How to Calculate a Survey Response Rate: Best Practices
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- Approximately 50% of original medical education research utilizes surveys, yet many survey studies do not report a response rate, and most do not use a standard response rate definition.¹
- In broad terms, the definition of response rate is the number of people who responded divided by the total number of potential respondents, expressed simply as:

  \[
  \text{Response rate} = \frac{\text{Respondents}}{\text{Nonrespondents} + \text{Respondents}}
  \]

  The equation becomes more complicated when we consider which nonrespondents should be included in the calculation based on whether or not they were eligible to participate in the survey.

Recommendations
- Use one of the six American Association of Public Opinion Research (AAPOR) definitions² outlined in the table below.
- Two decision points determine the definition to use. One decision point has three options, and the other has two, for a total of six possible definitions.
  1. **Determine the eligibility of nonrespondents for the survey.** Determining eligibility of those who did not respond depends on the characteristics of the potential respondents.
  2. **Determine whether or not to include partially completed surveys.** Some researchers include surveys with skipped questions in the numerator of the response rate equation. Other researchers count only surveys returned with every question answered.
- Report the definition used when you report the response rate, such as “47 of 100 (47%) potential respondents returned surveys, AAPOR RR6.” See example articles for each definition in Phillips et al.³

Vignette: A researcher is studying expectations of life as a physician among medical students who have at least one parent who is a physician. Nonrespondent eligibility depends on the sampling frame, which corresponds with different response rate definitions, described below.

<table>
<thead>
<tr>
<th>Response rate definition</th>
<th>Nonrespondent eligibility</th>
<th>Which surveys included</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Assume all nonrespondents are eligible</td>
<td>Fully completed</td>
<td>Surveys are distributed to a “physician son/daughter” group. All nonrespondents are included in the calculation based on an assumption that everyone in the group is eligible.</td>
</tr>
<tr>
<td>2</td>
<td>Fully and partially completed</td>
<td>Fully and partially completed</td>
<td>Surveys are distributed to all medical students. Based on student application data, 40% of students have a physician parent, so only 40% of nonrespondents are included in the calculation based on an estimate that 40% would be eligible.</td>
</tr>
<tr>
<td>3</td>
<td>Estimate the probability of nonrespondent eligibility</td>
<td>Fully completed</td>
<td>Surveys are distributed to all medical students. Based on student application data, 40% of students have a physician parent, so only 40% of nonrespondents are included in the calculation based on an estimate that 40% would be eligible.</td>
</tr>
<tr>
<td>4</td>
<td>Fully and partially completed</td>
<td>Fully and partially completed</td>
<td>Surveys are distributed only to students who indicated on their application that they have a physician parent. All nonrespondents are included in the calculation based on known information that all survey recipients are eligible.</td>
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</tbody>
</table>

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References:

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