Penetrance Calculator</h2>
</div>
<form method="POST">
<div class="w3-row-padding" style="margin:0 -16px;">
<div class="w3-half w3-margin-bottom">
<label><i class="fa fa-edit"></i> Enter the number of mutations observed in patients:</label>
<input class="w3-input w3-border" type="number" placeholder="8" name="text" min="0" required>
</div>
<div class="w3-half">
<label><i class="fa fa-edit"></i> Enter the total number of patients:</label>
<input class="w3-input w3-border" type="number" placeholder="5089" name="text1" min="0" required>
</div>
</form>
<label><i class="fa fa-edit"></i> Enter the number of mutations observed in patients:</label>
<input class="w3-input w3-border" type="number" placeholder="8" name="text" min="0" required>
</div>
</form>
</div>
</div>
</header>
</div>
</body>
</html>
Enter the total number of patients: 5089
Enter the number of mutations observed in controls: 6
Enter the total number controls: 38884
Enter baseline risk: 0.72
Calculate Penetrance!

The penetrance is: 
The confidence interval ranges from: to

Getting Started
The following is an illustration of how the application works:

In order to calculate penetrance for a mutation, five types of data are needed:

- The number of mutations identified in a patient sample
- The number of patients studied
- The number of mutations identified in the control sample
- The number of controls studied
- The general incidence of the disease under investigation in the population from which patients and controls are sampled.

Using these values, a Bayesian probabilistic method is employed to calculate penetrance. This involves simulation using the Python Scipy package and extraction of 2.5, 50 and 97.5% quantiles to obtain the median penetrance, and its ~95% credible intervals.

An example of this process is given as default values in the above fields.

This method is described in more detail in the papers written by Vassos et al.


KNM lab is supported by OPERA award from BITS Pilani and by the Centre for Human Diseases.

AA developed the software which was analysed by KNM and DB.
Enter baseline risk: (Percentage)

Calculate Penetrance!

The penetrance is: {{comments[0]}}

The confidence interval ranges from: {{comments[1]}} to {{comments[2]}}

Getting Started

The following is an illustration of how the application works:

In order to calculate penetrance for a mutation, five types of data are needed:

- The number of mutations identified in a patient sample
- The number of patients studied
- The number of mutations identified in the control sample
- The number of controls studied
- The general incidence of the disease under investigation in the population from which patients and controls are sampled.
Using these values, a Bayesian probabilistic method is employed to calculate penetrance. This involves simulation using the Python Scipy package and extraction of 2.5, 50 and 97.5% quantiles to obtain the median penetrance, and its ~95% credible intervals.

An example of this process is given as default values in the above fields.

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