Table S1: Results of QIs from 2018 to 2023 expressed as percentages, sigma, and TAT minutes

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Quality indicators | Code | Year | Results | | | | | |
| Percentages, % | | | Sigma | | |
| 25th | 50th | 75th | 25th | 50th | 75th |
| Pre-analytical phase |  |  |  |  |  |  |  |  |
| 1. Incorrect sample type  -Percentage of: Number of samples of wrong or inappropriate type/total number of samples over the same period | Pre-WroTy | 2018 | 0 | 0.015 | 0.048 | 6 | 5.1 | 4.8 |
| 2019 | 0.002 | 0.012 | 0.036 | 5.6 | 5.1 | 4.8 |
| 2020 | 0 | 0.013 | 0.035 | 6 | 5.1 | 4.8 |
| 2021 | 0 | 0.01 | 0.028 | 6 | 5.2 | 4.9 |
| 2022 | 0.002 | 0.008 | 0.022 | 5.6 | 5.2 | 4.9 |
| 2023 | 0.002 | 0.008 | 0.019 | 5.6 | 5.2 | 5 |
| 2. Incorrect sample container  -Percentage of: Number of samples collected in wrong container/ total number of samples | Pre-WroCo | 2018 | 0 | 0.011 | 0.023 | 6 | 5.2 | 4.9 |
| 2019 | 0 | 0.008 | 0.02 | 6 | 5.2 | 5 |
| 2020 | 0 | 0.009 | 0.02 | 6 | 5.2 | 5 |
| 2021 | 0 | 0.008 | 0.019 | 6 | 5.2 | 5 |
| 2022 | 0.001 | 0.007 | 0.014 | 5.7 | 5.3 | 5.1 |
| 2023 | 0 | 0.005 | 0.012 | 6 | 5.4 | 5.1 |
| 3. Incorrect fill level  -Percentage of: Number of samples with unsatisfactory sample volume/ total number of samples | Pre-InsV | 2018 | 0.01 | 0.029 | 0.063 | 5.2 | 4.9 | 4.7 |
| 2019 | 0.008 | 0.02 | 0.043 | 5.2 | 5 | 4.8 |
| 2020 | 0.006 | 0.024 | 0.051 | 5.3 | 4.9 | 4.7 |
| 2021 | 0 | 0.015 | 0.045 | 6 | 5.1 | 4.8 |
| 2022 | 0.006 | 0.02 | 0.038 | 5.3 | 5 | 4.8 |
| 2023 | 0.003 | 0.014 | 0.036 | 5.5 | 5.1 | 4.8 |
| 4. Anticoagulant samples clotted  -Percentage of: Number of samples clotted/total number of samples with an anticoagulant | Pre-Clot | 2018 | 0.002 | 0.082 | 0.184 | 5.6 | 4.6 | 4.4 |
| 2019 | 0.023 | 0.081 | 0.171 | 4.9 | 4.6 | 4.4 |
| 2020 | 0.027 | 0.074 | 0.156 | 4.9 | 4.6 | 4.4 |
| 2021 | 0.033 | 0.111 | 0.179 | 4.8 | 4.5 | 4.4 |
| 2022 | 0.019 | 0.059 | 0.142 | 5 | 4.7 | 4.4 |
| 2023 | 0.017 | 0.06 | 0.133 | 5 | 4.7 | 4.4 |
| 5. Blood culture contamination  -Percentage of: Number of contaminated blood culture samples/ total number of blood culture samples |  | 2018 | 0 | 0 | 0.831 | 6 | 6 | 3.8 |
| 2019 | 0 | 0 | 0.795 | 6 | 6 | 3.9 |
| 2020 | 0 | 0 | 0.697 | 6 | 6 | 3.9 |
| 2021 | 0 | 0 | 0.509 | 6 | 6 | 4 |
| 2022 | 0 | 0.252 | 0.492 | 6 | 4.3 | 4.1 |
| 2023 | 0 | 0.142 | 0.56 | 6 | 4.4 | 4 |
| 6. Pre-examination turnaround time (TAT)  -The 90th percentile of time from sample collection to sample receipt (minutes) |  | 2018(routine) 59 | | 91 | 153 | - | - | - |
| 2018(stat) 28 | | 42 | 66 | - | - | - |
| 2019(routine) 58 | | 93 | 135 | - | - | - |
| 2019(stat) 30 | | 45 | 71 | - | - | - |
| 2020(routine) 59 | | 92 | 129 | - | - | - |
| 2020(stat) 27 | | 40 | 63 | - | - | - |
| 2021(routine) 60 | | 85 | 130 | - | - | - |
| 2021(stat) 30 | | 47 | 68 | - | - | - |
| 2022(routine) 60 | | 86 | 122 | - | - | - |
| 2022(stat) 30 | | 53 | 72 | - | - | - |
| 2023(routine) 58 | | 96 | 152 | - | - | - |
| 2023(stat) 32 | | 53 | 76 | - | - | - |
| 7. Tests covered by IQC  -Percentage of: Number of tests with IQC/total number of tests in service |  | 2018 | 39.33 | 55.45 | 68.08 | 1.2 | 1.6 | 1.9 |
| 2019 | 39.39 | 53.59 | 68.85 | 1.2 | 1.5 | 1.9 |
| 2020 | 38.76 | 54.87 | 69.78 | 1.2 | 1.6 | 2 |
| 2021 | 37.75 | 54.01 | 71.02 | 1.1 | 1.6 | 2 |
| 2022 | 40.83 | 55.9 | 73.91 | 1.2 | 1.6 | 2.1 |
| 2023 | 47.06 | 60.43 | 74.23 | 1.4 | 1.7 | 2.1 |
| 8. Tests with inappropriate IQC performances  -Percentage of: Number of tests with coefficient of variation (CV)% higher than selected target /total number of tests with CV% known | Intra-UnIQC | 2018 | 0.238 | 3.779 | 8.923 | 4.3 | 3.3 | 2.8 |
| 2019 | 0 | 4.124 | 6.016 | 6 | 3.2 | 3 |
| 2020 | 0 | 2.296 | 6.084 | 6 | 3.5 | 3 |
| 2021 | 0 | 2.264 | 4.82 | 6 | 3.5 | 3.1 |
| 2022 | 0 | 1.282 | 4.211 | 6 | 3.7 | 3.2 |
| 2023 | 0 | 1.15 | 5.72 | 6 | 3.7 | 3.1 |
| 9. Tests covered by an EQA-PT control  -Percentage of: Number of tests with EQA-PT control/total number of tests available in an EQA-PT provider |  | 2018 | 81.29 | 100 | 100 | 2.3 | 6 | 6 |
| 2019 | 81.23 | 95.376 | 100 | 2.3 | 3.1 | 6 |
| 2020 | 83.78 | 93.87 | 100 | 2.4 | 3 | 6 |
| 2021 | 84.95 | 95.9 | 100 | 2.5 | 3.2 | 6 |
| 2022 | 83.43 | 95.74 | 100 | 2.4 | 3.2 | 6 |
| 2023 | 89.86 | 98.81 | 100 | 2.7 | 3.7 | 6 |
| 10. Unacceptable performances in EQA-PT schemes  -Percentage of: Number of unacceptable performances in EQA-PT Schemes/total number of performances in EQA schemes | Intra-Unac | 2018 | 0 | 0 | 5.433 | 6 | 6 | 3.1 |
| 2019 | 0 | 0 | 3.12 | 6 | 6 | 3.3 |
| 2020 | 0 | 0 | 2.573 | 6 | 6 | 3.4 |
| 2021 | 0 | 0 | 2.146 | 6 | 6 | 3.5 |
| 2022 | 0 | 0.957 | 2.71 | 6 | 3.8 | 3.4 |
| 2023 | 0 | 0.543 | 1.789 | 6 | 4 | 3.6 |
| 11. Tests covered by inter-laboratory comparison  -Percentage of: Number of tests with inter-laboratory comparison/ total number of tests without EQA-PT control |  | 2018 | 0.251 | 4.11 | 23.279 | 0.1 | 0.1 | 0.7 |
| 2019 | 1.031 | 4.089 | 25 | 0.1 | 0.1 | 0.8 |
| 2020 | 1.106 | 4.11 | 21.3 | 0.1 | 0.1 | 0.7 |
| 2021 | 0.887 | 3.793 | 21.681 | 0.1 | 0.1 | 0.7 |
| 2022 | 1.54 | 4.93 | 22.6 | 0.1 | 0.1 | 0.7 |
| 2023 | 1.932 | 5.556 | 22.231 | 0.1 | 0.1 | 0.7 |
| 12. Intra-laboratory turnaround time (TAT)  -The 90th percentile of time from sample receipt to results reporting (minutes) |  | 2018(routine) 85 | | 143 | 217 | - | - | - |
| 2018(stat) 41 | | 54 | 101 | - | - | - |
| 2019(routine) 85 | | 151 | 264 | - | - | - |
| 2019(stat) 44 | | 61 | 86 | - | - | - |
| 2020(routine) 83 | | 131 | 248 | - | - | - |
| 2020(stat) 47 | | 64 | 85 | - | - | - |
| 2021(routine) 87 | | 120 | 248 | - | - | - |
| 2021(stat) 43 | | 65 | 92 | - | - | - |
| 2022(routine) 86 | | 133 | 221 | - | - | - |
| 2022(stat) 47 | | 69 | 86 | - | - | - |
| 2023(routine) 97 | | 139 | 198 | - | - | - |
| 2023(stat) 50 | | 70 | 94 | - | - | - |
| Post-analytical phase |  |  |  |  |  |  |  |  |
| 13. Incorrect laboratory reports  -Percentage of: Number of incorrect reports issued by the laboratory/total number of reports issued by the laboratory | Post-IncRep | 2018 | 0 | 0.026 | 0.177 | 6 | 4.9 | 4.4 |
| 2019 | 0 | 0.028 | 0.169 | 6 | 4.9 | 4.4 |
| 2020 | 0 | 0.032 | 0.152 | 6 | 4.9 | 4.4 |
| 2021 | 0 | 0.023 | 0.22 | 6 | 4.9 | 4.3 |
| 2022 | 0 | 0.017 | 0.23 | 6 | 5 | 4.3 |
| 2023 | 0 | 0.016 | 0.221 | 6 | 5.1 | 4.3 |
| 14. Critical values notification  -Percentage of: Number of critical values notified successfully/ total number of critical values need to communicate |  | 2018 | 100 | 100 | 100 | 6 | 6 | 6 |
| 2019 | 100 | 100 | 100 | 6 | 6 | 6 |
| 2020 | 100 | 100 | 100 | 6 | 6 | 6 |
| 2021 | 100 | 100 | 100 | 6 | 6 | 6 |
| 2022 | 100 | 100 | 100 | 6 | 6 | 6 |
| 2023 | 100 | 100 | 100 | 6 | 6 | 6 |
| 1. Timely critical values notification   -Percentage of: Number of critical values notified within a consensually agreed time (from result validation to result communication to the clinician)/total number of critical values need to communicate |  | 2018 | 100 | 100 | 100 | 6 | 6 | 6 |
| 2019 | 100 | 100 | 100 | 6 | 6 | 6 |
| 2020 | 100 | 100 | 100 | 6 | 6 | 6 |
| 2021 | 100 | 100 | 100 | 6 | 6 | 6 |
| 2022 | 99.75 | 100 | 100 | 4.3 | 6 | 6 |
| 2023 | 99.69 | 100 | 100 | 4.2 | 6 | 6 |