**Supplementary Material**

**Supplementary file 1. Division of countries of origin by areas of origin.**

|  |  |
| --- | --- |
| Areas of Origin | Countries of Origin |
| Southern Europe | Albania, Andorra, Bosnia and Herzegovina, Bulgaria, Croatia, Slovenia, France, Gibraltar, Greece, Italy, North Macedonia, Malta, Island of Man, Montenegro, Portugal, San Marino, Turkey, Vatican, Cyprus |
| Central and Eastern Europe | Armenia, Azerbaijan, Belarus, Slovakia, Estonia, Russian Federation, Hungary, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Moldova, Poland, Romania, Serbia, Tajikistan, Czech Republic, Republic Ukraine, Uzbekistan, |
| Northern Europe | Aland Islands, Germany, Antarctica, Austria, Bouvet Island (Norway), Denmark, Faroe Islands, Finland, Georgia, Greenland, Guernsey, Ireland, Iceland, Jersey, Liechtenstein, Luxembourg, Monaco, Norway, Netherlands, United Kingdom, Sweden, Swiss, Svalbard and Jan Mayen, French Australian and Antarctic Land, |
| Anglo-Saxon America | Canada, United States of America, Minor Peripheral Islands of the USA, Saint-Pierre and Miquelon, |
| Latin-America and the Caribbean | Anguilla, Ancient and Barbuda, Netherlands Antilles, Argentina, Aruba, The Bahamas, Barbados, Belgium, Belize, Benin, Bermuda Islands, Bolivia, Brazil, Caiman Islands, Chile, Colombia, Costa Rica, Cuba, Dominica, Dominican Republic, Ecuador, Falkland Islands, South Georgia and South Sandwich Islands, Grenada, Guadeloupe, French Guiana, Guatemala, Guyana, Haiti, Honduras, Jamaica, Martinique, Mexico, Federated States of Micronesia, Montserrat, Nicaragua, Panama, Paraguay, Peru, Puerto Rico, Saint Christopher and Nevis, Saint Helena, Saint Lucia, Saint Vincent and the Grenadines, El Salvador, Surinam, Trinity and Tobago, Turks and Caicos Islands, Uruguay, Venezuela, Virgin Islands (USA), Virgin Islands (Great Britain) |
| Northern Africa | Algeria, Egypt, Libya, Morocco, Western Sahara, Tunisia |
| Sub-Saharan Africa | Angola, Botswana, Burkina Phase, Burundi, Cameroon, Cape Verde, Central African Republic, Comoros, Congo, Democratic Republic of Congo, Ivory Coast, Djibouti, Eritrea, Ethiopia, Gabon, Gambia, Ghana, Guinea, Guinea Bissau, Equatorial Guinea, Kenya, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauritia, Mauritania, Mayotte, Mozambique, Namibia, Niger, Nigeria, Reunion, Rwanda, Saint Thomas and Prince, Senegal, Seychelles, Sierra Leone, Somalia, Republic of South Africa, Sudan, Swaziland, United Republic of French Tanzania, Togo, Chad, Uganda, |
| Southern Asia and Middle East | Afghanistan, Saudi Arabia, Bahrain, Yemen, India, Iran Islamic Republic of Iraq, Iraq, Israel, Jordan, Kuwait, Lebanon, Oman, Pakistan, Territory Occupied by Palestine, Qatar, Syria, Turkmenistan, Union of the Arab Emirates |
| Eastern and Southeast Asia | Bangladesh, Bhutan, Brunei, Cambodia, Republic of Korea, Popular Democratic Republic of Korea, Philippines, Hong Kong, Indonesia, Japan, Popular Democratic Republic of Laos, Macau, Malaysia, Mongolia, Myanmar, Nepal, Singapore, Sri Lanka, Thailand, Taiwan, Eastern Timor, Vietnam, |
| Oceania | Australia, Christmas Island, Cocoons Islands, Cook Islands, Fiji, Guam, Heard and McDonald Islands, Kiribati, Maldives, Island of Marianne del Man, Northern Marine Islands, Marshall Islands, Nauru, Niue, Norfolk Island, New Caledonia, New Zealand, Palau, Papa New Guinea, Pitcairn, French Polynesia, Solomon, Samoa, American Samoa, British Territory of the Indian Ocean, Tokelau, Tonga, Tuvalu, Vanuatu, Wallis and Futuna Islands, Zambia, Zimbabwe |

**Supplementary material**

**Supplementary file 2. Comparative study conducted for the selection of Primary Care Centres (PCCs).**

For Manresa and Tortosa, there were only two public primary care centres in each area, therefore we checked if both PCCs for each area were comparable.

Concerning the Barcelona (4 PCC in the neighborhood) and Lleida (6 public PCC evaluated in the city), differences were checked in order to find the most similar PCC.  
  
Differences where assessed using two-sample tests of proportions when comparing proportions and prevalences.

A binomial based two-sided exact test was carried out to compare incidence rates.

In Barcelona, the PCC Barcelona\_3 and Barcelona\_4 were finally selected whereas in Lleida the PCC Lleida\_1 and Lleida\_2 were finally selected to participate in the study. For Manresa and Tortosa we checked that the PCC were comparable.

**BARCELONA**

|  |  |  |
| --- | --- | --- |
| **PCC** | **Target population** | **Total population** |
| Barcelona\_1 | 1007 | 26,533 |
| Barcelona \_2 | 1042 | 27,382 |
| Barcelona\_3 | 1270 | 29,960 |
| Barcelona \_4 | 1784 | 20,961 |

Cell content: counts

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **PCC** | **Type of PCC** | **Number of subjects for each GP** | **Proportion of GPs corresponding to each subject** | **Number of subjects for each nurse** | **Proportion of nurses corresponding to each subject** |
| Barcelona\_1 | 1u | 1474.1 | 0.0007 | 1768.9 | 0.0006 |
| Barcelona\_2 | 1u | 1521.2 | 0.0007 | 1955.9 | 0.0005 |
| Barcelona\_3 | 1u | 1576.8 | 0.0006 | 1997.3 | 0.0005 |
| Barcelona\_4 | 1u | 1612.4 | 0.0006 | 2329.0 | 0.0004 |

Cell content: counts and proportions

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **PCC** | **HIV prevalence** | **AIDS prevalence** | **HCV prevalence** | **HBV prevalence** | **ACUTE HEP prevalence** | **TB prevalence** |
| Barcelona\_1 | 0.002 | 0.001 | 0.008 | 0.000 | 0.000 | 0.003 |
| Barcelona\_2 | 0.004 | 0.002 | 0.006 | 0.000 | 0.001 | 0.002 |
| Barcelona**\_**3 | 0.008 | 0.003 | 0.006 | 0.000 | 0.001 | 0.002 |
| Barcelona\_4 | 0.003 | 0.001 | 0.005 | 0.003 | 0.002 | 0.002 |

Cell content: proportions

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **PCC** | **HIV 2016 incidence** | **AIDS 2016 incidence** | **HCV 2016 incidence** | **HBV 2016 incidence** | **ACUTE HEP 2016 incidence** | **TB 2016 incidence** |
| Barcelona\_1 | 0.4 | 0.0 | 1.1 | 1.1 | 0.4 | 0.4 |
| Barcelona**\_**2 | 1.5 | 0.7 | 4.7 | 1.1 | 2.2 | 0.7 |
| Barcelona\_3 | 3.0 | 0.3 | 5.3 | 1.0 | 2.0 | 0.3 |
| Barcelona\_4 | 1.4 | 0.0 | 4.3 | 2.4 | 2.4 | 1.0 |

Cell content: Number of cases per 10,000 person-years

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **PCC** | **Proportion of subjects from target population** | **Proportion of subjects from America** | **Proportion of subjects from Magreb** | **Proportion of subjects from east EU** | **Proportion of subjects from west EU** | **Proportion of subjects from SSA** | **Proportion of subjects from south Asia** | **Proportion of subjects from west Asia** | **Proportion of subjects from others Asia** |
| Barcelona\_1 | 0.038 | 0.023 | 0.002 | 0.006 | 0.010 | 0.001 | 0.002 | 0.002 | 0.002 |
| Barcelona\_2 | 0.038 | 0.022 | 0.001 | 0.006 | 0.015 | 0.000 | 0.002 | 0.004 | 0.002 |
| Barcelona\_3 | 0.042 | 0.024 | 0.002 | 0.006 | 0.024 | 0.001 | 0.002 | 0.005 | 0.004 |
| Barcelona\_4 | 0.085 | 0.043 | 0.008 | 0.011 | 0.025 | 0.001 | 0.006 | 0.012 | 0.005 |

Cell content: proportions

|  |  |  |  |
| --- | --- | --- | --- |
| **PCC** | **Proportion of subjects aged 15-29** | **Proportion of subjects aged 30-59** | **Proportion of subjects aged 60 and more** |
| Barcelona\_1 | 0.16 | 0.48 | 0.36 |
| Barcelona\_2 | 0.16 | 0.51 | 0.34 |
| Barcelona\_3 | 0.16 | 0.54 | 0.30 |
| Barcelona\_4 | 0.14 | 0.45 | 0.28 |

Cell content: proportions

**Associations (p-value) between Barcelona PCC 2 (Barcelona\_3) and the rest of PCC in Barcelona**

|  |  |  |  |
| --- | --- | --- | --- |
| **Variable name** | **Barcelona\_1** | **Barcelona \_2** | **Barcelona\_4** |
| PCC size difference | 0 | 0 | 0 |
| Proportion of GPs corresponding to each subject | 0.8375 | 0.9130 | 0.9506 |
| Proportion of nurses corresponding to each subject | 0.7392 | 0.9550 | 0.7153 |
| HIV prevalence | 0.0000 | 0.0000 | 0.0000 |
| AIDS prevalence | 0.0000 | 0.0026 | 0.0000 |
| HCV prevalence | 0.0778 | 0.8151 | 0.1620 |
| HBV prevalence | 0.2077 | 0.1863 | 0.0000 |
| ACUTE HEP prevalence | 0.2327 | 0.4460 | 0.0000 |
| TB prevalence | 0.0094 | 0.8424 | 0.0623 |
| HIV 2016 incidence | 0.0191 | 0.2360 | 0.2732 |
| AIDS 2016 incidence | 0.5303 | 0.5752 | 0.5884 |
| HCV 2016 incidence | 0.0057 | 0.7590 | 0.6141 |
| HBV 2016 incidence | 0.8865 | 0.9158 | 0.2496 |
| ACUTE HEP 2016 incidence | 0.0967 | 0.8787 | 0.7721 |
| TB 2016 incidence | 0.9393 | 0.5752 | 0.4386 |
| Proportion of subjects from target population | 0.0074 | 0.0084 | 0.0000 |
| Proportion of subjects from America | 0.5734 | 0.0594 | 0.0000 |
| Proportion of subjects from Magreb | 0.0718 | 0.8177 | 0.0000 |
| Proportion of subjects from east EU | 0.9169 | 0.5921 | 0.0000 |
| Proportion of subjects from west EU | 0.0000 | 0.0000 | 0.4716 |
| Proportion of subjects from SSA | 0.7392 | 0.4377 | 0.0811 |
| Proportion of subjects from south Asia | 0.9096 | 0.5508 | 0.0000 |
| Proportion of subjects from east Asia | 0.0000 | 0.5212 | 0.0000 |
| Proportion of subjects from others Asia | 0.0004 | 0.0009 | 0.3070 |
| Proportion of subjects aged 15-29 | 0.2820 | 0.1184 | 0.0000 |
| Proportion of subjects aged 30-59 | 0.0000 | 0.0000 | 0.0000 |
| Proportion of subjects aged 60 and more | 0.0000 | 0.0000 | 0.0000 |

Cell content: except for the first row, p-values from two sample tests of proportions or binomial based exact test for incidence rates.

**LLEIDA**

|  |  |  |
| --- | --- | --- |
| **PCC** | **Target population** | **Total population** |
| Lleida\_1 | 7294 | 19,527 |
| Lleida\_2 | 4144 | 25,811 |
| Lleida\_3 | 4352 | 23,950 |
| Lleida\_4 | 3330 | 28,968 |
| Lleida\_5 | 2360 | 15,817 |
| Lleida\_6 | 1622 | 15,947 |

Cell content: counts

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **PCC** | **Type of PCC** | **Number of subjects for each GP** | **Proportion of GPs corresponding to each subject** | **Number of subjects for each nurse** | **Proportion of nurses corresponding to each subject** |
| Lleida\_1 | u3 | 1627.3 | 0.0006 | 1502.1 | 0.0007 |
| Lleida\_2 | u3 | 1518.3 | 0.0007 | 1358.5 | 0.0007 |
| Lleida\_3 | u1 | 1710.7 | 0.0006 | 1330.6 | 0.0008 |
| Lleida\_4 | u2 | 1931.2 | 0.0005 | 1448.4 | 0.0007 |
| Lleida\_5 | u2 | 2259.6 | 0.0004 | 1977.1 | 0.0005 |
| Lleida\_6 | u2 | 1771.9 | 0.0006 | 1594.7 | 0.0006 |

Cell content: counts and proportions

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **PCC** | **HIV prevalence** | **AIDS prevalence** | **HCV prevalence** | **HBV prevalence** | **ACUTE HEP prevalence** | **TB prevalence** |
| Lleida\_1 | 0.005 | 0.003 | 0.006 | 0.004 | 0.003 | 0.003 |
| Lleida\_2 | 0.002 | 0.002 | 0.008 | 0.003 | 0.002 | 0.004 |
| Lleida\_3 | 0.002 | 0.001 | 0.006 | 0.002 | 0.003 | 0.004 |
| Lleida\_4 | 0.002 | 0.001 | 0.007 | 0.002 | 0.001 | 0.003 |
| Lleida**\_**5 | 0.002 | 0.001 | 0.004 | 0.002 | 0.001 | 0.002 |
| Lleida\_6 | 0.002 | 0.001 | 0.006 | 0.002 | 0.002 | 0.003 |

Cell content: Prevalence

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **PCC** | **HIV 2016 incidence** | **AIDS 2016 incidence** | **HCV 2016 incidence** | **HBV 2016 incidence** | **ACUTE HEP 2016 incidence** | **TB 2016 incidence** |
| Lleida\_1 | 0.0 | 0.0 | 4.6 | 8.2 | 2.0 | 3.6 |
| Lleida\_2 | 1.2 | 0.0 | 2.3 | 5.4 | 3.5 | 0.8 |
| Lleida\_3 | 0.4 | 0.0 | 2.1 | 7.5 | 1.7 | 2.5 |
| Lleida\_4 | 0.3 | 0.3 | 3.5 | 6.2 | 3.1 | 0.7 |
| Lleida\_5 | 1.3 | 0.6 | 0.0 | 6.3 | 1.3 | 0.6 |
| Lleida\_6 | 0.0 | 0.0 | 1.3 | 1.3 | 0.6 | 0.0 |

Cell content: Number of cases per 10,000 person-years

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **PCC** | **Proportion of subjects from target population** | **Proportion of subjects from America** | **Proportion of subjects from Magreb** | **Proportion of subjects from east EU** | **Proportion of subjects from west EU** | **Proportion of subjects from SSA** | **Proportion of subjects from south Asia** | **Proportion of subjects from west Asia** | **Proportion of subjects from others Asia** |
| Lleida\_1 | 0.374 | 0.053 | 0.114 | 0.090 | 0.007 | 0.093 | 0.013 | 0.011 | 0.001 |
| Lleida\_2 | 0.161 | 0.026 | 0.045 | 0.047 | 0.004 | 0.032 | 0.003 | 0.007 | 0.001 |
| Lleida\_3 | 0.182 | 0.037 | 0.044 | 0.059 | 0.004 | 0.024 | 0.004 | 0.014 | 0.001 |
| Lleida\_4 | 0.115 | 0.012 | 0.031 | 0.043 | 0.003 | 0.019 | 0.006 | 0.003 | 0.000 |
| Lleida\_5 | 0.149 | 0.023 | 0.028 | 0.068 | 0.004 | 0.023 | 0.003 | 0.005 | 0.000 |
| Lleida\_6 | 0.102 | 0.015 | 0.032 | 0.039 | 0.003 | 0.014 | 0.001 | 0.001 | 0.000 |

Cell content: proportions

|  |  |  |  |
| --- | --- | --- | --- |
| **PCC** | **Proportion of subjects aged 15-29** | **Proportion of subjects aged 30-59** | **Proportion of subjects aged 60 and more** |
| Lleida\_1 | 0.15 | 0.54 | 0.19 |
| Lleida\_2 | 0.16 | 0.44 | 0.26 |
| Lleida**\_**3 | 0.17 | 0.43 | 0.26 |
| Lleida\_4 | 0.15 | 0.48 | 0.19 |
| Lleida**\_**5 | 0.15 | 0.49 | 0.19 |
| Lleida\_6 | 0.16 | 0.48 | 0.19 |

Cell content: proportions

**Associations (p-value) between Lleida PCC 1 (Lleida\_1) and the rest of PCC**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Variable name** | **Lleida\_2** | **Lleida\_3** | **Lleida\_4** | **Lleida\_5** | **Lleida\_6** |
| PCC size difference | 0 | 2 | 1 | 1 | 1 |
| Proportion of GPs corresponding to each subject | 0.8541 | 0.8988 | 0.6579 | 0.4880 | 0.8468 |
| Proportion of nurses corresponding to each subject | 0.7799 | 0.7388 | 0.9186 | 0.5395 | 0.8868 |
| HIV prevalence | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| AIDS prevalence | 0.6131 | 0.0015 | 0.0022 | 0.0000 | 0.0058 |
| HCV prevalence | 0.1804 | 0.5996 | 0.9231 | 0.0107 | 0.6072 |
| HBV prevalence | 0.0444 | 0.0162 | 0.0014 | 0.0189 | 0.0122 |
| ACUTE HEP prevalence | 0.0113 | 0.2960 | 0.0000 | 0.0000 | 0.0214 |
| TB prevalence | 0.0223 | 0.0654 | 0.2187 | 0.2403 | 0.3097 |
| HIV 2016 incidence | 0.1845 | 0.5509 | 0.5973 | 0.2003 | 1.0000 |
| AIDS 2016 incidence | 1.0000 | 1.0000 | 0.5973 | 0.4475 | 1.0000 |
| HCV 2016 incidence | 0.2011 | 0.1596 | 0.5340 | 0.0048 | 0.0796 |
| HBV 2016 incidence | 0.2647 | 0.8006 | 0.4243 | 0.5303 | 0.0029 |
| ACUTE HEP 2016 incidence | 0.3912 | 0.7798 | 0.5094 | 0.6132 | 0.3074 |
| TB 2016 incidence | 0.0452 | 0.5310 | 0.0300 | 0.0736 | 0.0153 |
| Proportion of subjects from target population | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Proportion of subjects from America | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Proportion of subjects from Magreb | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Proportion of subjects from east EU | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Proportion of subjects from west EU | 0.0002 | 0.0010 | 0.0000 | 0.0049 | 0.0000 |
| Proportion of subjects from SSA | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Proportion of subjects from south Asia | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Proportion of subjects from east Asia | 0.0000 | 0.0203 | 0.0000 | 0.0000 | 0.0000 |
| Proportion of subjects from others Asia | 0.4303 | 0.0328 | 0.0000 | 0.0130 | 0.0003 |
| Proportion of subjects aged 15-29 | 0.3758 | 0.0000 | 0.3822 | 0.1994 | 0.0028 |
| Proportion of subjects aged 30-59 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Proportion of subjects aged 60 and more | 0.0000 | 0.0000 | 0.6389 | 0.8016 | 0.9200 |

Cell content: except for the first row, p-values from two sample tests of proportions or binomial based exact test for incidence rates.

**MANRESA**

|  |  |  |
| --- | --- | --- |
| **PCC** | **Target population** | **Total population** |
| Manresa**\_**1 | 3308 | 22,558 |
| Manresa**\_**2 | 2703 | 22,449 |

Cell content: counts

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **PCC** | **Type of PCC** | **Number of subjects for each GP** | **Proportion of GPs corresponding to each subject** | **Number of subjects for each nurse** | **Proportion of nurses corresponding to each subject** |
| Manresa**\_**1 | u1 | 1326.9 | 0.0008 | 1503.9 | 0.0007 |
| Manresa**\_**2 | u3 | 1496.6 | 0.0007 | 1320.5 | 0.0008 |

Cell content: counts and proportions

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **PCC** | **HIV prevalence** | **AIDS prevalence** | **HCV prevalence** | **HBV prevalence** | **ACUTE HEP prevalence** | **TB prevalence** |
| Manresa**\_**1 | 0.001 | 0.001 | 0.006 | 0.002 | 0.002 | 0.004 |
| Manresa\_2 | 0.002 | 0.001 | 0.006 | 0.002 | 0.002 | 0.004 |

Cell content: Prevalence

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **PCC** | **HIV 2016 incidence** | **AIDS 2016 incidence** | **HCV 2016 incidence** | **HBV 2016 incidence** | **ACUTE HEP 2016 incidence** | **TB 2016 incidence** |
| Manresa**\_**1 | 0.9 | 0.0 | 2.7 | 2.7 | 0.0 | 0.0 |
| Manresa\_2 | 0.0 | 0.0 | 1.3 | 3.1 | 0.9 | 0.9 |

Cell content: Number of cases per 10,000 person-years

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **PCC** | **Proportion of subjects from target population** | **Proportion of subjects from America** | **Proportion of subjects from Magreb** | **Proportion of subjects from east EU** | **Proportion of subjects from west EU** | **Proportion of subjects from SSA** | **Proportion of subjects from south Asia** | **Proportion of subjects from west Asia** | **Proportion of subjects from others Asia** |
| Manresa**\_**1 | 0.147 | 0.027 | 0.065 | 0.030 | 0.004 | 0.012 | 0.004 | 0.008 | 0.001 |
| Manresa\_2 | 0.120 | 0.018 | 0.056 | 0.023 | 0.002 | 0.013 | 0.004 | 0.005 | 0.001 |

Cell content: proportions

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **PCC** | **Proportion of subjects aged 15-29** | **Proportion of subjects aged 30-59** |  | **Proportion of subjects aged 60 and more** |
| Manresa**\_**1 | 0.15 | 0.44 |  | 0.26 |
| Manresa\_2 | 0.14 | 0.45 |  | 0.24 |

Cell content: proportions

**Associations (p-value) between Manresa PCCs (Manresa\_1 vs. Manresa\_2)**

|  |  |
| --- | --- |
| **Variable name** | **Manresa\_1 vs. Manresa\_2** |
| PCC size difference | 2 |
| Proportion of GPs corresponding to each subject | 0.7339 |
| Proportion of nurses corresponding to each subject | 0.7133 |
| HIV prevalence | 0.4413 |
| AIDS prevalence | 0.2309 |
| HCV prevalence | 0.7721 |
| HBV prevalence | 0.7616 |
| ACUTE HEP prevalence | 0.4340 |
| TB prevalence | 0.5777 |
| HIV 2016 incidence | 0.2512 |
| AIDS 2016 incidence | 1.0000 |
| HCV 2016 incidence | 0.3473 |
| HBV 2016 incidence | 0.7839 |
| ACUTE HEP 2016 incidence | 0.2488 |
| TB 2016 incidence | 0.2488 |
| Proportion of subjects from target population | 0.0000 |
| Proportion of subjects from America | 0.0000 |
| Proportion of subjects from Magreb | 0.0001 |
| Proportion of subjects from east EU | 0.0000 |
| Proportion of subjects from west EU | 0.0007 |
| Proportion of subjects from SSA | 0.3059 |
| Proportion of subjects from south Asia | 0.9751 |
| Proportion of subjects from east Asia | 0.0000 |
| Proportion of subjects from others Asia | 0.3673 |
| Proportion of subjects aged 15-29 | 0.0310 |
| Proportion of subjects aged 30-59 | 0.0060 |
| Proportion of subjects aged 60 and more | 0.0000 |

Cell content: except for the first row, p-values from two sample tests of proportions or binomial based exact test for incidence rates.

**TORTOSA**

|  |  |  |
| --- | --- | --- |
| **PCC** | **Target population** | **Total population** |
| Tortosa**\_**1 | 3341 | 17,580 |
| Tortosa\_2 | 2655 | 22,512 |

Cell content: counts

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **PCC** | **Type of PCC** | **Number of subjects for each GP** | **Proportion of GPs corresponding to each subject** | **Number of subjects for each nurse** | **Proportion of nurses corresponding to each subject** |
| Tortosa**\_**1 | r2 | 1598.2 | 0.0006 | 1465.0 | 0.0007 |
| Tortosa**\_**2 | 1r | 1125.6 | 0.0009 | 1125.6 | 0.0009 |

Cell content: counts and proportions

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **PCC** | **HIV prevalence** | **AIDS prevalence** | **HCV prevalence** | **HBV prevalence** | **ACUTE HEP prevalence** | **TB prevalence** |
| Tortosa**\_**1 | 0.002 | 0.001 | 0.007 | 0.003 | 0.002 | 0.003 |
| Tortosa\_2 | 0.001 | 0.001 | 0.005 | 0.001 | 0.002 | 0.003 |

Cell content: Prevalence

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **PCC** | **HIV 2016 incidence** | **AIDS 2016 incidence** | **HCV 2016 incidence** | **HBV 2016 incidence** | **ACUTE HEP 2016 incidence** | **TB 2016 incidence** |
| Tortosa**\_**1 | 0.6 | 0.0 | 2.3 | 2.3 | 0.6 | 0.0 |
| Tortosa\_2 | 0.0 | 0.0 | 0.4 | 0.0 | 1.3 | 0.0 |

Cell content: Number of cases per 10,000 person-years

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **PCC** | **Proportion of subjects from target population** | **Proportion of subjects from America** | **Proportion of subjects from Magreb** | **Proportion of subjects from east EU** | **Proportion of subjects from west EU** | **Proportion of subjects from SSA** | **Proportion of subjects from south Asia** | **Proportion of subjects from west Asia** | **Proportion of subjects from others Asia** |
| Tortosa\_1 | 0.190 | 0.026 | 0.069 | 0.053 | 0.011 | 0.010 | 0.025 | 0.007 | 0.001 |
| Tortosa\_2 | 0.118 | 0.013 | 0.056 | 0.029 | 0.010 | 0.004 | 0.012 | 0.004 | 0.000 |

Cell content: proportions

|  |  |  |  |
| --- | --- | --- | --- |
| **PCC** | **Proportion of subjects aged 15-29** | **Proportion of subjects aged 30-59** | **Proportion of subjects aged 60 and more** |
| Tortosa**\_**1 | 0.19 | 0.54 | 0.28 |
| Tortosa\_2 | 0.17 | 0.50 | 0.33 |

Cell content: proportions

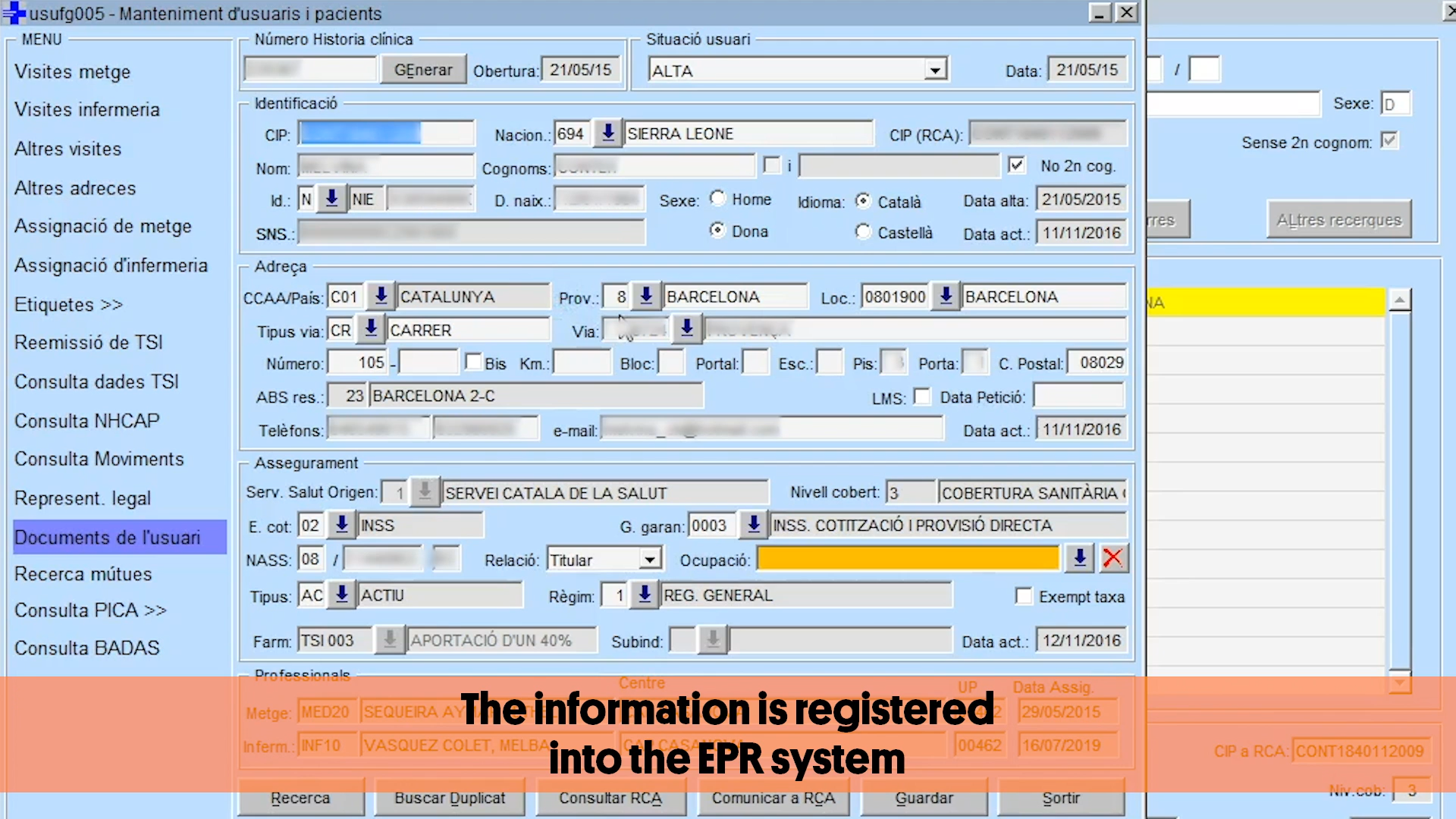
**Associations (p-value) between Tortosa PCCs (Tortosa\_1 vs. Tortosa\_2)**

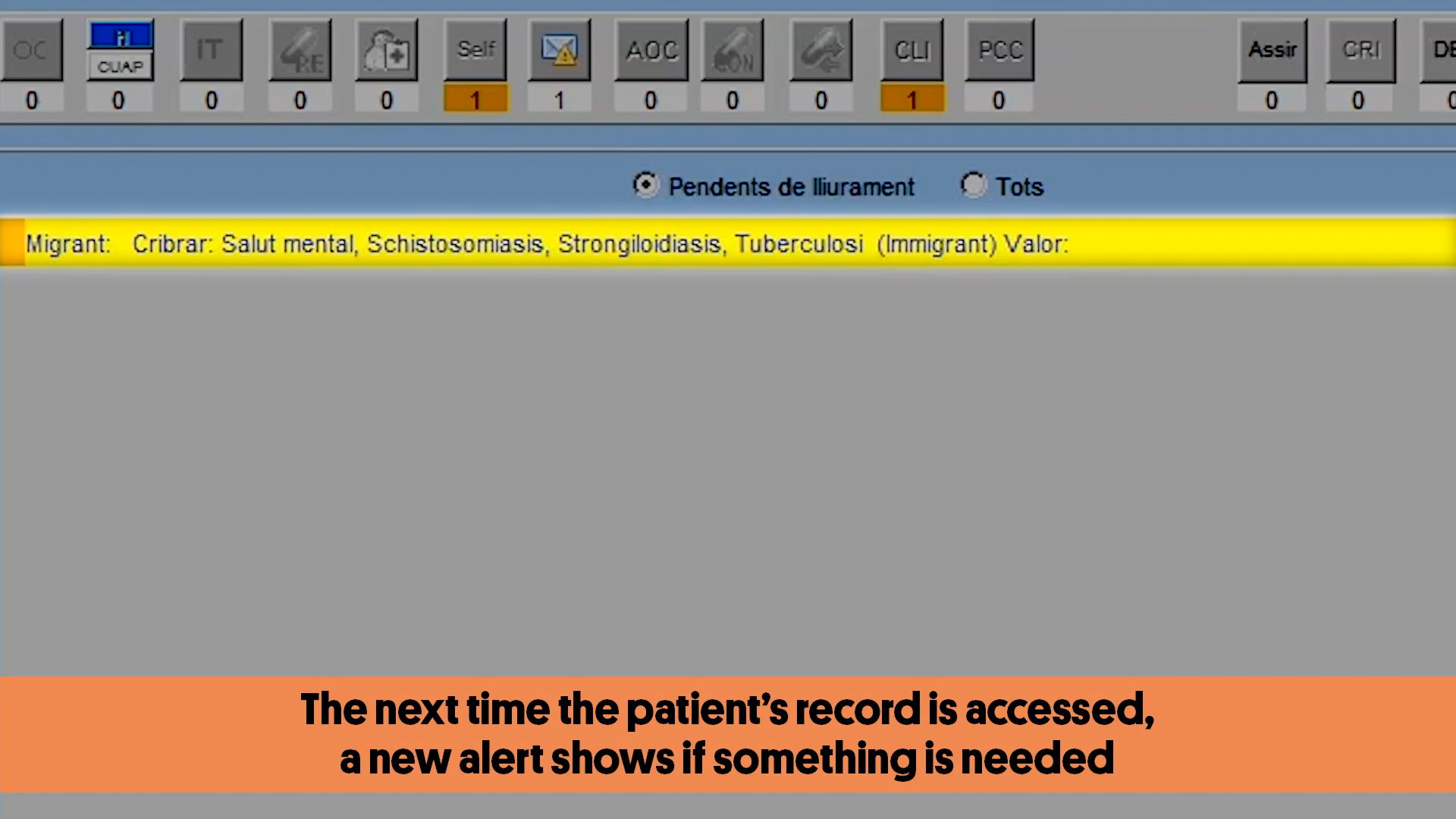
|  |  |
| --- | --- |
| **Variable name** | **Tortosa\_1 vs. Tortosa\_2** |
| PCC size difference | 1 |
| Proportion of GPs corresponding to each subject | 0.3477 |
| Proportion of nurses corresponding to each subject | 0.4690 |
| HIV prevalence | 0.0002 |
| AIDS prevalence | 0.6525 |
| HCV prevalence | 0.0221 |
| HBV prevalence | 0.0007 |
| ACUTE HEP prevalence | 0.4684 |
| TB prevalence | 0.7830 |
| HIV 2016 incidence | 0.4385 |
| AIDS 2016 incidence | 1.0000 |
| HCV 2016 incidence | 0.1362 |
| HBV 2016 incidence | 0.0370 |
| ACUTE HEP 2016 incidence | 0.5093 |
| TB 2016 incidence | 1.0000 |
| Proportion of subjects from target population | 0.0000 |
| Proportion of subjects from America | 0.0000 |
| Proportion of subjects from Magreb | 0.0000 |
| Proportion of subjects from east EU | 0.0000 |
| Proportion of subjects from west EU | 0.4767 |
| Proportion of subjects from SSA | 0.0000 |
| Proportion of subjects from south Asia | 0.0000 |
| Proportion of subjects from east Asia | 0.0000 |
| Proportion of subjects from others Asia | 0.0037 |
| Proportion of subjects aged 15-29 | 0.0000 |
| Proportion of subjects aged 30-59 | 0.0000 |
| Proportion of subjects aged 60 and more | 0.0000 |

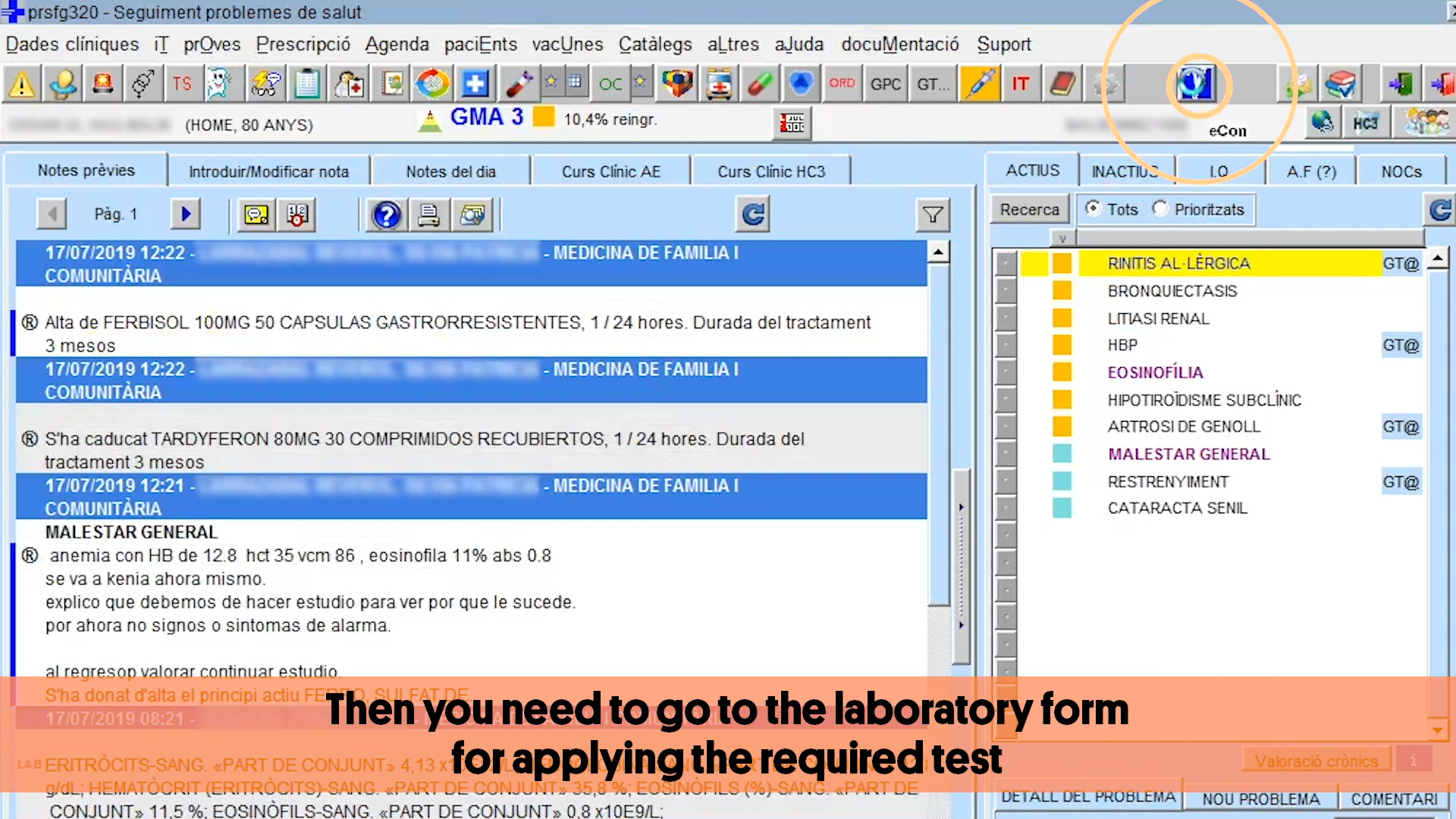
Cell content: except for the first row, p-values from two sample tests of proportions or binomial based exact test for incidence rates.

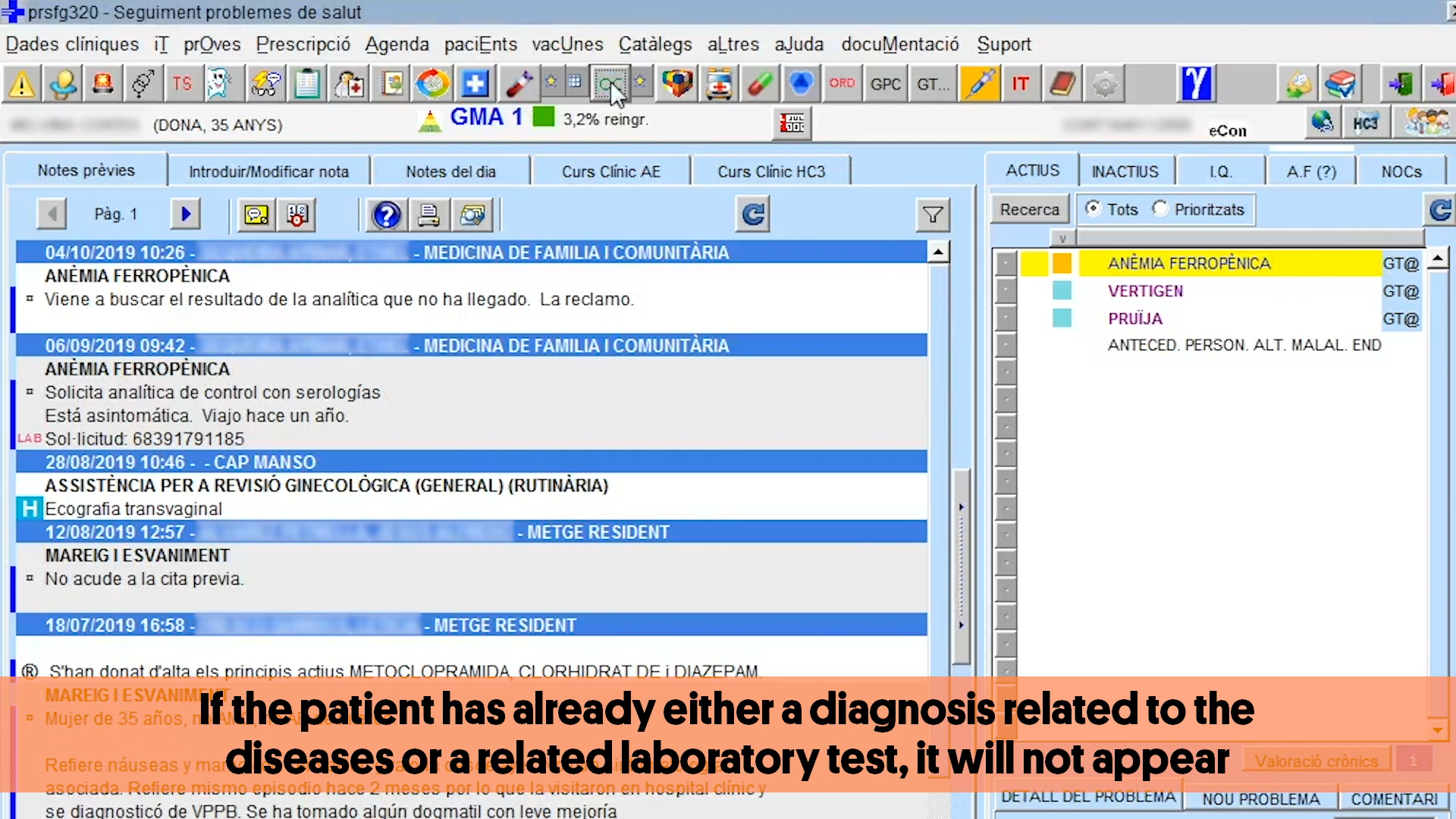
**Supplementary file 3. Workflow of the tool.**

**https://vimeo.com/368313593**









**Supplementary File 4. R Packages used in the analyses.**

R Core Team (2020). R: A language and environment for statistical computing. R Foundation for Statistical Computing, Vienna, Austria. URL <https://www.R-project.org/>.

* Wickham et al., (2019). Welcome to the tidyverse. Journal of Open Source Software, 4(43), 1686, <https://doi.org/10.21105/joss.01686>
* Garrett Grolemund, Hadley Wickham (2011). Dates and Times Made Easy with lubridate. Journal of Statistical Software, 40(3), 1-25. URL <http://www.jstatsoft.org/v40/i03/>.
* Zeileis A (2004). “Econometric Computing with HC and HAC Covariance Matrix Estimators.” \_Journal of Statistical Software\_, \*11\*(10), 1-17. doi: 0.18637/jss.v011.i10 (URL: <https://doi.org/10.18637/jss.v011.i10> ).
* Achim Zeileis, Torsten Hothorn (2002). Diagnostic Checking in Regression Relationships. R News 2(3), 7-10. URL <https://CRAN.R-project.org/doc/Rnews/>
* Alboukadel Kassambara (2020). ggpubr: 'ggplot2' Based Publication Ready Plots. R package version 0.2.5. <https://CRAN.R-project.org/package=ggpubr>

**Supplementary file 5. CONSORT 2010 checklist of information to include when reporting a cluster randomised trial.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Section/Topic | Item No | Standard Checklist item | Extension for cluster designs | Page No \* |
| Title and abstract | | | |  |
|  | 1a | Identification as a randomised trial in the title | Identification as a cluster randomised trial in the title | 1 |
| 1b | Structured summary of trial design, methods, results, and conclusions (for specific guidance see CONSORT for abstracts) | See table 2 | 4-5 |
| Introduction | | | |  |
| Background and objectives | 2a | Scientific background and explanation of rationale | Rationale for using a cluster design |  |
| 2b | Specific objectives or hypotheses | Whether objectives pertain to the cluster level, the individual participant level or both | 8 |
| Methods | | | |  |
| Trial design | 3a | Description of trial design (such as parallel, factorial) including allocation ratio | Definition of cluster and description of how the design features apply to the clusters | 9 |
| 3b | Important changes to methods after trial commencement (such as eligibility criteria), with reasons |  | **NA** |
| Participants | 4a | Eligibility criteria for participants | Eligibility criteria for clusters | 9 |
| 4b | Settings and locations where the data were collected |  | **9** |
| Interventions | 5 | The interventions for each group with sufficient details to allow replication, including how and when they were actually administered | Whether interventions pertain to the cluster level, the individual participant level or both | 11 |
| Outcomes | 6a | Completely defined pre-specified primary and secondary outcome measures, including how and when they were assessed | Whether outcome measures pertain to the cluster level, the individual participant level or both | 13 |
| 6b | Any changes to trial outcomes after the trial commenced, with reasons |  | **NA** |
| Sample size | 7a | How sample size was determined | Method of calculation, number of clusters(s) (and whether equal or unequal cluster sizes are assumed), cluster size, a coefficient of intracluster correlation (ICC or *k*), and an indication of its uncertainty | NA (pilot) |
| 7b | When applicable, explanation of any interim analyses and stopping guidelines |  | **NA** |
| Randomisation: | | | |  |
| Sequence generation | 8a | Method used to generate the random allocation sequence |  | **10** |
| 8b | Type of randomisation; details of any restriction (such as blocking and block size) | Details of stratification or matching if used | 10 |
| Allocation concealment mechanism | 9 | Mechanism used to implement the random allocation sequence (such as sequentially numbered containers), describing any steps taken to conceal the sequence until interventions were assigned | Specification that allocation was based on clusters rather than individuals and whether allocation concealment (if any) was at the cluster level, the individual participant level or both | 10 |
| Implementation | 10 | Who generated the random allocation sequence, who enrolled participants, and who assigned participants to interventions | Replace by 10a, 10b and 10c | 10 |
|  | 10a |  | Who generated the random allocation sequence, who enrolled clusters, and who assigned clusters to interventions | 10 |
|  | 10b |  | Mechanism by which individual participants were included in clusters for the purposes of the trial (such as complete enumeration, random sampling) |  |
|  | 10c |  | From whom consent was sought (representatives of the cluster, or individual cluster members, or both), and whether consent was sought before or after randomisation |  |
|  |  |  |  |  |
| Blinding | 11a | If done, who was blinded after assignment to interventions (for example, participants, care providers, those assessing outcomes) and how |  | **NA** |
| 11b | If relevant, description of the similarity of interventions |  |  |
| Statistical methods | 12a | Statistical methods used to compare groups for primary and secondary outcomes | How clustering was taken into account | 13-14 |
| 12b | Methods for additional analyses, such as subgroup analyses and adjusted analyses |  | **14** |
| Results | | | |  |
| Participant flow (a diagram is strongly recommended) | 13a | For each group, the numbers of participants who were randomly assigned, received intended treatment, and were analysed for the primary outcome | For each group, the numbers of clusters that were randomly assigned, received intended treatment, and were analysed for the primary outcome | Figure 1, page 15 |
| 13b | For each group, losses and exclusions after randomisation, together with reasons | For each group, losses and exclusions for both clusters and individual cluster members | Figure 1, page 15 |
| Recruitment | 14a | Dates defining the periods of recruitment and follow-up |  | **15** |
| 14b | Why the trial ended or was stopped |  | **15** |
| Baseline data | 15 | A table showing baseline demographic and clinical characteristics for each group | Baseline characteristics for the individual and cluster levels as applicable for each group | Table 1 |
| Numbers analysed | 16 | For each group, number of participants (denominator) included in each analysis and whether the analysis was by original assigned groups | For each group, number of clusters included in each analysis | Table 1 and table 2 |
| Outcomes and estimation | 17a | For each primary and secondary outcome, results for each group, and the estimated effect size and its precision (such as 95% confidence interval) | Results at the individual or cluster level as applicable and a coefficient of intracluster correlation (ICC or k) for each primary outcome | 15 and 16 |
| 17b | For binary outcomes, presentation of both absolute and relative effect sizes is recommended |  | **Page 15 and figure 2** |
| Ancillary analyses | 18 | Results of any other analyses performed, including subgroup analyses and adjusted analyses, distinguishing pre-specified from exploratory |  | **Page 16 and 17** |
| Harms | 19 | All important harms or unintended effects in each group (for specific guidance see CONSORT for harms) |  | **NA** |
| Discussion | | | |  |
| Limitations | 20 | Trial limitations, addressing sources of potential bias, imprecision, and, if relevant, multiplicity of analyses |  | **20** |
| Generalisability | 21 | Generalisability (external validity, applicability) of the trial findings | Generalisability to clusters and/or individual participants (as relevant) | 18, 20 |
| Interpretation | 22 | Interpretation consistent with results, balancing benefits and harms, and considering other relevant evidence |  | **19** |
| Other information | | |  |  |
| Registration | 23 | Registration number and name of trial registry |  | **14** |
| Protocol | 24 | Where the full trial protocol can be accessed, if available |  | **14** |
| Funding | 25 | Sources of funding and other support (such as supply of drugs), role of  funders |  | **14** |

**Supplementary file 6. Main characteristics of the Primary Care Centres included in the study.**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Sanitary area** | **Barcelona** | | **Manresa** | | **Lleida** | | **Tortosa** | |
| **Study group** | Control | Intervention | Control | Intervention | Control | Intervention | Control | Intervention |
|  | n(%) | n(%) | n(%) | n(%) | n(%) | n(%) | n(%) | n(%) |
| **Socio-demographic characteristics of Centres** | | | | | | | | |
| **Population assigned** | 30,831 | 20,738 | 19,323 | 19,875 | 21,844 | 16,122 | 17,408 | 22,273 |
| **Population attended** | 20,882  (67.7) | 13,574  (64.5) | 17,067  (88.3) | 17,331  (87.2) | 18,705  (85.6) | 13,619  (84.5) | 15,077  (86.6) | 20,019  (89.9) |
| **Migrant population** | 4,348  (20.8) | 2,070  (15.2) | 2,461  (14.4) | 3,043  (17.6) | 3,644  (19.5) | 6,188  (45.4) | 3,501  (23.2) | 2,924  (14.6) |
| **Migrant population with at least one visit during the intervention** | 2,343  (53.89) | 1,161  (56.09) | 1,423  (57.82) | 1,864  (61.26) | 1,929  (52.94) | 3,410  (55.11) | 1,914  (54.67) | 1,736  (59.37) |
| **Number of health professionals** | 40 | 32 | 18 | 17 | 22 | 18 | 19 | 29 |
| **MEDEA index\*** | 1 | 0.75 | 0.74 | 0.07 | 0.54 | 0.55 | 0.95 | 0.85 |
| \*Medea Index: Deprivation index by census tract in cities, that identifies the tracts with the least favorable socioeconomic conditions1 | | | | | | | | |

1. Dominguez-Berjon F, et al. Constructing a deprivation index based on census data in large Spanish cities(the MEDEA project). Gac Sanit. May-Jun 2008;22(3):179-87

**Supplementary file 7. Screening tests performed for infectious diseases during the intervention period (March – December 2018 ) by study area**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Barcelona** | | | **Manresa** | | | **Lleida** | | | **Tortosa** | | |
|  | Control | Intervention | p-value | Control | Intervention | p-value | Control | Intervention | p-value | Control | Intervention | p-value |
| Total population | 2,343 | 1,161 |  | 1,423 | 1,864 |  | 1,929 | 3,410 |  | 1,914 | 1,736 |  |
| Number of *T· cruzi* disease screening tests  Screening number among those with screening criteria | 8 (0·34)  6/813 (0·74) | 22 (1·89)  22/475 (4·63) | <0·001  <0·001 | 8 (0·56)  7/239 (2·93) | 35 (1·88)  33/401 (8·23) | 0·001  0·007 | 3 (0·16)  2/326 (0·61) | 39 (1·14)  34/413 (8·23) | <0·001  <0·001 | 5 (0·26)  5/285 (1·75) | 6 (0·35)  6/165 (3·64) | 0·642  0·213 |
| Number of *Strongyloides* screening tests  Screening number among those with screening criteria | 27 (1·15)  23/1449 (1·59) | 49 (4·22)  49/865 (5·66) | <0·001  <0·001 | 5 (0·35)  5/1346 (0·37) | 100 (5·36)  100/1752 (5·71) | <0·001  <0·001 | 0 (0·00)  0/1840 (0·00) | 226 (6·63)  224/3261 (6·87) | <0·001  <0·001 | \*  \* | \*  \* | --  -- |
| Number of *Schistosoma* screening tests  Screening number among those with screening criteria | 1 (0·04)  0/124 (0·00) | 7 (0·60)  1/31 (3·23) | 0·001  0·045 | 1 (0·07)  1/146 (0·68) | 27 (1·45)  23/170 (13·53) | <0·001  <0·001 | 0 (0·00)  0/415 (0·00) | 66 (1·94)  58/883 (6·57) | <0·001  <0·001 | \*  \* | \*  \* | --  -- |
| **Total screening number of any parasitic infection**  **Screening number among those with screening criteria** | 33 (1·41)  28/1457  (1·92) | 53 (4·57)  53/869  (6·10) | <0·001  <0·001 | 13 (0·91)  13/1347 (0·97) | 113 (6·06)  113/1756 (6·44) | <0·001  <0·001 | 3 (0·16)  3/1840 (0·16) | 241 (7·07)  239/3261 (7·33) | <0·001  <0·001 | \*  \* | \*  \* | --  -- |
| Number of HIV screening tests  Screening number among those with screening criteria | 5 (0·21)  0/110 (0·00) | 80 (6·89)  4/56 (7·14) | <0·001  0·005 | 128 (9·00)  24/192 (12·50) | 158 (8·48)  33/220 (15·00) | 0·601  0·463 | 177 (9·18)  42/422 (9·95) | 406 (11·91)  153/956 (16·00) | 0·002  0·003 | 93 (4·86)  18/224 (8·04) | 82 (4·72)  11/141 (7·80) | 0·848  0·936 |
| Number of HBV screening tests  Screening number among those with screening criteria | 215 (9·18)  60/628 (9·55) | 90 (7·75)  39/351 (11·11) | 0·159  0·438 | 135 (9·49)  47/405 (11·60) | 176 (9·44)  61/549 (11·11) | 0·965  0·812 | 170 (8·81)  83/956 (8·68) | 445 (13·05)  255/1879 (13·57) | <0·001  <0·001 | 119 (6·22)  66/795 (8·30) | 116 (6·68)    51/666 (7·66) | 0·568  0·651 |
| Number of HCV screening tests  Screening number among those with screening criteria | 223 (9·52)  54/527 (10·25) | 89 (7·67)  29/262 (11·07) | 0·070  0·723 | 141 (9·91)  42/384 (10·94) | 178 (9·55)  61/499 (12·22) | 0·730  0·555 | 158 (8·19)  87/942 (9·24) | 431 (12·64)  269/1882 (14·29) | <0·001  <0·001 | 106 (5·54)  53/791 (6·70) | 92 (5·30)  54/656 (8·23) | 0·751  0·268 |
| Number of active TB screening tests  Screening number among those with screening criteria | 63 (2·69)  24/687 (3·49) | 53 (4·57)  26/443 (5·87) | 0·003  0·058 | 53 (3·72)  7/166 (4·22) | 135 (7·24)  18/182 (9·89) | <0·001  0·041 | 61 (3·16)  9/206 (4·37) | 145 (4·25)  11/428 (2·57) | 0·047  0·225 | 44 (2·30)  1/156 (0·64) | 43 (2·48)  4/115 (3·48) | 0·725  0·086 |
| **Number of screening tests for any condition**  **Screening number among those with screening criteria** | 320 (13·66)  250/1814 (13·78) | 185 (15·93)  172/1021  (16·85) | 0·071  0·028 | 204 (14·34)  194/1371 (14·15) | 332 (17·81)  321/1805 (17·78) | 0·008  0·006 | 271 (14·05)  265/1867 (14·19) | 714 (20·94)  699/3316 (21·08) | <0·001  <0·001 | 189 (9·87)  176/1799 (9·78) | 180 (10·37)  167/1605 (10·40) | 0·621  0·547 |
| \* Not included in the screening programme· 1. The Tortosa region is excluded· 2. Multilevel mixed-effect logistic regression | | | | | | | | | | | | |

**Supplementary file 8 Difference-in-differences model estimates and their 95% confidence interval.**

Chart, box and whisker chart

Description automatically generated

Supplementary file 8. The figure presents the combined Chagas disease, strongyloidiasis, and schistosomiasis diagnostic rate diagnostic rate (top), the HIV, Hep-B, Hep-C, and TB combined diagnostic rate (middle) and the combined diagnostic rate (down). Estimates are referenced to the 2012-2014 period, estimates of 2014-16 and 2016-18 serve as a test for the parallel trends' assumption, and the post March 2018 estimate reflects the effect of the intervention. Abbreviations: HIV: human immunodeficiency virus, Hep-B: hepatitis B virus, Hep-C: hepatitis C virus, TB: tuberculosis, 95%CI: 95% confidence interval