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## Review

# Use of guidelines to improve the quality and transparency of reporting oral health research



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## ABSTRACT

**Objective:** The use of reporting guideline is directed at enhancing the completeness and transparency of biomedical publications. The aims of this paper are to present some of the key initiatives and guidelines providing indications and directions on the use of specific tools in oral health research.

**Methods:** The EQUATOR Network and five established guidelines (CONSORT, STROBE, PRISMA, CARE and SPIRIT) are introduced.

**Results:** Five guidelines are presented covering reporting of case reports, non-randomized studies, randomized controlled trials and systematic reviews. The importance of adherence to these guidelines by oral health researchers is emphasized.

**Conclusions:** Endorsement and robust implementation of reporting guidelines will translate into improved and more complete reporting in health research. Moreover, by ingraining the use of guidelines, it may be possible to indirectly improve the methodological quality of clinical studies. Active implementation strategies to encourage adherence to these guidelines among researchers, reviewers, editors and publishers may be an important facet in the advancement of knowledge in dentistry.

**Clinical significance:** Inadequate reporting of research can lead to wasted research resources and risks publication of inaccurate or misleading findings with implications on healthcare decisions. Familiarity and diligent compliance with methodological and reporting guidelines are therefore essential to maximize the yield from dental research.

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## 1. Introduction

There is overwhelming evidence that the quality of reporting of biomedical research is suboptimal.<sup>1</sup> Inadequate reporting has important downstream consequences for patient care and is common to both medical and dental research with several studies alluding to deficiencies in the reporting of trials published in a variety of dental journals and specialty areas.<sup>2-5</sup> Poor reporting has implications for different spheres of knowledge and understanding and risks having negative societal impacts by impacting on clinical decisions, allied research questions, and ultimately public health policy. Guidelines are typically presented as a checklist with completion of key items required to adequately inform end users including clinicians, researchers, and guideline and policy developers.<sup>6</sup>

All stakeholders, including researchers, journals editors, funding agencies, ethics committees and governments have a role in ensuring that guidelines are imbedded in research reporting. Various initiatives have been promoted in recent years directed at improving the completeness, quality and transparency of research with specific guidelines developed to help researchers improve the reporting of their research; ultimately, the latter are also likely to translate into improved design and conduct of research. Guideline development is an evolving area; recent developments can be followed on the EQUATOR Network ([www.equator-network.org](http://www.equator-network.org)).<sup>7-14</sup>

The aim of this paper is to raise awareness to key current initiatives and reporting guidelines used in biomedical reports among oral health researchers.

## 2. Reporting guidelines

This paper is based on six initiatives (Table 1): Enhancing the QUALity and Transparency Of health Research (EQUATOR) Network and five specific guidelines: CAse REports (CARE), Standard Protocol Items: Recommendations for Interventional Trials (SPIRIT), Consolidated Standards of Reporting Trials (CONSORT), Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) and Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA).

### 2.1. Enhancing the QUALity and Transparency Of health Research (EQUATOR Network)

The EQUATOR Network is an initiative led by an international team of health researchers, statisticians and research methodologists. The initiative is designed to encourage improvement in published health research literature through more complete and transparent reporting based on specific reporting guidelines and better research practices. The EQUATOR Network supports the development of initiatives aiming to improve the reporting quality of health-related research publications and the methodological quality of research

**Table 1 – Summary of the guidelines.**

Guideline	CARE	SPIRIT	CONSORT	STROBE	PRISMA
Used for	Case reports	Protocols of intervention trials	Randomized controlled trials	Observational studies	Systematic review of clinical trials and meta-analysis
Number of items	13 items	33 items	25 items and an specific for abstracts	22 items	27 items
Main topics	Title	Administrative informations	Title and abstract	Title and abstract	Title and abstract
	Keywords		Introduction	Introduction	Introduction
	Abstract	Methodological aspects (diagram with all schedules of the study)	Several items of methods	Several items of methods	Several items of methods (including full electronic search)
	Main text aspects including a timeline of the case (figure or table)	Items related to ethics and dissemination of results	Results (flow diagram is strongly recommended) and discussion	Results (consider use of a flow diagram) and discussion	Results (study selection through the four-phase flow diagram)
	Patient-reported outcomes		Other information (registration, protocol and funding)	Other information (registration, protocol and funding)	
	Ethical aspects				Discussion and funding
Extensions (yes/no)	No	No	Yes	No	Yes
Translations (yes/no)	Yes	Yes	Yes	Yes	Yes

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