## Supplementary material

This appendix formed part of the original submission and has been peer reviewed. We post it as supplied by the authors.

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


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 |

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

| Characteristic | Águeda, $\mathrm{N}=4^{1}$ | Albergaria-A- <br> Velha, $\mathrm{N}=\mathbf{4}^{1}$ | Anadia, $\mathrm{N}=\mathrm{4}^{1}$ | Aveiro, $\mathrm{N}=\mathbf{4}^{1}$ | $\begin{aligned} & \text { Estarreja, } N= \\ & 4^{1} \end{aligned}$ | ílhavo, $\mathrm{N}=\mathrm{4}^{1}$ | $\begin{aligned} & \text { Murtosa, } \mathrm{N}= \\ & 4^{1} \end{aligned}$ | Oliveira Do Bairro, $\mathrm{N}=4^{1}$ | Ovar, $\mathrm{N}=4^{1}$ | Sever Do $\text { Vouga, } \mathrm{N}=4^{1}$ | Vagos, $\mathrm{N}=\mathrm{4}^{1}$ | P-Value ${ }^{2}$ | Q-Value ${ }^{\text {3 }}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Number Of Requests Generated | $\begin{aligned} & 0.48(0.35, \\ & 0.61) \end{aligned}$ | $\begin{aligned} & 0.52(0.38, \\ & 0.63) \end{aligned}$ | $\begin{aligned} & 0.48(0.34, \\ & 0.61) \end{aligned}$ | $\begin{aligned} & 0.50(0.36, \\ & 0.61) \end{aligned}$ | $\begin{aligned} & 0.48(0.36, \\ & 0.60) \end{aligned}$ | $\begin{aligned} & 0.46(0.34, \\ & 0.58) \end{aligned}$ | $\begin{aligned} & 0.48(0.34, \\ & 0.63) \end{aligned}$ | $\begin{aligned} & 0.50(0.37, \\ & 0.61) \end{aligned}$ | $\begin{aligned} & 0.49(0.34, \\ & 0.63) \end{aligned}$ | $\begin{aligned} & 0.41(0.28, \\ & 0.57) \end{aligned}$ | $\begin{aligned} & 0.48(0.34, \\ & 0.62) \end{aligned}$ | >0.9 | >0.9 |
| Number of Screening Attendances | $\begin{aligned} & 0.29(0.19, \\ & 0.37) \end{aligned}$ | $\begin{aligned} & 0.35(0.25, \\ & 0.42) \end{aligned}$ | $\begin{aligned} & 0.26(0.19, \\ & 0.33) \end{aligned}$ | $\begin{aligned} & 0.31(0.22, \\ & 0.41) \end{aligned}$ | $\begin{aligned} & 0.29(0.21, \\ & 0.36) \end{aligned}$ | $\begin{aligned} & 0.32(0.20, \\ & 0.47) \end{aligned}$ | $\begin{aligned} & 0.29(0.22, \\ & 0.35) \end{aligned}$ | $\begin{aligned} & 0.30(0.20, \\ & 0.37) \end{aligned}$ | $\begin{aligned} & 0.26(0.14, \\ & 0.39) \end{aligned}$ | $\begin{aligned} & 0.24(0.18, \\ & 0.33) \end{aligned}$ | $\begin{aligned} & 0.36(0.25, \\ & 0.46) \end{aligned}$ | >0.9 | >0.9 |
| Number Of Reports | $\begin{aligned} & 0.27(0.17, \\ & 0.36) \end{aligned}$ | $\begin{aligned} & 0.25(0.21, \\ & 0.29) \end{aligned}$ | $\begin{aligned} & 0.25(0.18, \\ & 0.25) \end{aligned}$ | $\begin{aligned} & 0.30(0.22, \\ & 0.39) \end{aligned}$ | $\begin{aligned} & 0.20(0.15, \\ & 0.26) \end{aligned}$ | $\begin{aligned} & 0.25(0.15, \\ & 0.44) \end{aligned}$ | $\begin{aligned} & 0.13(0.10 \\ & 0.17) \end{aligned}$ | $\begin{aligned} & 0.30(0.22, \\ & 0.31) \end{aligned}$ | $\begin{aligned} & 0.23(0.14, \\ & 0.28) \end{aligned}$ | $\begin{aligned} & 0.19(0.15, \\ & 0.20) \end{aligned}$ | $\begin{aligned} & 0.26(0.18 \\ & 0.42) \end{aligned}$ | 0.9 | >0.9 |
| Number Of Positive Result Reports | $\begin{aligned} & 0.026 \text { ( } 0.012 \text {, } \\ & 0.037) \end{aligned}$ | $\begin{aligned} & 0.020(0.013, \\ & 0.029) \end{aligned}$ | $\begin{aligned} & 0.023(0.015, \\ & 0.026) \end{aligned}$ | $\begin{aligned} & 0.027 \text { ( } 0.014 \text {, } \\ & 0.041) \end{aligned}$ | $\begin{aligned} & 0.019(0.010, \\ & 0.028) \end{aligned}$ | $\begin{aligned} & 0.026(0.020, \\ & 0.048) \end{aligned}$ | $\begin{aligned} & 0.010(0.007, \\ & 0.010) \end{aligned}$ | $\begin{aligned} & 0.025(0.016, \\ & 0.030) \end{aligned}$ | $\begin{aligned} & 0.026(0.016, \\ & 0.032) \end{aligned}$ | $\begin{aligned} & 0.022(0.015, \\ & 0.026) \end{aligned}$ | $\begin{aligned} & 0.035(0.028 \\ & 0.041) \end{aligned}$ | 0.5 | $>0.9$ |
| Number of Negative Result Reports | $\begin{aligned} & 0.24(0.15, \\ & 0.32) \end{aligned}$ | $\begin{aligned} & 0.23(0.19, \\ & 0.26) \end{aligned}$ | $\begin{aligned} & 0.21(0.16, \\ & 0.22) \end{aligned}$ | $\begin{aligned} & 0.27(0.20, \\ & 0.35) \end{aligned}$ | $\begin{aligned} & 0.18(0.14, \\ & 0.23) \end{aligned}$ | $\begin{aligned} & 0.23(0.13, \\ & 0.39) \end{aligned}$ | $\begin{aligned} & 0.12(0.08, \\ & 0.16) \end{aligned}$ | $\begin{aligned} & 0.26(0.19, \\ & 0.28) \end{aligned}$ | $\begin{aligned} & 0.20(0.12, \\ & 0.25) \end{aligned}$ | $\begin{aligned} & 0.16(0.13, \\ & 0.18) \end{aligned}$ | $\begin{aligned} & 0.23(0.15, \\ & 0.37) \end{aligned}$ | 0.9 | >0.9 |
| Number of Not Classifiable Result Reports | 0.0034 <br> (0.0021, <br> 0.0072) |  |  | 0.0032 $(0.0015$, $0.0052)$ | 0.0000 $(0.0000$, $0.0013)$ |  |  | 0.0042 $(0.0023$, $0.0062)$ |  | 0.0000 $(0.0000$, $0.0000)$ |  | 0.2 | $>0.9$ |
| ${ }^{1}$ Median (IQR) |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ${ }^{2}$ Kruskal-Wallis rank sum test |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ${ }^{3}$ False discovery rate correction for multiple testing |  |  |  |  |  |  |  |  |  |  |  |  |  |

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

| Characteristic | 2019, $\mathrm{N}=11^{1}$ | 2020, $\mathrm{N}=11^{1}$ | 2021, $\mathrm{N}=11^{1}$ | 2022, $\mathrm{N}=11^{1}$ | P -Value ${ }^{2}$ | Q-Value ${ }^{3}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Number Of Requests Generated | $\begin{aligned} & 0.50(0.46 \\ & 0.51) \end{aligned}$ | $\begin{aligned} & 0.48(0.46, \\ & 0.49) \end{aligned}$ | $\begin{aligned} & 0.00(0.00, \\ & 0.00) \end{aligned}$ | $\begin{aligned} & 0.95(0.93, \\ & 0.96) \end{aligned}$ | <0.001 | <0.001 |
| Number Of Screening Attendances | $\begin{aligned} & 0.32(0.28, \\ & 0.33) \end{aligned}$ | $\begin{aligned} & 0.28(0.25, \\ & 0.32) \end{aligned}$ | $\begin{aligned} & 0.00(0.00, \\ & 0.00) \end{aligned}$ | $\begin{aligned} & 0.56 \text { ( } 0.52, \\ & 0.61) \end{aligned}$ | <0.001 | <0.001 |
| Number Of Reports | $\begin{aligned} & 0.26(0.16, \\ & 0.32) \end{aligned}$ | $\begin{aligned} & 0.16(0.00, \\ & 0.22) \end{aligned}$ | $\begin{aligned} & 0.22 \text { ( } 0.11, \\ & 0.30) \end{aligned}$ | $\begin{aligned} & 0.26(0.24, \\ & 0.57) \end{aligned}$ | 0.032 | 0.049 |
| Number Of Positive Result Reports | $\begin{aligned} & 0.020(0.012, \\ & 0.030) \end{aligned}$ | $\begin{aligned} & 0.015(0.000, \\ & 0.027) \end{aligned}$ | $\begin{aligned} & 0.019(0.009, \\ & 0.030) \end{aligned}$ | $\begin{aligned} & 0.030(0.026, \\ & 0.047) \end{aligned}$ | 0.052 | 0.062 |
| Number Of Negative Result Reports | $\begin{aligned} & 0.23(0.15, \\ & 0.28) \end{aligned}$ | $\begin{aligned} & 0.13 \text { ( } 0.00 \text {, } \\ & 0.19 \text { ) } \end{aligned}$ | $\begin{aligned} & 0.20(0.10, \\ & 0.28) \end{aligned}$ | $\begin{aligned} & 0.24 \text { (0.21, } \\ & 0.51) \end{aligned}$ | 0.033 | 0.049 |
| Number Of Not Classifiable Result Reports | $\begin{aligned} & 0.0000 \\ & (0.0000, \\ & 0.0024) \end{aligned}$ | $\begin{aligned} & 0.0000 \\ & (0.0000, \\ & 0.0037) \end{aligned}$ | 0.0011 (0.0000, 0.0030) | 0.0054 <br> (0.0006, <br> 0.0090) | 0.13 | 0.13 |
| ${ }^{1}$ Median (IQR) <br> ${ }^{2}$ Kruskal-Wallis <br> ${ }^{3}$ False Discover | Rank Sum Test Rate Correctio | for Multiple Te |  |  |  |  |

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

| Characteristic | USCP, $\mathrm{N}=57^{1}$ | USF, $\mathrm{N}=104^{1}$ | P-Value ${ }^{2}$ | Q-Value ${ }^{\text {3 }}$ |
| :---: | :---: | :---: | :---: | :---: |
| Number Of Requests Generated | $\begin{aligned} & 0.47(0.29, \\ & 0.80) \end{aligned}$ | $\begin{aligned} & 0.49(0.00, \\ & 0.85) \end{aligned}$ | 0.7 | 0.7 |
| Number Of Screening Attendances | $\begin{aligned} & 0.29(0.18, \\ & 0.45) \end{aligned}$ | $\begin{aligned} & 0.30(0.00, \\ & 0.44) \end{aligned}$ | 0.6 | 0.7 |
| Number Of Reports | $\begin{aligned} & 0.24(0.14, \\ & 0.32) \end{aligned}$ | $\begin{aligned} & 0.26(0.13, \\ & 0.36) \end{aligned}$ | 0.7 | 0.7 |
| Number Of Positive Result Reports | $\begin{aligned} & 0.019(0.000, \\ & 0.039) \end{aligned}$ | $\begin{aligned} & 0.021 \text { ( } 0.009, \\ & 0.037) \end{aligned}$ | 0.7 | 0.7 |
| Number Of Negative Result Reports | $\begin{aligned} & 0.23(0.13, \\ & 0.27) \end{aligned}$ | $\begin{aligned} & 0.23 \text { ( } 0.11 \text {, } \\ & 0.32 \text { ) } \end{aligned}$ | 0.6 | 0.7 |
| Number Of <br> Not <br> Classifiable <br> Result Reports | $\begin{aligned} & 0.000(0.000, \\ & 0.005) \end{aligned}$ | $\begin{aligned} & 0.000(0.000, \\ & 0.001) \end{aligned}$ | 0.7 | 0.7 |
| ${ }^{1}$ Median (IQR) <br> ${ }^{2}$ Wilcoxon Rank <br> ${ }^{3}$ False Discove | Sum Test | for Multiple Tes |  |  |

