# Background

- Estimates of fungal infection caseloads are required to plan and implement healthcare policies.
- **Healthcare in Israel:**
  - Universal healthcare system
  - Five tertiary-level medical centers provide specialisation in medical care
- **Epidemiological trends:**
  - A growing medical tourism industry
  - Immigration from Africa
  - Increase in the population of patients cared at tertiary hospitals
  - Increasing rates of newly diagnosed TB and HIV/AIDS.

# Objectives

- Estimate national fungal infection caseloads in Israel from epidemiological datasets.

# Methods (cid.)

- Locally collected incidence data were available for candidaemia, HIV/AIDS, solid organ and stem cell transplantation, TB, asthma, COPD and cystic fibrosis.
- When no specific data were available, fungal disease rates were estimated from incidence rates in susceptible populations.
- Generally, disease estimates were conservative as they assumed the lowest incidence rates reported in the literature and focused on well-defined risk populations.

# Results

- **Israel's population (2011):**
  - 7.8 Million
  - Median age 29 yrs
  - 34% ≤18 yrs, 10% ≥65 yrs
  - **Population prevalence of chronic respiratory disease:**
  - COPD, 312,000, asthma, 375,000, cystic fibrosis, 468.
  - Pulmonary tuberculosis: 345/yr.

### Table 1: Fungal infection burden estimates for Israel

<table>
<thead>
<tr>
<th>Infection</th>
<th>Number of infections per underlying disorder per year</th>
<th>Total burden</th>
<th>Cases /100K</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>None</td>
<td>HIV/AIDS</td>
<td>Respiratory</td>
</tr>
<tr>
<td>Oesophageal candidiasis [AI]</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Candidaemia [AI]</td>
<td>130,526</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recurrent vaginal candidiasis (≥4/year) [AI]</td>
<td>7,945</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ABPA [P]</td>
<td>12,375</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SAFS [P]</td>
<td>30</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chronic pulmonary aspergillosis [P]</td>
<td>130</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Invasive aspergillosis [AI]</td>
<td>20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mucormycosis [AI]</td>
<td>17</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pneumocystis pneumonia [AI]</td>
<td>151,833</td>
<td>1946</td>
<td></td>
</tr>
</tbody>
</table>

# Conclusions

- **Immunosuppressed population:**
  - 6,579 persons with HIV/AIDS, 70% receiving ART
  - Acute myelocytic leukemia, 235/yr
  - Allogeneic stem cell transplantation, 391/yr
  - Renal transplantation 234/yr
  - Known or extrapolated burden of serious fungal infections shown in Table 1.

- **Vaginal candidiasis and ABPA** dominate the burden of fungal infection in Israel, whereas candidaemia and invasive aspergillosis are the most frequent causes of fatal infection.
- These data should help guide empirical treatment choices and preventive actions at the national level.

# References