | 0.0001 | <0.0001 | <0.0001 |
| NF=-12 | <0.0001 | 0.0099 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 |
| NF-18 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| NF-20 | <0.0001 | 1.0000 | 0.2699 | 0.0099 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 |
| NF-21 | <0.0001 | 1.0000 | <0.0001 | <0.0001 | 0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 |
| NF-22 | <0.0001 | 1.0000 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 |