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Project title

**Data visualizations based on the outcomes of a multi-country research study to quantify unmet needs for health and social care among older people**

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**Report for Deliverable 1**

Submission of a minimum of 3 different types/options for the data visualizations

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# **Data source**

Aggregated data at country level (n=86), with information on the proportion of respondents who reported needs of health care (not available in most of the surveys), and proportion of respondents who had their health care needs met or unmet. The unmet data could further be disaggregated by sex and age-group and by residential area in some of the surveys.

# **List of variables**

|  |  |
| --- | --- |
| **Variable name** | **Definition** |
| country | Country |
| survey | Survey |
| year | Year of the survey |
| n\_all | Number of respondents (including those who did not need care) |
| noneed | Proportion of respondents who did not need care |
| met | Proportion of respondents who reported that their need for health care was met |
| unmet | Proportion of respondents who reported that they needed health care but did not receive it. |
| unmet\_visit | Proportion of respondents with unmet medical visit need |
| unmet\_dental | Proportion of respondents with unmet dental care need |
| unmet\_mental | Proportion of respondents with unmet mental health care need |
| unmet\_medication | Proportion of respondents with unmet prescription/medication need |
| unmet\_examination | Proportion of respondents with unmet examination need |
| unmet\_surgical | Proportion of respondents with unmet surgical need |
| unmet\_men | Proportion of male respondents aged 30+ with unmet need |
| unmet\_women | Proportion of female respondents aged 30+ with unmet need |
| unmet\_30\_49 | Proportion of respondents aged 30-49 with unmet need |
| unmet\_50\_59 | Proportion of respondents aged 50-59 with unmet need |
| unmet\_60\_69 | Proportion of respondents aged 60-69 with unmet need |
| unmet\_70 | Proportion of respondents aged 70+ with unmet need |
| unmet\_urban | Proportion of respondents with unmet need in urban area |
| unmet\_rural | Proportion of respondents with unmet need in rural area |
| weighted | Weighted/unweighted estimate |

# **Proposed data visualisation strategies**

## **Choropleth map**

|  |  |
| --- | --- |
| **Pros** | * Choropleth map enhances visualisation of variability of unmet health care needs in predetermined countries. |
| **Cons** | * It might be difficult to distinguish between different shades – solution: choose best contrast for the graphs * It is not possible to visualise data from different years in countries where repeated cross-sectional data is available – solution: use data from the most recent year, and add a footnote to indicate the last available year when data is available for each country. |

|  |  |
| --- | --- |
| **Outputs** | **Variables needed** |
| Figure 1A. Prevalence of unmet health care needs across countries globally | Unmet |
| Figure 1B. Prevalence of unmet health care needs across countries globally, by gender | Unmet\_men  Unmet\_women |
| Figure 1C. Prevalence of unmet health care needs across countries globally, by age group | Unmet\_30\_49  Unmet\_50\_59  Unmet\_60\_69  Unmet\_70 |
| Figure 1D. Prevalence of unmet health care needs across countries globally, by residential area | Unmet\_urban  Unmet\_rural |

## **Horizontal bar chart**

|  |  |
| --- | --- |
| Pros | * Can plot two or more variables on the same row (for example the proportion of people with met and unmet health care needs stacked on each other), with each bar represent country along the vertical axis. * Can order the country based on the proportion of unmet health needs, for ease of comparison across the different countries. |
| Cons | * Might look too complex if there are many countries and too many variables – Solution: Choose colours with good contrast, for example red to represent those with unmet needs, and green to represent those with met needs, or alternatively plot only the unmet needs as the met needs would be the complement of the other proportions. |

|  |  |
| --- | --- |
| Outputs | Variables needed |
| Figure 3. Prevalence of unmet health care needs across countries globally | Unmet  Met |

## **Dot plot**

|  |  |
| --- | --- |
| Pros | * Possible to visualise the prevalence of unmet health care needs with data points from different years (represented by dots with different colours), across all the countries. |
| Cons | * The graph might be crowded if there are many data points for an individual country – Solution: choose darker colour set for data from recent years * A large graph if all the 89 countries are plotted – Solution: split the graph by world regions |

|  |  |
| --- | --- |
| **Outputs** | **Variables needed** |
| Figure 2A. Prevalence of unmet health care needs across countries globally (data from different years, possibly split by regions) | Unmet  Year  Region |
| Figure 2B. Prevalence of unmet health care needs across countries globally, by gender (data from different years, possibly split by regions) | Unmet\_men  Unmet\_women  Year  Region |
| Figure 2C. Prevalence of unmet health care needs across countries globally, by age group (data from different years, possibly split by regions) | Unmet\_30\_49  Unmet\_50\_59  Unmet\_60\_69  Unmet\_70  Year  Region |
| Figure 2D. Prevalence of unmet health care needs across countries globally, by residential area (data from different years, possibly split by regions) | Unmet\_urban  Unmet\_rural  Year  Region |

## **Horizontal bar chart for different dimensions of the unmet needs**

|  |  |
| --- | --- |
| Pros | * In stratified graphs, we can plot the proportion of unmet health needs for each of six dimensions. This will facilitate easier comparison of the different dimensions of unmet needs in different countries. |
| Cons | * Might result in a large graph, with six columns of graph plotted side-by-side. It facilitates comparison, but it might be too complex. Solution: split the graphs into two, each for three of the dimensions. |

|  |  |
| --- | --- |
| Outputs | Variables needed |
| Figure 4A. Prevalence of unmet medical visit, dental care and mental health care needs across countries globally | Unmet\_visit  Unmet\_dental  Unmet\_mental |
| Figure 4B. Prevalence of unmet examination, medication and surgical care needs across countries globally | Unmet\_dental  Unmet\_medication  Unmet\_examination |

## **Scatter plot**

|  |  |
| --- | --- |
| Pros | * Possible to plot and show the correlation between two variables, for example: Country Universal Health Care Index on the x-axis vs. the proportion of unmet need on the y-axis. |
| Cons | * It is not possible to visualise data from different years in countries where repeated cross-sectional data is available – solution: use data from the most recent year, and add a footnote to indicate the last available year when data is available for each country. |

|  |  |
| --- | --- |
| Outputs | Variables needed |
| Figure 5. The association between Universal Health Care Index (x-axis) and the proportion of unmet need (y-axis). Dots will be coloured based on the region. | Unmet  UHC Index (from external source)  Region |