

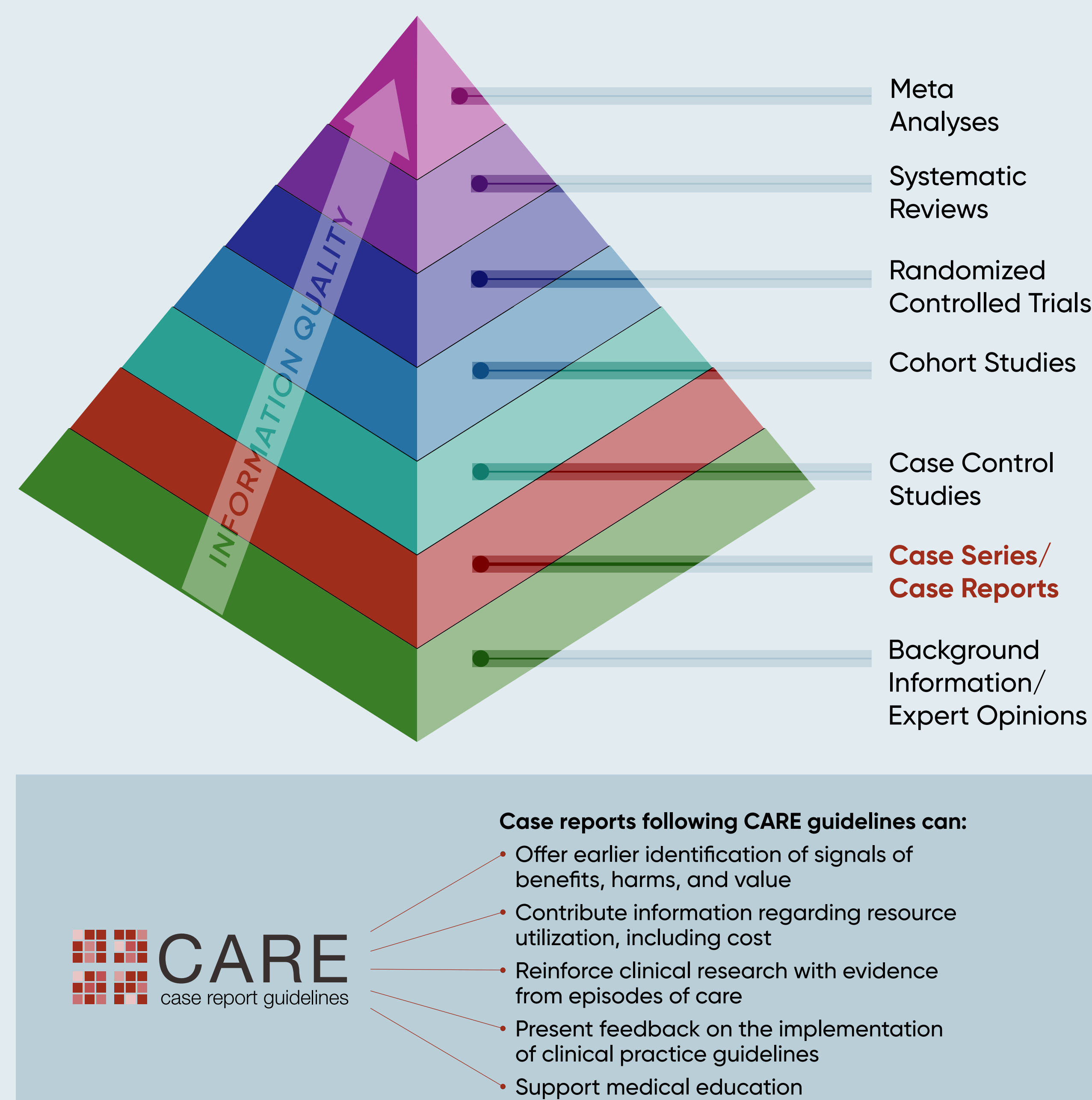
Storytelling through case studies: increased incidence in the scientific literature

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BACKGROUND

- Though scientific publications are traditionally driven by large datasets and controlled trials, our anecdotal experience suggests that case study publications have become increasingly prevalent.
- The use of case studies to support health care decisions falls relatively low within the hierarchy of evidence-based medicine (**Figure 1**); however, their value may be underestimated.¹
- Historically, case studies were the primary means of sharing medical expertise, and they continue to be a powerful narrative strategy and an important educational tool.¹⁻³
- The **CAse REport (CARE)** guidelines were developed to improve and promote the accuracy and transparency of case reports and health research reporting (**Figure 1**).^{3,4}

Figure 1. Hierarchy of Evidence-Based Medicine



This pyramid graphic is commonly shown online and in published sources; the original grades of recommendations were published by Guyatt et al. in 1995.⁵ CARE support statements adapted from website guidelines: <https://www.care-statement.org/case-reports>⁵

OBJECTIVES

- To examine whether and to what extent the publication of case studies has increased in recent decades and what accompanying changes may be reflected in case study-specific journals.
- To share practical insights for case study development beyond those covered by CARE guidelines.

METHODS

- In order to evaluate a potential increase in the proportion of case study publications over time, PubMed searches were conducted on March 28, 2024 (**Figure 2**):
 - The initial search was “case study[Title] OR case series[Title] OR case report[Title].”
 - The inclusion of “AND patient” was used to avoid the many agricultural and engineering publications not relevant to clinical scenarios.
 - Citations were then filtered for publication year by decade (1990–1999, 2000–2009, 2010–2019, or 2020–2022).
 - Finally, the percentage of case study publications among all PubMed citations was calculated by decade.
 - Publications from 2023 and beyond were not included in this calculation, as the total number of PubMed citations were based on those publications reported by the National Library of Medicine,⁶ which are only available through 2022.
- In order to quantify the availability of case study-specific journals, a database search using Anju Sylogent Software (PubStrat) was conducted on January 9, 2024. Given the limited number of results following that initial search, a secondary search using PubsHub™ Journals & Congresses™ (ICON plc) was conducted on March 28, 2024.
 - Journals were filtered for the word “case” in the title and then ordered by the year of the journal’s start date.
 - In PubsHub Journals & Congresses, ceased journals were excluded from the search.

RESULTS

- Since 1990, the number of case study publications have increased over time (**Figure 2**).
 - Interestingly, the 10-year period from 2010–2019 had an average of 8,149 publications per year (81,485/10), while the 3-year period from 2020–2022 had an average of 20,154 publications per year (60,461/3).
- There also has been an increased rate of case study publications, as the percentage of these publications within scientific literature has increased 6-fold since 1990, from 0.33% to 1.97% (**Figure 3**).
- This is consistent with the corresponding increase in case study-specific journals, the majority (84%; 62/74) of which have been created since 2010 (**Figure 4** and **Supplemental Table** [via QR code]).
 - Of the 74 unique case study-specific journals, 22 were identified via Sylogent and 65 via PubsHub Journals & Congresses.

Figure 2. PubMed Search Strategy and Results^a

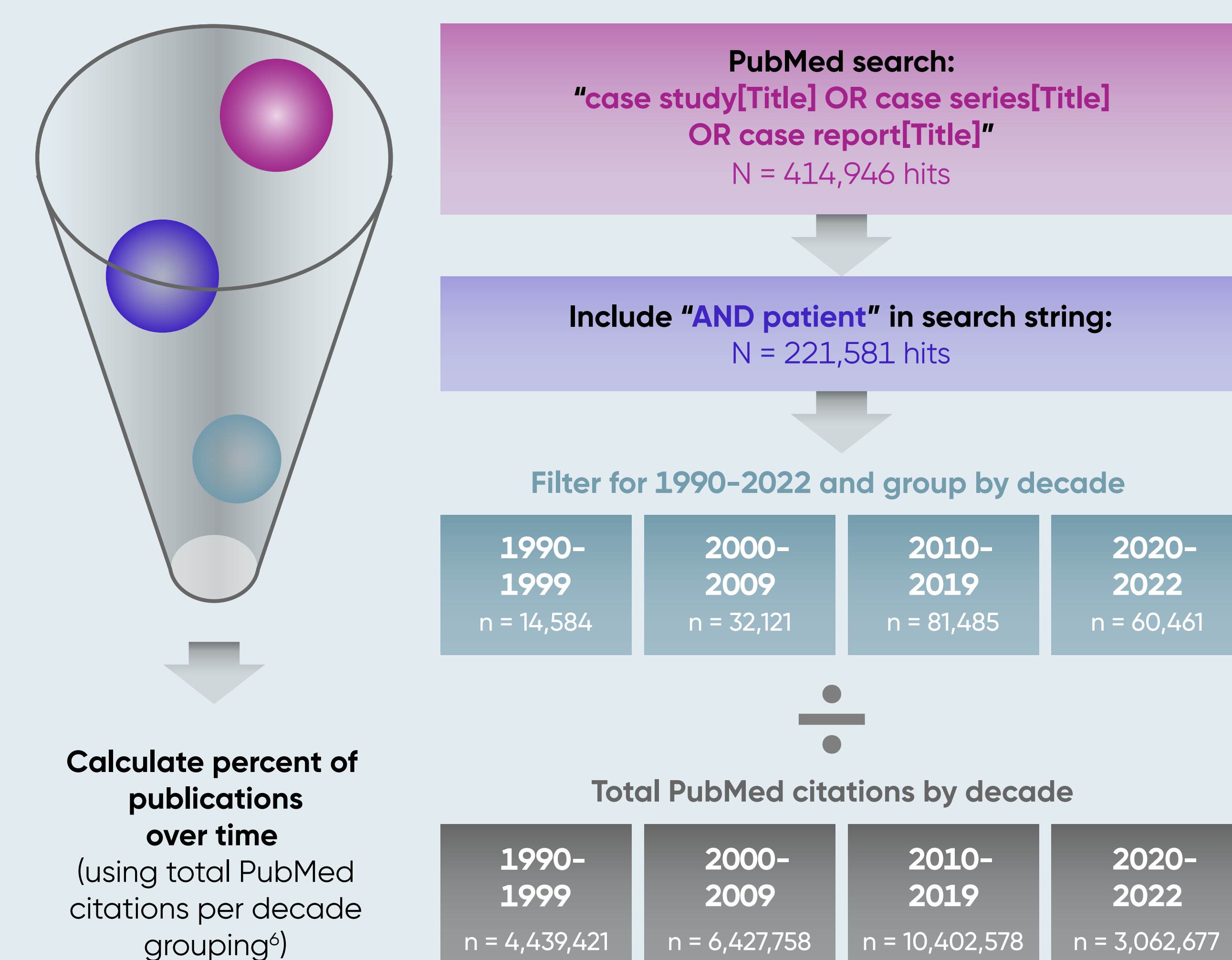


Figure 3. Percentage of Case Study Publications Over Time

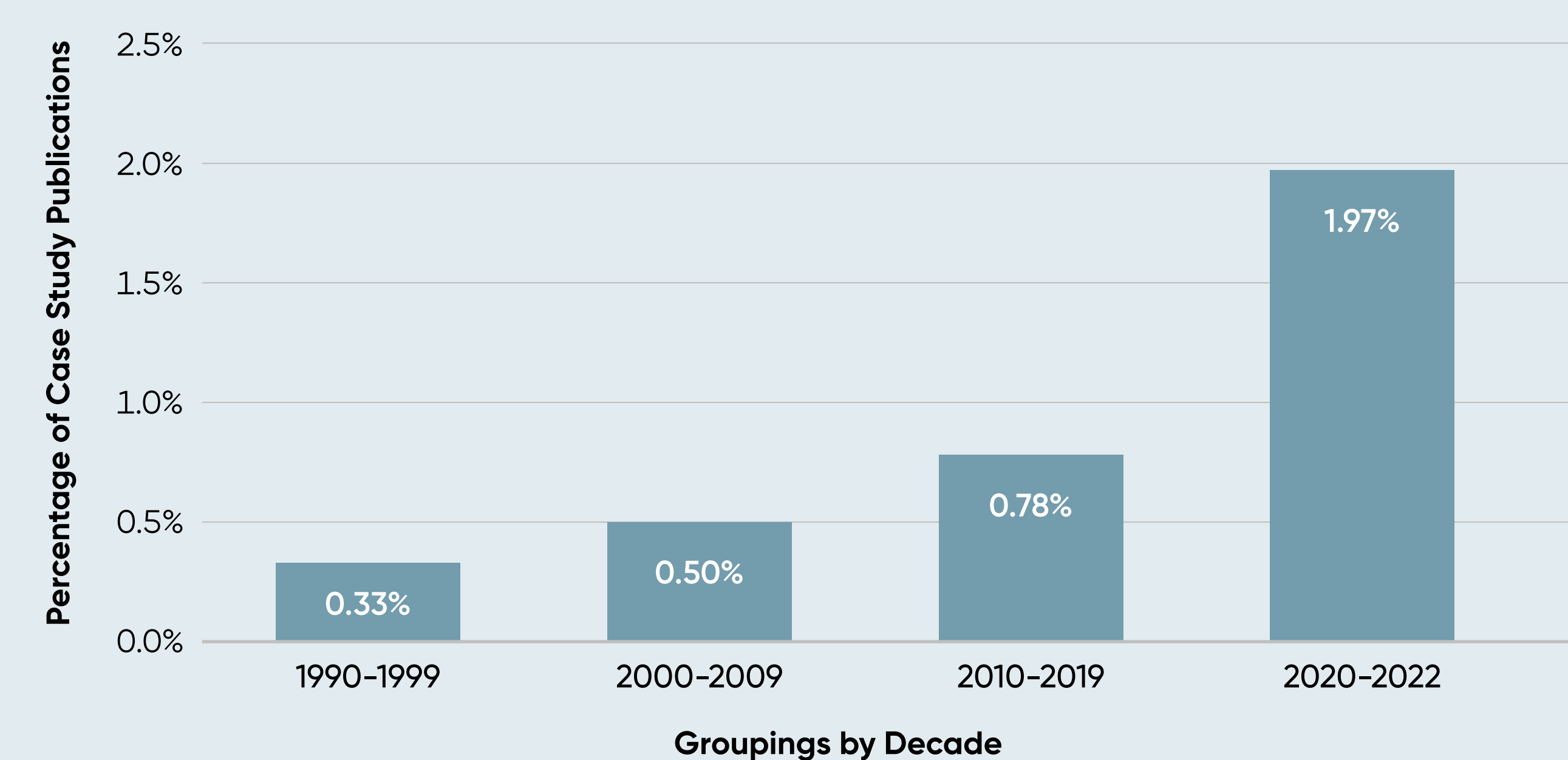
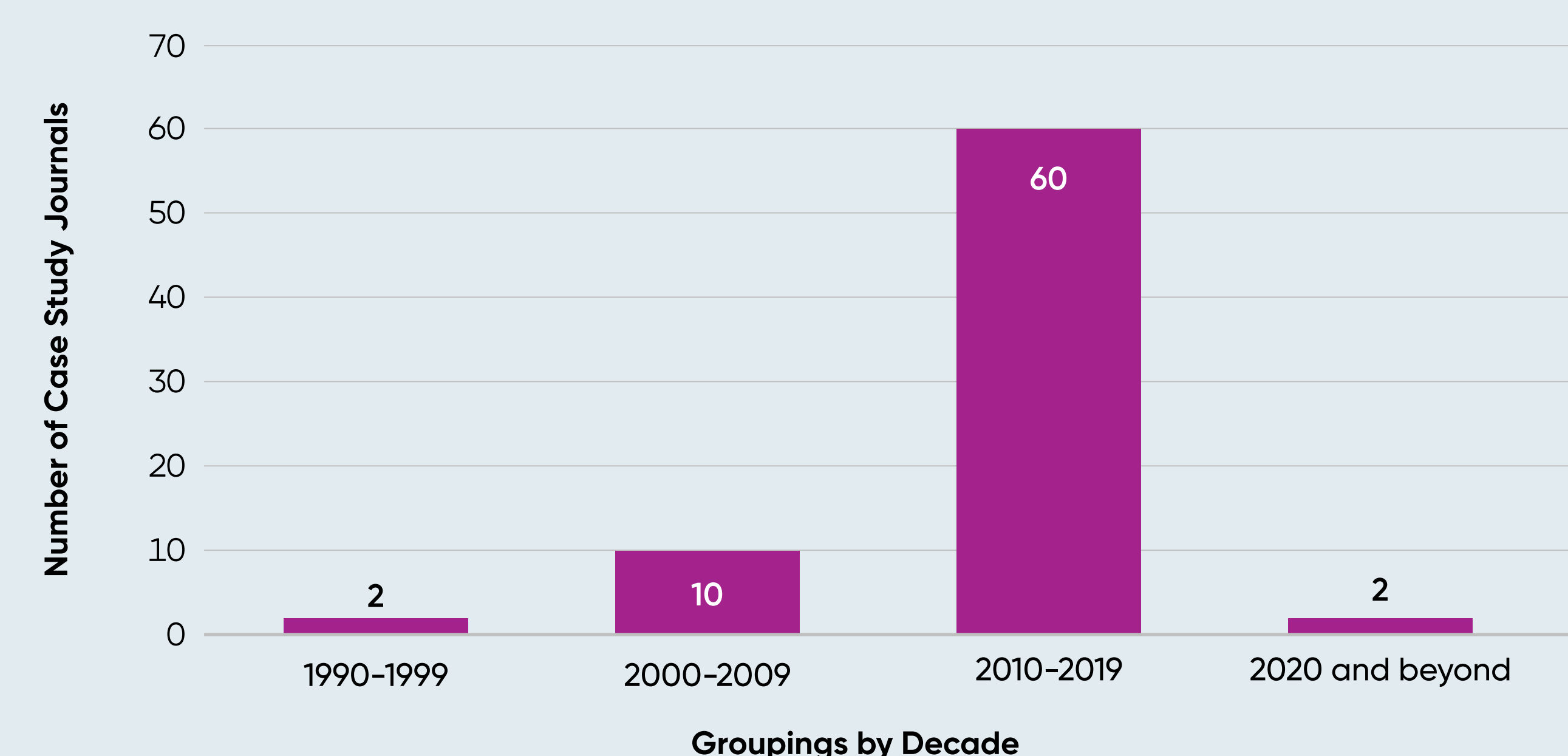


Figure 4. Number of Case Study-Specific Journals^a by Start Year



^aJournals with the word “case” in the journal’s title (see the Supplemental Table for a full list of the journals).

LIMITATIONS

- Since the PubMed search process was not used to independently evaluate all citations given the large number of overall hits (>200,000), the data analysis was limited by the following:
 - Inclusion of articles that may not have been applicable
 - The potential for missing publications (eg, applicable articles that did not include the search terms in the title or that were filtered out when selecting for articles with the word “patient”)
 - Lack of analysis for articles published after 2022
- The journal search process was limited by the databases used.
 - Interestingly, only 22 journals were identified via Sylogent, which was approximately one-third of those identified via PubsHub Journals & Congresses (65 journals).
 - An article from 2016 reported that as of mid-2015, there were 160 new peer-reviewed journals (from 78 publishers) focusing on case reports—greater than what was reported in our analyses; however, the author noted that approximately half of those publishers (corresponding to 49 journals) engaged in questionable or “predatory” publishing practices.⁷

DISCUSSION

- The value of case studies has been increasingly recognized within the scientific literature.
- Such experience-based findings can be an important part of storytelling that captures individual patient experiences and challenges, especially in rare diseases in which large clinical trial datasets are usually not possible.⁸
- Moreover, reports of individual experiences with disease, burden, and treatment can directly educate health care practitioners.
- As these types of publications may continue to increase, professional medical writers should take a careful and transparent approach to maintain scientific rigor and reduce bias.

INSIGHTS FOR MEDICAL PUBLICATION PROFESSIONALS

- Despite the increased prevalence of case reports in scientific literature, publication planning professionals may have relatively less experience supporting this type of project, particularly given that our involvement is often linked with high-priority, large-dataset publications.
- CARE guidelines provide an important framework for approaching a case study publication.^{3,4} In addition, we have compiled a set of practical tips based on our learnings to date to provide peer-to-peer advice and to strengthen the storytelling aspect of case studies (**Figure 5**).

Figure 5. Summary of Insights for Successful Case Study Publications



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SCAN QR CODE

