

# Writing Case Report and Case Series for Family and Community Medicine Practice

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Case reports remain to be an essential part of knowledge generation in health care. It is a research design that involves writing about a patient's illness with either an unusual, new, unexpected, or unique characteristic. It can be about new findings, a novel diagnostic test, unfamiliar adverse events or innovative medical and surgical interventions. It is a detailed description of a patient's course of illness including symptoms, physical examination findings, laboratory results, treatment modalities and outcomes. The essential element of writing a case report or series is to contribute to the generation of new knowledge. Well-written manuscripts have a valuable purpose in medicine as they present new illness, unexpected effects of treatment, novel diagnostic exams or unforeseen patients' outcomes. The sections of a case report include an Abstract, Introduction or Background, Case Presentation [history, physical examinations, investigations or laboratories, differential diagnosis (if relevant), treatment (if relevant), outcome/follow-up, Discussion, Learning points/Take home messages, Patients perspectives and References. Manuscripts written as case reports or case series by nature of their design are not required to get approval from an Ethics Review Board (ERB). However, there should be an institutional process to clear and register papers. Case reports or a case series has its own distinctive writing components and features as not all single or series of clinical cases are reportable. This article aimed to define case reports/series, describe the different parts, how to write and evaluate a case report manuscript using the CARE guidelines.

**Key words:** case report writing, case series, CAreReport (CARE) guidelines

## INTRODUCTION

Writing case reports/series is an essential skill every family physician should learn. It is a simple way to generate and share new knowledge about diseases, laboratory testing, new interventions, management and patients outcomes. However, not all clinical cases encountered by physicians in the health facilities are suitable to be written as case reports due to its own distinctive features and writing requirements.

A case report is a research design that involves writing about a patient's illness with either an unusual, new, unexpected or unique

characteristic. It can be about new findings, unfamiliar adverse events, innovative interventions that has not been extensively reported in the medical literature.<sup>1</sup>

This article aimed to define case reports/series, describe the different parts, how to write and evaluate a case report manuscript using the CARE guidelines.<sup>2</sup>

## Definition of Case Reports/Case Series

Case reports are detailed descriptions of a patient's course of illness including symptoms, physical examination findings, laboratory results, treatment modalities and outcomes. Its purpose is to generate new knowledge, communicate a clinical message, or anecdotal narration of a peculiar case through scientific publications.<sup>3</sup> On the other hand, case series involves a small number of people with the uncommon characteristic, had received a new diagnostic procedure or

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a pioneering treatment intervention. It describes the differences of a single case among a small collection of patients which can range from 2 to 20 individuals.

Sample published case report and a case series in family and community practice can be downloaded as full manuscripts from the The Filipino Family Physician (FFP) Journal.<sup>4,5</sup> These publications were about cross-infection of SARS-COV2 and antibody levels of health care workers after primary series of COVID-19 vaccination.

### Why Write Case Report/Case Series

The essential element of writing a case report or series is to contribute to the generation of new knowledge. Well-written manuscripts have a valuable purpose in medicine as they present new diseases, unexpected effects of treatment, novel diagnostic exams or unforeseen patients' outcomes. Wang in 2014 cited that case reports have the following functions: description of new diseases, study of mechanisms, discovery of new therapies, recognition of side effects and education.

The potential roles of case reports and case series were well-described by Vandenbroucke in a 2001 manuscript. The author supported the valuable purpose of case reports in the history of medicine.<sup>7</sup> The oldest known example of preserved clinical case was dated from 16th to the 17th dynasty and was a description of management of a dislocated jawbone.<sup>6</sup> In 865–929 AD, a 25-volume medical encyclopedia called "Kitab Al-Hawi" by Abu Bakr Mohamed Ibn Zakariya Al-Razi contained a large collection of case reports.<sup>6</sup>

Similarly, the descriptive names of modern day diseases have originated from case reports of their primary authors. In 1817, a report by James Parkinson, entitled "An essay on the shaking palsy" contributed to the discovery of Parkinson's Disease while Gottlieb in 1981 had described the disseminated Kaposi's sarcoma in a young homosexual which lead to awareness of Acquired Immunodeficiency Disease Syndrome.<sup>8</sup>

It is also a venue to document adverse events from medications or other therapeutic interventions. An article written by McBride in 1961 led to the discovery that thalidomide, a widely used medication for treatment of nausea in pregnancy, caused several congenital abnormalities.<sup>9</sup>

Case reports can also be the first documentation of new disease or a novel virus. The first COVID-19 infections in the Philippines were described by Edrada et al while the case in the United States was also published as a case report by Holshue et al in 2020.<sup>10,11</sup> A case series on antibody levels after the primary doses of COVID-19 vaccinations in three health care workers locally was written and published by Meija et al. These case report publications helped propel the progress of COVID-19 diagnosis and management through documentation of illness courses, mechanisms and information dissemination.

### Steps in Writing Case Reports

Generally, case reports have the following sections: Abstract, Introduction or Background, Case Presentation [history, physical examinations, investigations or laboratories, differential diagnosis

(if relevant), treatment (if relevant), outcome/follow-up], Discussion, Learning points/Take home messages, Patients perspectives and References.

It is usually shorter in length compared to other research manuscripts and format will vary depending on journal. It is always a good idea to read the journals' instructions to authors beforehand. A summary guide of the required sections of case reports and its vital contents are provided in Table 1.

**Table 1.** Guide for writing case reports based on sections and its contents\*

<b>Title</b>	Should be brief, concise, informative, relevant <sup>2</sup> Less than 12 phrases Must contain the focus of the case being presented Should include the phrase: Case Report
<b>Abstract</b>	No More than 150-200 words Contains a summary of the Case Usually unstructured and does not contain references <sup>2</sup> Must have a 2-5 keywords written in Italics
<b>Introduction/Background</b>	Typically has 3-4 paragraphs Provide background information on why the paper is worth reading Should be able to attract readers Explains the central feature or core of the case Include a focused review of literature to support authors' views
<b>Case Presentation</b>	Presented in chronological order Include both negative and positive findings Subsections include: History, Physical examinations, Laboratory findings, Treatment and Outcome and follow-up
<b>Discussion</b>	Considered to be the most important part of the case report Summarizes and interprets the key findings presented by the case Justify the "uniqueness" of the case presented State the new knowledge and its implications to clinical practice Include a summary of the existing literature related to the topic
<b>Patients Perspective</b>	Optional section Provides the patients an opportunity to comment on experience
<b>Learning Points or Take Home Messages</b>	Should only be 3-5 bullet points Usually a required section of a case report
<b>Acknowledgments</b>	Optional section Should only include individuals whose help in the case report do not justify authorship

\*based on summarized information from existing literature and <https://www.care-statement.org/> (Do Review References)

The first step when writing an unusual patient case into a manuscript is to begin a meeting with all physicians involved in the diagnosis and management. The objective of the discussion is to review the interesting, focal and learning points of the case. Publication of any patient's personal data including disease course or therapeutic interventions requires a written informed consent. Hence, securing permission and assent for possible publication from the patient or their families and next of kin if needed is the next crucial step. Informed consent forms for publications can be downloaded from journals websites such as BMJ case reports (<https://authors.bmj.com>). Unfortunately, as of December 2022, there is no Filipino translation of the BMJ patient informed consent for publication purposes.

Data gathering through review of medical records, laboratory and/or radiology databases begins only after informed consent has been obtained. Writing the manuscript can be coordinated among the team members using the guide for writing case report presented in Table 1. Authors should ensure that the case report have enough information so that readers can learn and understand the course of the disease but it also has to be concise that unnecessary details are eliminated.

#### Ethical Considerations and Issues

Manuscripts written as case reports or case series by nature of its design are not required to get approval from an Ethics Review Board (ERB). However, there should be an institutional process to clear and register papers in order to screen issues on ethical handling of patients medical information and data.<sup>13</sup>

Informed consent and confidentiality of information are the two main ethical issues in writing case reports/series.<sup>12</sup> A signed informed consent should be obtained from patient/s or representative (in case of minors) prior to gathering or consolidation of any medical information and publication. It must conveyed clearly what information will be gathered and where it will be used (case presentation or publication).<sup>14</sup> On the other hand, confidentiality in writing case reports/series meant removing all potential identifiers, personal identity (age, family history, or job status) or traceable information in all ancillary data.<sup>12</sup>

Authorship is an issue that research teams also need to consider before writing a case report/series. The International Committee of Medical Journal Editors (ICMJE) recommends that prospective authors of research manuscripts must fulfill all four criteria listed in Table 2.<sup>15</sup> Prospective authors of case report/series must be informed and fulfill all 4 of the criteria enumerated. Individual contributors who were not able to fulfill all four criteria but had an essential role in the study should be listed in the acknowledgement section of the paper. Essential roles that must be acknowledged may include but are not limited to data collection, direct care to the index case or a scientific advisor. However, individuals whose sole involvement in the paper include financial provision or acquisition, general administrative supervision or support, technical writing assistance, editing and proofreading are not considered as contributors.<sup>15</sup>

Plagiarism is also an issue that should be evaluated when writing case reports / series. The University of Oxford defined it as "presenting someone else's work or ideas as your own, with or without their consent, by incorporating it into your work without full acknowledgement".<sup>16</sup>

**Table 2.** International Committee of Medical Journal Editors criteria for authorship.

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| 1. Substantial contributions to the conception or design of the work; or the acquisition, analysis, or interpretation of data for the work;  |
| AND  |
| 2. Drafting the work or revising it critically for important intellectual content;   |
| AND  |
| 3. Final approval of the version to be published;  |
| AND  |
| 4. Agreement to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved |

The American Medical Association has grouped plagiarism into four general groups: direct, paraphrasing, mosaic plagiarism and insufficient acknowledgement.<sup>17</sup> The common factor among these different types is there is inappropriate, partial or improper citation of the author. Hence, plagiarism checks should be done by the primary investigator or research mentors.

There are available online softwares that check plagiarism thru calculation of a percent similarity index and are either free or paid subscriptions. Common softwares include Grammarly, Turnitin, iThenticate, Quetext, Unicheck, Plagiarism, Copyscape, Plagium or Scribbr. The cut-off for percentage of similarity index may vary according to the level set by the different academic institutions. The Department of Family and Community Medicine of the University of the Philippines-Philippine General Hospital (UP-PGH) had been utilizing a cut-off of less than 30% similarity index based on output of Turnitin for research publication. It should be emphasized however, that the percent similarity index by itself is not an evidence of plagiarism. Papers with greater than the institutional cut-off level for similarity index must be independently evaluated again by at least three faculty.

#### Case Report (CARE) Guidelines

Guidelines for writing different types of manuscripts are available for a variety of study designs: randomized controlled trials (Consolidated Standards of Reporting Trials, or CONSORT), observational studies (Strengthening the Reporting of Observational studies in Epidemiology, or STROBE), and systematic reviews and meta-analyses (Preferred Reporting Items for Systematic Reviews and Meta-Analyses, or PRISMA).

The Case Report (CARE) Guidelines checklist was created in order to improve the accuracy, transparency and usefulness of case reports. It is a 13-item checklist that contains questions on the following: Title, Keywords, Abstract, Introduction, Patient Information, Clinical Findings, Timeline, Diagnostic Assessment, Therapeutic Intervention, Follow-up and outcomes, Discussion, Patient perspective and Informed Consent.<sup>18</sup> The checklist may be accessed through this website: <https://www.equator-network.org/reporting-guidelines/care/>

The recommended formats by PAFP listed in Table 1 are aligned to the guidelines provided by CARE checklist.

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