# Supplementary material

# Exploratory and Inferential Analysis of Children's Eye Defects Screening in the Region of Aveiro

Journal of Statistics on Health Decision

**Supplementary material**
Exploratory and Inferential Analysis of Children's
Eye Defects Screening in the Region of Aveiro

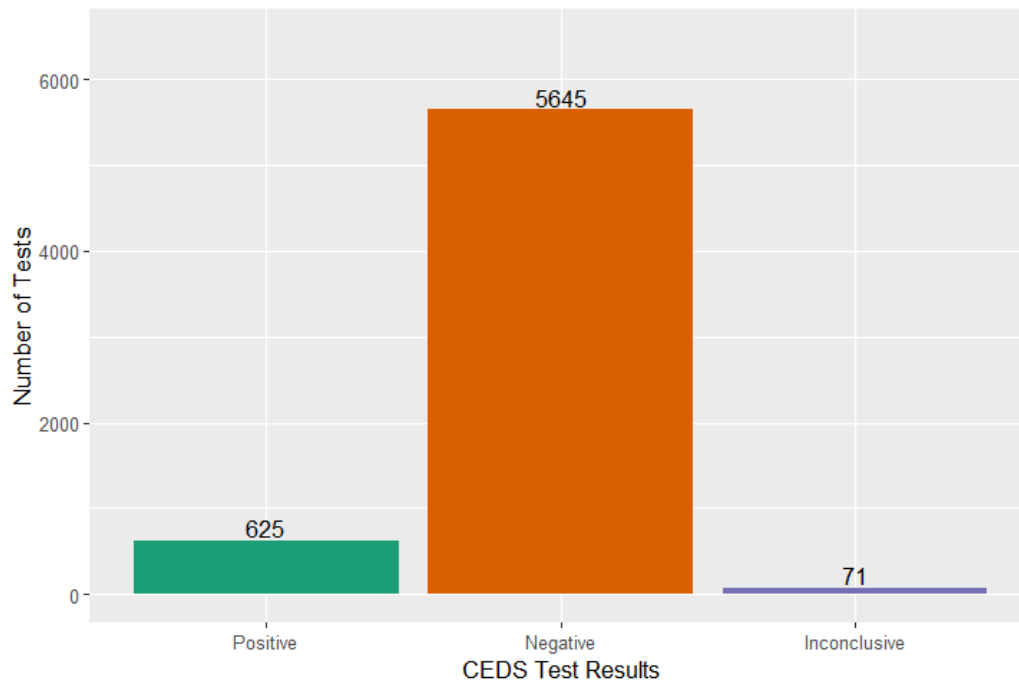J. Stat. Health Decis.
2023;5(2):e31543

*Figure 1. Bar chart with the distribution of the results of the visual exam in the 4 years (2019-2022) of the CEDS. In total, there were 6341 tests performed.*

*Table 1. Description of the variables in the CEDS database.*

| Variable | Type |
|---|---|
| "Municipality" | Character |
| "Functional Unit" | Character |
| "Number of Requests Generated" | Numeric |
| "Number of Screening Attendances" | Numeric |
| "Number of Reports" | Numeric |
| "Number of Positive Result Reports" | Numeric |
| "Number of Negative Result Reports" | Numeric |
| "Number of Non-classifiable Result Reports" | Numeric |
| "Year" | Numeric |

Journal of Statistics on Health Decision

**Supplementary material**
Exploratory and Inferential Analysis of Children's
Eye Defects Screening in the Region of Aveiro

J. Stat. Health Decis.
2023;5(2):e31543

*Table 2. Results of the Kruskal-Wallis test to compare differences between the primary care health centres.*

| Characteristic | Águeda, N = 4[1] | Albergaria-A-Velha, N = 4[1] | Anadia, N = 4[1] | Aveiro, N = 4[1] | Estarreja, N = 4[1] | Ílhavo, N = 4[1] | Murtosa, N = 4[1] | Oliveira Do Bairro, N = 4[1] | Ovar, N = 4[1] | Sever Do Vouga, N = 4[1] | Vagos, N = 4[1] | P-Value[2] | Q-Value[3] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Number Of Requests Generated** | 0.48 (0.35, 0.61) | 0.52 (0.38, 0.63) | 0.48 (0.34, 0.61) | 0.50 (0.36, 0.61) | 0.48 (0.36, 0.60) | 0.46 (0.34, 0.58) | 0.48 (0.34, 0.63) | 0.50 (0.37, 0.61) | 0.49 (0.34, 0.63) | 0.41 (0.28, 0.57) | 0.48 (0.34, 0.62) | >0.9 | >0.9 |
| **Number Of Screening Attendances** | 0.29 (0.19, 0.37) | 0.35 (0.25, 0.42) | 0.26 (0.19, 0.33) | 0.31 (0.22, 0.41) | 0.29 (0.21, 0.36) | 0.32 (0.20, 0.47) | 0.29 (0.22, 0.35) | 0.30 (0.20, 0.37) | 0.26 (0.14, 0.39) | 0.24 (0.18, 0.33) | 0.36 (0.25, 0.46) | >0.9 | >0.9 |
| **Number Of Reports** | 0.27 (0.17, 0.36) | 0.25 (0.21, 0.29) | 0.25 (0.18, 0.25) | 0.30 (0.22, 0.39) | 0.20 (0.15, 0.26) | 0.25 (0.15, 0.44) | 0.13 (0.10, 0.17) | 0.30 (0.22, 0.31) | 0.23 (0.14, 0.28) | 0.19 (0.15, 0.20) | 0.26 (0.18, 0.42) | 0.9 | >0.9 |
| **Number Of Positive Result Reports** | 0.026 (0.012, 0.037) | 0.020 (0.013, 0.029) | 0.023 (0.015, 0.026) | 0.027 (0.014, 0.041) | 0.019 (0.010, 0.028) | 0.026 (0.020, 0.048) | 0.010 (0.007, 0.010) | 0.025 (0.016, 0.030) | 0.026 (0.016, 0.032) | 0.022 (0.015, 0.026) | 0.035 (0.028, 0.041) | 0.5 | >0.9 |
| **Number Of Negative Result Reports** | 0.24 (0.15, 0.32) | 0.23 (0.19, 0.26) | 0.21 (0.16, 0.22) | 0.27 (0.20, 0.35) | 0.18 (0.14, 0.23) | 0.23 (0.13, 0.39) | 0.12 (0.08, 0.16) | 0.26 (0.19, 0.28) | 0.20 (0.12, 0.25) | 0.16 (0.13, 0.18) | 0.23 (0.15, 0.37) | 0.9 | >0.9 |
| **Number Of Not Classifiable Result Reports** | 0.0034 (0.0021, 0.0072) | 0.0013 (0.0000, 0.0038) | 0.0037 (0.0017, 0.0064) | 0.0032 (0.0015, 0.0052) | 0.0000 (0.0000, 0.0013) | 0.0022 (0.0015, 0.0041) | 0.0000 (0.0000, 0.0027) | 0.0042 (0.0023, 0.0062) | 0.0005 (0.0000, 0.0011) | 0.0000 (0.0000, 0.0000) | 0.0000 (0.0000, 0.0007) | 0.2 | >0.9 |

[1] Median (IQR)

[2] Kruskal-Wallis rank sum test

[3] False discovery rate correction for multiple testing

Journal of Statistics on Health Decision

**Supplementary material**
Exploratory and Inferential Analysis of Children's
Eye Defects Screening in the Region of Aveiro

J. Stat. Health Decis.
2023;5(2):e31543

*Table 3. Results of the Kruskal-Wallis test to compare differences between the years.*

| Characteristic | 2019, N = 11[1] | 2020, N = 11[1] | 2021, N = 11[1] | 2022, N = 11[1] | P-Value[2] | Q-Value[3] |
|---|---|---|---|---|---|---|
| **Number Of Requests Generated** | 0.50 (0.46, 0.51) | 0.48 (0.46, 0.49) | 0.00 (0.00, 0.00) | 0.95 (0.93, 0.96) | **<0.001** | **<0.001** |
| **Number Of Screening Attendances** | 0.32 (0.28, 0.33) | 0.28 (0.25, 0.32) | 0.00 (0.00, 0.00) | 0.56 (0.52, 0.61) | **<0.001** | **<0.001** |
| **Number Of Reports** | 0.26 (0.16, 0.32) | 0.16 (0.00, 0.22) | 0.22 (0.11, 0.30) | 0.26 (0.24, 0.57) | **0.032** | **0.049** |
| **Number Of Positive Result Reports** | 0.020 (0.012, 0.030) | 0.015 (0.000, 0.027) | 0.019 (0.009, 0.030) | 0.030 (0.026, 0.047) | 0.052 | 0.062 |
| **Number Of Negative Result Reports** | 0.23 (0.15, 0.28) | 0.13 (0.00, 0.19) | 0.20 (0.10, 0.28) | 0.24 (0.21, 0.51) | **0.033** | **0.049** |
| **Number Of Not Classifiable Result Reports** | 0.0000 (0.0000, 0.0024) | 0.0000 (0.0000, 0.0037) | 0.0011 (0.0000, 0.0030) | 0.0054 (0.0006, 0.0090) | 0.13 | 0.13 |

[1] Median (IQR)
[2] Kruskal-Wallis Rank Sum Test
[3] False Discovery Rate Correction for Multiple Testing

Journal of Statistics on Health Decision

**Supplementary material**
Exploratory and Inferential Analysis of Children's
Eye Defects Screening in the Region of Aveiro

J. Stat. Health Decis.
2023;5(2):e31543

*Table 4. Results of the Wilcoxon Test to compare differences between the functional units.*

| Characteristic | USCP, N = 57[1] | USF, N = 104[1] | P-Value[2] | Q-Value[3] |
|---|---|---|---|---|
| **Number Of Requests Generated** | 0.47 (0.29, 0.80) | 0.49 (0.00, 0.85) | 0.7 | 0.7 |
| **Number Of Screening Attendances** | 0.29 (0.18, 0.45) | 0.30 (0.00, 0.44) | 0.6 | 0.7 |
| **Number Of Reports** | 0.24 (0.14, 0.32) | 0.26 (0.13, 0.36) | 0.7 | 0.7 |
| **Number Of Positive Result Reports** | 0.019 (0.000, 0.039) | 0.021 (0.009, 0.037) | 0.7 | 0.7 |
| **Number Of Negative Result Reports** | 0.23 (0.13, 0.27) | 0.23 (0.11, 0.32) | 0.6 | 0.7 |
| **Number Of Not Classifiable Result Reports** | 0.000 (0.000, 0.005) | 0.000 (0.000, 0.001) | 0.7 | 0.7 |

[1] Median (IQR)
[2] Wilcoxon Rank Sum Test
[3] False Discovery Rate Correction for Multiple Testing