

The STROBE checklist is not a quality evaluation form: it was developed as guidance for writing.

Challenges in turning the STROBE for case-control studies checklist into a form to score reporting quality

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Introduction and objectives

Investigating the quality of reporting requires an appropriate measurement tool. Reporting guidelines are considered the gold standard for achieving good reporting, but they are not designed to be used as reporting quality scoring tools. There is no guidance available on how to convert reporting guidelines into evaluation forms.

We describe three examples of the challenges of turning the *STROBE Case-Control* checklist into a tool to assess reporting quality.

Methods

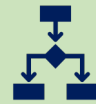
We are investigating the quality of reporting in case-control studies of pancreatic cancer in a research project funded by Cancer Research UK.

We turned the original 22 items from the *STROBE Case-Control* checklist into 96 questions. We formulated the questions to be suitable for evaluators with statistical and non-statistical backgrounds.

We excluded questions that were not appropriate for case-control studies, such as questions about case follow-up. We also excluded items that did not apply to reproducibility, such as questions pertaining to the discussion section.

Results

Conflicts arose between evaluators when assessing papers using the new form. These were situations where there was ambiguity or subjectivity, which we discuss below.



Flowchart

STROBE item: 13.c.: "Consider use of a flow diagram"

Question: Did the authors include a flow diagram?

EVALUATORS

What if the authors did not use a flowchart but described the patients' flow in the text?	Not reported	✓
	Reported	✓
What if the flowchart was incomplete or unclear?	Not reported	✓
	Reported	✓



Case ascertainment

STROBE item: 6.a.: "Give the: eligibility criteria, and the sources and methods of case ascertainment and control selection. Give the rationale for the choice of cases and controls"

Question: Did the authors give...? (item split into 8 questions)

EVALUATORS

What if the authors described inclusion and exclusion criteria, but they did not explain how they recruited cases?	Not reported	✓
	Reported	✓
What if authors explained how they searched for the cases, but not how they recruited the controls?	Not reported	✓
	Reported	✓
What if the authors described how they checked that a case was really a case, but failed to verify if controls were disease-free: is the whole 6.a item reported?	Not reported	✓
	Reported	✓



Sample size

STROBE item: 10: "Explain how the study size was arrived at"

Question: Did the authors explain how the study size was arrived at?

EVALUATORS

In case-control studies based on a previously described cohort, the authors gave only the size of that cohort and a "matched control group", but no sample size calculation. Is that enough?	Not reported	✓
	Reported	✓

Conclusions

Evaluation forms should be created with the purpose of scoring reporting quality, and validated.