BMJ Open

Assessing the impact, uptake and use of reporting guidelines for patient and public involvement in research: GRIPP2 – study protocol for a meta-research project

Ferrán Catalá-López ,[1,2,3] Ernesto Ganuza,[1] Adolfo Alonso-Arroyo ,[4,5] Roberta Perna ,[1] Andrea C Tricco ,[6,7] Brian Hutton ,[2,8] Constance Colin,[9] Laura Tejedor-Romero ,[10] Manuel Ridao,[11,12] Núria Bautista-Puig ,[13] Rafael Tabarés-Seisdedos ,[3,14] Rafael Aleixandre-Benavent,[5,15] Begonya Nafria-Escalera,[16,17] Sophie Staniszewska ,[18] David Moher [2,8]

To cite: Catalá-López F, Ganuza E, Alonso-Arroyo A, *et al*. Assessing the impact, uptake and use of reporting guidelines for patient and public involvement in research: GRIPP2 – study protocol for a meta-research project. *BMJ Open* 2026;**16**:e115612. doi:10.1136/bmjopen-2025-115612

► Prepublication history and additional supplemental material for this paper are available online. To view these files, please visit the journal online (https://doi.org/10.1136/bmjopen-2025-115612).

Received 18 December 2025
Accepted 25 March 2026

For numbered affiliations see end of article.

Correspondence to
Dr Ferrán Catalá-López; ferran_catala@outlook.com

ABSTRACT

Introduction Patient and public involvement (PPI) in research is increasingly recognised for its potential to enhance feasibility, improve relevance and foster collaboration at different stages of a study. Reporting guidelines such as GRIPP2 (Guidance for Reporting Involvement of Patients and the Public) have been developed to help improve completeness and transparency in PPI reporting. This meta-research project aims to assess the impact of the GRIPP2 reporting guidelines through citation and alternative metrics, analysing its uptake or adoption across authors, institutions, journals and countries, as well as its practical application in reporting PPI within diverse research designs.

Methods and analysis This protocol for a meta-research project consists of two studies. In Study 1, we will conduct a search across Web of Science, Scopus and Google Scholar to identify all publications citing the GRIPP2 guidelines (planned for July 2026 using forward citation analysis). Retrieved records will undergo standardised processing and structured de-duplication to ensure each citing article is represented once. Following de-duplication, data from unique citations—including title, publication year, journal, subject category, keywords, document type, citations, authors' names, institutional affiliations, country and funding sources—will be collected. Citation counts, alternative metrics (eg, mentions in policy documents, news media) and knowledge production patterns across authors, institutions, journals and countries will be analysed to assess GRIPP2's impact and uptake of the guidelines. Descriptive analyses will be conducted (including the number of papers, citations, authors, countries, journals, keywords, funding, field distribution and main collaboration metrics). Network analyses will be carried out to study the structure of collaborations. In Study 2, we will evaluate a random sample of 300 research articles citing GRIPP2, including randomised trials (n=100), systematic reviews with meta-analyses (n=100) and health economic evaluations (n=100). If an insufficient number of citing studies are available within these categories, we will include additional study types identified in Study 1 (eg, study protocols, observational studies, mixed-methods or qualitative research studies and other types of reviews). Reporting and PPI practices in each article will be extracted by at least two researchers using a standardised data extraction form. Information on general, methodological and PPI items will be analysed and reported, stratified by study design (eg, randomised trials vs systematic reviews vs health economic evaluations).

Ethics and dissemination Due to the nature of the proposed study, no ethical approval will be required. All data will be deposited in a cross-disciplinary public repository. It is anticipated the study findings could be relevant to a variety of audiences. Study findings will be disseminated at scientific conferences and published in peer-reviewed journals.

Trial registration number Open Science Framework: https://osf.io/et85d

STRENGTHS AND LIMITATIONS OF THIS STUDY

⇒ A structured meta-research design will be used to evaluate the impact, uptake and use of GRIPP2 (Guidance for Reporting Involvement of Patients and the Public) reporting guidelines in published and grey literature.
⇒ A comprehensive assessment will be conducted without restrictions by document type, medical specialty, disease area or intervention.
⇒ Predefined criteria will be used to evaluate how patient and public involvement reporting practices and GRIPP2 guidance were applied in research.
⇒ The study will be limited to records that explicitly cite GRIPP2, potentially excluding relevant studies that did not reference the guideline.

BACKGROUND

Science is moving towards more participatory knowledge creation, incorporating diverse perspectives to better address challenges, improve decision-making and strengthen equity.[1–3] New engagement forms,[4] especially

in health and social care research, involve the public in generating knowledge that directly affects their lives and shapes research agendas. In this context, patient and public involvement (PPI) in research[5] has become crucial for aligning studies with the priorities of those they aim to benefit. Meaningful PPI not only ensures that research addresses real-world needs but can also help identify knowledge gaps that influence outcomes relevant to patients. Incorporating patient and public perspectives ensures research remains relevant and collaborative throughout study planning, design, conduct and dissemination.[6 7] Though relatively new in many countries, the potential of PPI to enhance research quality and relevance is widely recognised.[5–9] Countries such as the UK and Canada are leading its development and integration in health and social care research. In the UK, PPI is established through the National Institute for Health Research, which promotes research conducted 'with' or 'by' the public, rather than 'to', 'about' or 'for' them.[5 6] Canada has similarly strong frameworks through the Strategy for Patient-Oriented Research, supported by the Canadian Institutes of Health Research, involving patients, caregivers, researchers and other interest holders to embed research into care.[7 8] In the USA, the Patient-Centered Outcomes Research Institute (PCORI) promotes research that prioritises patients by funding studies that actively engage them throughout the research process.[9] Patient involvement is also evident in regulatory activities (eg, at the European Medicines Agency, US Food and Drug Administration and Health Canada), where patients contribute to drug development and evaluation, help shape guidelines, review evidence and inform decision-making.

PPI in research contributes to enhancing the impact of studies, supports inclusive decision-making, builds community capacity promoting more equitable power relations and greater transparency and trust in science.[10–12] GRIPP2 ('Guidance for Reporting Involvement of Patients and the Public') was developed as the first set of international, evidence-based guidelines created through expert consensus.[13–15] GRIPP2 is available in two formats—a long form (GRIPP2-LF) and a short form (GRIPP2-SF)—to suit different study types and reporting needs. Both versions aim to improve transparency, consistency and overall quality in reporting PPI in health and social care research, ensuring that practices are informed by the best evidence.

Several academic journals,[16–19] including *The BMJ* (since 2014),[16] have formally endorsed PPI by requiring authors to report if and how patients and the public were involved in shaping research questions, selecting outcomes, designing, conducting and disseminating studies. Following these policies, multiple studies—mainly focused on randomised trials[20–25]—have examined how often PPI appears in published research. However, there is still limited understanding of how PPI is applied across different study designs and research settings. Evidence suggests that PPI can enhance study relevance and improve participant recruitment in trials,[26] but the extent to which PPI is embedded within researchers and institutional practices, and the challenges of assessing its effectiveness remain ongoing areas of research.

Although reporting guidelines such as GRIPP2[13–15] have likely contributed to advancing global efforts to improve the reporting of PPI in research, a systematic evaluation of their impact within the scientific literature has not yet been conducted. Previous analyses have primarily examined the characteristics and development processes of multiple reporting guidelines,[27 28] completeness of reporting across different areas of health research,[29–32] appropriateness of their use,[33] citation metrics (often without covering extended periods since the publication of GRIPP2)[34 35] and their endorsement by high-impact medical journals.[36] In this context, the proposed meta-research project consists of two studies seeking to fill some of these gaps by analysing the full body of knowledge citing GRIPP2 articles. Specifically, we will evaluate the *impact* of GRIPP2 using citation-based indicators and alternative metrics; its *uptake* by mapping citation patterns across authors, institutions, journals, subject categories and geographical regions (Study 1); and its *use* through a content analysis of a random sample of citing articles, focusing on the extent to which GRIPP2 is applied in the reporting of PPI across various key research designs (Study 2). Specifically, this meta-research project will address the following questions:

1. What is the impact of the GRIPP2 reporting guidelines—according to citation and alternative metrics (eg, total citations, mentions in policy documents and news media)—and how widely, and in what contexts, has it been cited across the scientific literature (eg, articles, journals, main subject area or discipline, authors, institutions, countries and their collaboration patterns)?
2. To what extent is PPI reported in research citing GRIPP2, and how complete and focused is such reporting across different study types (eg, randomised trials, systematic reviews and health economic evaluations)?
3. How have researchers referred to or applied GRIPP2 in studies reporting PPI in research (eg, exploring the nature and appropriateness of use of GRIPP2 across different studies)?

MATERIAL AND METHODS

This protocol presents our plans for a meta-research project consisting of two studies to address our three research questions. Prior to the project start, this protocol will be registered within the Open Science Framework platform (registration number: https://osf.io/et85d). Although this protocol is for a meta-research project, and not a systematic review of health interventions, our study protocol is reported in accordance with the reporting guidance from the Preferred Reporting Items for Systematic Reviews and Meta-Analyses Protocols (PRISMA-P) statement[37 38] with not applicable indicated for items

that do not pertain to meta-research studies (see online supplemental appendix 1).

Eligibility criteria

We will include all references citing at least one of the core GRIPP2 articles[13–15] regardless of field domain (eg, health, social, education), with no restrictions on language, country, study design or publication type. For example, studies published in any language, such as German, will be eligible if they cite GRIPP2 articles.[13–15] The primary publication of interest is the version published in *The BMJ* in August 2017, authored by Staniszewska *et al*.[13] However, to account for copublication across multiple journals, we will also identify citations to identical version published in *Research Involvement and Engagement*.[14] Additionally, we will include citations to the methodological article describing the development and consensus process for the GRIPP2 reporting guidelines,[15] as it details the critical stages of consensus development applied to GRIPP2. Adaptations and/or translations of GRIPP2 (eg, Chinese or Spanish versions)[39 40] will not be included, as these may represent derivative versions of the original checklists. This approach ensures that the project captures the impact, uptake and use of the original 2017 GRIPP2 guidance[13–15] across languages while maintaining methodological consistency.

Data sources and searches

In July 2026, we plan to conduct a forward citation analysis of all published articles citing at least one of the GRIPP2 articles.[13–15] To ensure comprehensive coverage of the scholarly literature citing GRIPP2, we will search three major citation databases: Web of Science (Clarivate Analytics, Philadelphia, USA), Scopus (Elsevier, Amsterdam, The Netherlands) and Google Scholar (Google LLC, Mountain View, USA). These sources were selected for their complementary strengths in citation indexing.[41 42] Web of Science offers high-quality, curated records and robust cited-reference tracking, enabling precise identification of citations to specific publications. Scopus offers broad disciplinary coverage—including health, life and social sciences—alongside advanced citation analysis tools and structured metadata. While Google Scholar is less curated and may contain more inconsistencies, it offers the most extensive coverage, including grey literature (eg, health technology and policy reports), making it valuable for identifying citations not captured by traditional databases.

All three databases will be queried independently to maximise retrieval of all relevant citations and to obtain all full reference details (eg, titles, abstracts and associated metadata) for the citation record. In Web of Science, we will perform a cited reference search using digital object identifier (DOI), author names, title, publication year and/or variations in the source journal titles to ensure retrieval of all citation variants. In Scopus, we will use the 'Cited by' function associated with the DOI of each version of GRIPP2. In Google Scholar, we will manually identify the core articles and extract their citing documents using the 'Cited by' function. To facilitate the export and processing of Google Scholar data, we will use the Publish or Perish software (V.8 or later),[43] which allows batch downloading of citation metadata.

De-duplication

Since overlap is expected across the three citation databases, we will perform a structured de-duplication process to ensure that each citing article is included only once. The exported records will be imported into a Microsoft Access database (Microsoft, Seattle, USA) for further processing. Before de-duplication, all fields will be standardised to reduce variations that may prevent accurate matching. This includes harmonising author names, institutions, countries and journals, removing unnecessary punctuation and normalising names and capitalisation (described in previous meta-research conducted by our team[35 44 45]). Records will then be compared using a combination of matching criteria, including DOI, article title, first author, publication year and journal name. Where DOIs are available, they will be used as the primary key for identifying duplicates. If DOIs are missing, a combination of title and author-based matching will be used. In cases where duplicates are identified, the version with the most complete metadata will be retained. The de-duplication process will be documented in detail, and the number of duplicates removed from each source will be reported. To ensure quality control, a 20% random sample of the final dataset will be independently reviewed by two researchers, with input from a patient representative/PPI expert (BN-E), to confirm the accuracy of the de-duplication process. Any discrepancies will be resolved through discussion, and, if needed, a third researcher will adjudicate unresolved conflicts.

Data collection

Study 1: evaluation of the citation impact and the uptake of the GRIPP2 guidelines

For each of the GRIPP2 articles,[13–15] we will retrieve the following information: citation counts (from the Web of Science, Scopus and Google Scholar), alternative metrics (such as Altmetrics and PlumX data, including mentions in policy documents, news media, social platforms, blogs, social media and readership indicators from reference management platforms such as Mendeley) and a comprehensive list of all articles citing each GRIPP2 core article. Complementarily, potential policy impact will be assessed through Overton's Index (https://www.overton.io/overton-index)[46 47]—a database of policy documents from sources like governments, agencies, non-governmental organisations and think tanks—by extracting any accessible mentions or citations of the GRIPP2 articles[13–15] in policy documents. Following de-duplication, metadata from all unique citing records will be exported in compatible formats (eg, CSV or RIS). For each record, we will collect information including the title, year of publication, journal name, journal type (eg,

open access, subscription-based, hybrid), list of authors, sex/gender of corresponding author (using Genderize: https://genderize.io/),[48] institutional affiliations, countries, funding source, document type as classified by the database or journal (eg, original research article, review, editorial, letter), broad field domain (eg, health, social, education, multidisciplinary), subject area or discipline (as per Web of Science or Scopus, eg, general/internal medicine, oncology, psychiatry), abstract, keywords associated with the article, identification of which core article(s) were cited and database source. Where possible, we will also record the number of citations that each citing record or article has received to explore secondary citation impact. Records from each database will be collected independently and stored in a master citation database constructed in Microsoft Access (Microsoft, Seattle, USA).

Study 2: evaluation of the use of GRIPP2 and reporting of PPI in a random sample of studies of various study types

We will conduct a cross-sectional analysis of a random sample of 300 research articles citing GRIPP2, including randomised trials (n=100), systematic reviews with meta-analyses (n=100) and health economic evaluations (n=100)—which represent the cornerstone of evidence-based practice and policy.[49 50] From the complete list of all articles citing GRIPP2, we will select a random sample of 300 for detailed analysis. To ensure proportional representation over time, we will include a minimum of approximately 34 studies from each year (around 12 per study design typology), starting from the most recent search results and working backwards to 2017—the year GRIPP2 was published.[13–15] Random selection will be performed using a computerised random sequence generator (https://www.random.org/sequences/). If an insufficient number of citing studies are available within any of these predefined categories, additional study types identified in Study 1 (eg, study protocols, observational studies, qualitative research, other types of reviews such as scoping reviews, guidelines) will be included solely to achieve the target sample size of 300. To prioritise relevance, we will first include published protocols corresponding to the primary study designs (eg, randomised trials, systematic reviews with meta-analyses and health economic evaluations). If the target number is not reached, eligibility will be expanded according to a predefined hierarchy: (1) observational studies (eg, cohort and case–control) and/or their protocols; (2) mixed-methods or qualitative studies and/or their protocols; and (3) other review types (eg, scoping reviews). These supplementary study types will not be combined with the primary categories for comparative analyses. Analyses of randomised trials, systematic reviews with meta-analyses and health economic evaluations will remain distinct, while additional study types will be reported separately to provide a comprehensive overview of PPI reporting practices and patterns. We will not perform a formal sample size calculation, as our objective is to describe multiple indicators that are all considered equally important.

Reporting and PPI practices in each article will be extracted by at least two researchers using a standardised data extraction form, which will be pilot-tested and refined until a final version is established. All data extractors will independently test the form on 10 articles per study design to ensure consistent interpretation of data items, with any discrepancies resolved through discussion or, if necessary, adjudication by a senior researcher. Full-text articles and their supplementary materials will then be examined to capture the following information:

- General and methodological characteristics.
  - Name of journal.
  - Journal type (open access journal or subscription-based journal including those that may have open access content, eg, hybrid).
  - Publication year.
  - Number of authors.
  - Name, sex/gender (eg, as per Genderize) and country of corresponding author.
  - Country of study (country or countries where the research was conducted).
  - Funding source (eg, government agency, university/research institute/hospital, foundation/development agency, industry, mixed, no funding, not reported).
  - Age group of the population being assessed, defined as newborns infants (0–27 days); infants/toddlers (28 days–23 months), children (2–11 years), adolescents (12–17 years); adults (>18 years); mixed population (eg, newborn/infants/children/adolescents/adults); or not reported.
  - Type of condition addressed (International Statistical Classification of Diseases and Related Health Problems, 11th Revision category).
  - Study design (eg, randomised controlled trial, systematic review with meta-analysis, health economic evaluation, other).
  - Number of study participants (reported or able to be calculated).
  - If applicable, intervention description and type (eg, pharmacological, non-pharmacological, both).
  - Patient-reported outcome measures and/or experiences were considered (yes/no) (note: considered means that either data for the outcomes/experiences were reported or the authors planned to collect data for the outcome/experience if such data were reported in the included studies).
- PPI reporting practices.
  - Any reported PPI practice in the article (yes/no).
  - Patient/public partner included as part of the authorship team (yes/no).
  - Patient/public partner included in Acknowledgements section (eg, yes, with individual name; yes, anonymously or as a group; no).
  - If applicable, sex/gender of patient/public partner.
  - If applicable, involvement of patient/public partners by age group—adolescents, adults, other (yes; no; not specified; and number).

- If applicable, patient/public partner affiliation (eg, patient organisation, research advisory group, university/research institute, other).
- If applicable, patient/public author position (eg, first, middle, last).
- Citation and/or mention of GRIPP2 (eg, citation/no mention, citation/mention without reporting checklist, citation/mention with reporting checklist in appendices). If applicable, which GRIPP2 checklist was used (eg, GRIPP2-LF, GRIPP2-SF, both).
- Use of GRIPP2 appropriately (eg, when GRIPP2 was used as a reporting guideline to ensure a clear report of PPI in research), inappropriately (eg, when GRIPP2 was used as a methodological tool to design or conduct the study or as an assessment tool of methodological quality of publications reporting PPI in research) or in an unclear or neutral manner (eg, when the context of citation did not allow classification as either appropriate or inappropriate).[33]
- Citation and/or mention of any additional guidelines for study conduct or reporting (eg, CONSORT for randomised trials,[51] PRISMA for systematic reviews,[52] CHEERS for health economic evaluations[53] and/or their extensions).
- If applicable, levels or nature of involvement (according to the classification by the International Association for Public Participation (IAP2)[54]): inform/information (eg, patients/public were informed about the study, without actively contributing), consultation (eg, patients/public were asked opinions, feedback or advice, but researchers made final decisions), involvement (eg, patients/public were actively involved in specific tasks or aspects of the study such as design, materials review), collaboration/partnership (eg, patients/public collaborated with researchers in multiple stages, sharing decision-making responsibility) or empower/coproduction (eg, the study was initiated by patients/the public, who led or co-led the research process, including defining the research questions, study design, analysis and dissemination). The IAP2 framework will be complemented by the Involvement Matrix by Smits *et al*,[55] which defines patient roles as listener, cothinker, advisor, partner and decision-maker. Both frameworks describe similar gradients of involvement from different perspectives. For Study 2, IAP2 was chosen as the primary framework due to its broader uptake and applicability, while the Involvement Matrix provides a complementary perspective within the wider methodological literature.
- If applicable, extent of descriptions of PPI practices: not detailed (eg, minimal or vague description), moderately detailed (eg, some descriptions but without comprehensive information or explanations of specific outcomes or their impact on study's decisions) and highly detailed (eg, comprehensive description including specific outcomes and their impact on study's decisions).[25]
- PPI activity/process: who are the involved PPI contributors (eg, patients, caregivers, families, members of patient organisations, community/citizen member, other, not specified), number of PPI contributors (eg, 1, 2–4, 5–10, >10), how PPI contributors were contacted, methods to collect PPI input (eg, discussion, survey, individual/group interview, focus group, Delphi techniques, feasibility study, other), stages at which PPI contributors were involved (such as study design, conduct, analysis, drafting the manuscript including authorship and/or dissemination of results, acknowledgement of PPI contributors).[24 25]
- Any reported impact of PPI in the study (yes/no). If applicable, specify the range of impacts of PPI being reported[56 57]: impact on research process (eg, priority-setting, design, recruitment, data collection and analysis, interpretation, dissemination), impact on patients and the public (eg, knowledge, empowerment, satisfaction, networking and social connection, burden), impact on researchers (eg, knowledge, empowerment, satisfaction, networking and social connection, burden), other impacts (such as the impact on research results themselves).
- Included a plain language summary for a lay audience (yes/no). If applicable, degree of involvement of patient/public in drafting the summary (eg, written, cowritten, only revised, other).[58]
- Any compensation to patient/public partners (eg, financial, non-financial, not specified).

Data analysis

We will analyse a comprehensive set of quantitative data (eg, number of articles, citations, signatures, collaborations) to evaluate the impact, uptake and use of GRIPP2 since publication. Data will be described with frequencies and percentages for categorical variables and median with interquartile range (IQR) for quantitative variables.

Study 1: evaluation of the citation impact and the uptake of the GRIPP2 guidelines

Citation counts will be summarised both for each GRIPP2 core article and for each citing article. To identify and analyse authorship and collaboration patterns among GRIPP2 citing articles, we will examine key indicators including the total number of articles, author signatures (total author appearances across all articles), number of unique collaborators per author, main collaborators (based on frequency of coauthorship) and the collaboration index (average number of authors per article). Additionally, we will assess institutional affiliations, country of origin and journals that frequently publish these articles. Predefined thresholds based on previous meta-research[44 45] will be applied to identify the most prolific authors (≥15 articles), institutions (≥25 articles) and

countries (≥10 articles), as well as the top 100 most cited articles using GRIPP2. To account for factors influencing citation counts, these articles will be classified by type (eg, research, methods/reporting guidelines or other) and citations will be normalised per year, addressing variations due to study type or publication recency. To further explore patterns of knowledge production and dissemination in GRIPP2 citing articles, we will construct network maps reflecting relationships among institutions and countries.[59–61] We will visualise coauthorship networks, where nodes will represent entities (eg, institutions) and edges will represent collaborative links (eg, number of coauthored articles). Country-level collaboration maps and institutional clusters will also be generated to illustrate international and cross-institutional partnerships. Keywords and disciplinary categories will be used to define the thematic landscape of the citing literature.[61] We will then analyse the representation of these themes across disciplines, countries and journals to understand the academic uptake of GRIPP2 articles. All network analyses will be carried out using Pajek software (University of Ljubljana, Slovenia)[62] and/or Gephi (University of Technology of Compiègne, France),[63] which are free for non-commercial use and designed for large-scale network analysis.

Study 2: evaluation of the use of GRIPP2 and reporting of PPI in a random sample of studies of various study types

The completeness of reporting PPI practices according to GRIPP2-SF checklist[13 14] will be assessed in a random sample of 300 research articles, in addition to the guideline appropriateness of use (eg, appropriate, inappropriate, unclear/other use), described by Caulley *et al*.[33] Characteristics of PPI practices will be stratified by publication year, age group of the population being assessed (eg, paediatric vs adults) and study designs (eg, randomised trials vs systematic reviews vs health economic evaluations). The primary analysis will be descriptive. If the amount of available data permits, risk ratios with 95% CIs will be calculated to explore differences in reporting between study designs, using randomised trials as the reference category. Fisher's exact test or the χ^2 test will be used for contingency tables to assess differences between two proportions. P values will be two-tailed, and statistical significance will be set at less than 0.05. All analyses will be carried out using Stata V.19 or higher (StataCorp LP, College Station, Texas, USA) and/or R statistical environment (R V.4.5.2 or higher; R Foundation for Statistical Computing, Vienna, Austria).

Patient and public involvement

Although this is a protocol for a meta-research project and no results are yet available, the reporting of planned methods has been guided by the GRIPP2-SF checklist (see online supplemental appendix 2). In planning this project, input was sought from two patient representatives (CC and BN-E) to inform key elements of the study design and to ensure that the planned methods are relevant. A patient representative (CC) contributed to shape key aspects of the study by providing feedback on protocol sections (eg, justification), defining study variables (eg, roles of patient partners, potential impact of PPI) and reviewing the protocol and materials for clarity and accessibility (eg, lay summary for this protocol). A second patient representative (BN-E) contributed to protocol revisions, incorporation of new variables and refinement of the lay summary (see online supplemental appendix 3). Both representatives will continue to advise on PPI, review and contribute to the interpretation of findings and dissemination strategies, ensuring ongoing PPI integration. Collaborations will be established and strengthened through formal and informal meetings, discussions, telephone calls and email correspondence. A lay summary for this protocol was prepared (see online supplemental appendix 3). Patient representatives did not receive any financial or other compensation. We thank Phelan-McDermid Syndrome Spanish Association for their contributions to this initiative, including institutional support, facilitating patient engagement and assistance with dissemination activities. CC serves as the Association's general coordinator and participated in this study protocol in her capacity as a patient representative.

Ethics and dissemination

Ethical approval was not necessary, as the studies do not involve human subjects. Findings from this meta-research project will be disseminated through presentations at academic conferences and submissions to peer-reviewed journals. In addition, results will be communicated directly to partner organisations and through our network of investigators. Broader outreach will be achieved using both traditional and social media channels. The results will be disseminated to lay audiences through press releases, social media, lay summaries, infographics and presentations.

DISCUSSION

In this paper, we have presented a protocol for a meta-research project to assess the impact of the GRIPP2 reporting guidelines through citation and alternative metrics, analysing its adoption across authors, institutions, journals and countries, as well as its practical application in reporting PPI within diverse research designs. To our knowledge, there is limited meta-research examining the impact, uptake and use of the GRIPP2 reporting guidelines for PPI in research, and the two studies presented in this protocol aim to address this gap. Previous research includes the analysis conducted by Weschke *et al*[64], in which the authors examined reporting practices of PPI in health research publications. Using the GRIPP2-SF and other coding frameworks, they assessed the extent and quality of PPI reporting across a sample of 86 articles published in 2019, including studies from *The BMJ* (n=32), articles listed in the PCORI database (n=41) and publications citing the GRIPP2 guidelines (n=13). They

found that although patient involvement is increasingly integrated into research, reporting of key aspects—such as the aims and impact of involvement—was often incomplete.

Specifically, we will collect quantitative data across a broad cross-section of articles, policy documents and other records citing GRIPP2, without restricting inclusion based on document type, journal, medical specialty, disease area or intervention. We will identify key actors—including journals, authors, institutions and countries—producing and disseminating research that used GRIPP2, citation impact and scientific collaborations in the area. It will be helpful to determine the most intense collaboration patterns, most productive authors, institutions and countries, most prolific journals disseminating research that used GRIPP2 and the most cited papers ('citation classics'). In addition, focusing on a large sample of studies that cite GRIPP2 and other relevant guidance as an indicator of awareness of reporting standards, this meta-research project may provide insights into how PPI practices are reported across different study designs (eg, randomised trials, systematic reviews and health economic evaluations), including the frequency, the completeness, depth (in terms of level of involvement) and focus of such reporting, and how researchers have referred to or applied GRIPP2 guidance in reporting PPI in research.

We anticipate that our findings will be of interest to a broad range of audiences—including researchers, academic institutions, funding agencies, technology assessment bodies, journal editors, guideline developers, patient organisations and other parties involved in health and social care research. Study 1 and Study 2 will be conducted sequentially as separate components of the project: Study 1 will be undertaken first, and Study 2 will be initiated once all relevant records and data have been identified, likely 4–6 months later. We plan to disseminate the study findings throughout 2027. Moreover, the results could serve as a valuable resource for identifying examples of good practices on PPI and effective collaborative networks, potentially informing strategies to promote participatory approaches in research. Insights into the adoption of PPI practices, and adherence to GRIPP2 guidance may help interest holders enhance international and national partnerships and, ultimately, support more inclusive and impactful research.

The planned meta-research studies may be limited by its inclusion criteria, restricted to records citing GRIPP2. In addition, all information on PPI implementation will be extracted exclusively from publicly available sources, namely the published articles and their associated supplementary or additional materials; we do not plan to contact study authors to obtain missing or unpublished information. Citation-based and alternative metrics are expected to provide insights into scholarly debate, impact and uptake.[34 65 66] However, citations may reflect disciplinary norms or critical referencing, and alternative metrics (such as Altmetrics) seem to capture immediate, platform-specific attention, with only a weak positive correlation with citations.[66–68] Finally, all data underlying the findings reported in the final manuscript(s) will be deposited in a cross-disciplinary public repository, such as the Open Science Framework. Any amendments made to this protocol when conducting the studies and/or analyses will be outlined and reported in the final manuscript(s).

Author affiliations
[1]Institute of Public Goods and Policies (IPP), Centre for Human and Social Sciences, Spanish National Research Council (CSIC), Madrid, Spain
[2]Methodological and Implementation Research Program, Ottawa Hospital Research Institute, Ottawa, Ontario, Canada
[3]Centre for Biomedical Research in Mental Health Network (CIBERSAM), Institute of Health Carlos III, Madrid, Spain
[4]Department of History of Science and Documentation, University of Valencia, Valencia, Spain
[5]Information and Social and Health Research (UISYS), Associated Unit of the Research Institute for Higher Education and Science (INAECU-UC3M-UAM), University of Valencia, Valencia, Spain
[6]Knowledge Translation Program, Li Ka Shing Knowledge Institute, St Michael's Hospital, Unity Health Toronto, Toronto, Ontario, Canada
[7]Epidemiology Division and Institute of Health Policy, Management, and Evaluation, Dalla Lana School of Public Health, University of Toronto, Toronto, Ontario, Canada
[8]School of Epidemiology and Public Health, Faculty of Medicine, University of Ottawa, Ottawa, Ontario, Canada
[9]Patient Representative; General Coordinator, Phelan-McDermid Syndrome Association, Madrid, Spain
[10]Division of Pharmacoepidemiology and Pharmacovigilance, Spanish Medicines and Healthcare Products Agency, Madrid, Spain
[11]Data Science for Health Services and Policy Research, Aragon Health Sciences Institute (IACS), Zaragoza, Spain
[12]Research Network on Chronicity, Primary Care, and Health Promotion (RICAPPS), Institute of Health Carlos III, Madrid, Spain
[13]Institute of Philosophy (IFS), Centre for Human and Social Sciences, Spanish National Research Council (CSIC), Madrid, Spain
[14]Department of Medicine, University of Valencia, Valencia, Valencian Community, Spain
[15]Institute for Innovation and Knowledge Management (INGENIO), Spanish National Research Council (CSIC) and Universitat Politècnica de València, Valencia, Spain
[16]Patient Representative and Head of Patient Engagement in Research, Institut de Recerca Sant Joan de Déu, Barcelona, Spain
[17]Innovation Department, Hospital Sant Joan de Déu, Barcelona, Spain
[18]University of Warwick Medical School, Coventry, UK

Contributors All authors contributed to conceptualising and designing the study. FC-L drafted the first version of the manuscript. EG, AA-A, RP, ACT, BH, CC, LT-R, MR, NB-P, RT-S, RA-B, BN-E, SS and DM commented for important intellectual content and made revisions. All authors read and approved the final version of the manuscript. FC-L accepts full responsibility for the finished manuscript, controlled the decision to publish and is the guarantor.

Funding This work is funded by the Spanish National Research Council (CSIC) through the project: "Involvement of Patients and the Public (IPP) in health and social care research: a proposal for a meta-research project (PIE-202510E106)" under the IPP-CSIC Seed-Corn Project 2025 – MaX-CSIC Plan (Framework for Self-Assessment and Evaluation of Scientific and Social Excellence-CSIC). ACT is funded by a Tier 1 Canada Research Chair in Knowledge Synthesis for Knowledge Users, Canadian Institutes of Health Research (CIHR). NB-P is funded by a Ramón y Cajal Fellowship, Spanish Ministry of Science, Innovation and Universities (RYC2022-037076-I). The funders were not involved in the design of the protocol or decision to submit the protocol for publication, nor will they be involved in any aspect of the study conduct. The views expressed in this manuscript are those of the authors and may not be understood or quoted as being made on behalf of, or reflecting the position of, the funder(s) or any institution.

Competing interests DM is a member of the BMJ North America Advisory Board. Other authors have none to declare.

Patient and public involvement Patients and/or the public were involved in the design, or conduct, or reporting, or dissemination plans of this research. Refer to the Methods section for further details.

Patient consent for publication Not applicable.

Provenance and peer review Not commissioned; externally peer reviewed.

ORCID iDs
Ferrán Catalá-López https://orcid.org/0000-0002-3833-9312
Adolfo Alonso-Arroyo https://orcid.org/0000-0002-5084-2818
Roberta Perna https://orcid.org/0000-0001-6700-1997
Andrea C Tricco https://orcid.org/0000-0002-4114-8971
Brian Hutton https://orcid.org/0000-0001-5662-8647
Laura Tejedor-Romero https://orcid.org/0000-0002-7267-3461
Núria Bautista-Puig https://orcid.org/0000-0003-2404-0683
Rafael Tabarés-Seisdedos https://orcid.org/0000-0002-1089-2204
Sophie Staniszewska https://orcid.org/0000-0002-7723-9074
David Moher https://orcid.org/0000-0003-2434-4206

REFERENCES

1 Heigl F, Kieslinger B, Paul KT, *et al*. Opinion: Toward an international definition of citizen science. *Proc Natl Acad Sci U S A* 2019;116:8089–92.
2 Auerbach J, Barthelmess EL, Cavalier D, *et al*. The problem with delineating narrow criteria for citizen science. *Proc Natl Acad Sci U S A* 2019;116:15336–7.
3 Fiske A, Prainsack B, Buyx A. Meeting the needs of underserved populations: setting the agenda for more inclusive citizen science of medicine. *J Med Ethics* 2019;45:617–22.
4 Greenhalgh T, Hinton L, Finlay T, *et al*. Frameworks for supporting patient and public involvement in research: Systematic review and co-design pilot. *Health Expect* 2019;22:785–801.
5 Grotz J, Ledgard M, Poland F. Patient and Public Involvement in Health and Social Care Research: An Introduction to Theory and Practice. Cham: Palgrave Macmillan, 2020.
6 Turk A, Boylan A, Locock L. Oxford: University of Oxford; A researcher's guide to patient and public involvement, 2017. Available: https://oxfordbrc.nihr.ac.uk/wp-content/uploads/2017/03/A-Researchers-Guide-to-PPI.pdf [Accessed 17 Mar 2026].
7 Manafo E, Petermann L, Mason-Lai P, *et al*. Patient engagement in Canada: a scoping review of the 'how' and 'what' of patient engagement in health research. *Health Res Policy Sys* 2018;16:5.
8 Strategy for Patient-Oriented Research. Ottawa: Canadian Institutes of Health Research, Available: https://www.cihr-irsc.gc.ca/e/41204.html [Accessed 17 Mar 2026].
9 Forsythe LP, Carman KL, Szydlowski V, *et al*. Patient Engagement In Research: Early Findings From The Patient-Centered Outcomes Research Institute. *Health Aff (Millwood)* 2019;38:359–67.
10 Brett J, Staniszewska S, Mockford C, *et al*. Mapping the impact of patient and public involvement on health and social care research: a systematic review. *Health Expect* 2014;17:637–50.
11 Norburn L, Thomas L. Expertise, experience, and excellence. Twenty years of patient involvement in health technology assessment at NICE: an evolving story. *Int J Technol Assess Health Care* 2020;37:e15.
12 Richards DP, Bowden J, Gee P, *et al*. The ultimate power play in research - partnering with patients, partnering with power. *Res Involv Engagem* 2025;11:65.
13 Staniszewska S, Brett J, Simera I, *et al*. GRIPP2 reporting checklists: tools to improve reporting of patient and public involvement in research. *BMJ* 2017;358:j3453.
14 Staniszewska S, Brett J, Simera I, *et al*. GRIPP2 reporting checklists: tools to improve reporting of patient and public involvement in research. *Res Involv Engagem* 2017;3:13.
15 Brett J, Staniszewska S, Simera I, *et al*. Reaching consensus on reporting patient and public involvement (PPI) in research: methods and lessons learned from the development of reporting guidelines. *BMJ Open* 2017;7:e016948.
16 The BMJ. Patient and public partnership, Available: https://authors.bmj.com/policies/patient-public-partnership/ [Accessed 17 Mar 2026].
17 Richards T, Schroter S, Price A, *et al*. Better together: patient partnership in medical journals. *BMJ* 2018;362:k3798.
18 Saigle V, Miller J, Dumez V, *et al*. Embedding patient voices in CMAJ. *CMAJ* 2021;193:E1046–7.
19 CMAJ. CMAJ's Statement of Purpose for Patient Engagement, Available: https://www.cmaj.ca/statement-purpose-patient-engagement [Accessed 17 Mar 2026].
20 Price A, Schroter S, Snow R, *et al*. Frequency of reporting on patient and public involvement (PPI) in research studies published in a general medical journal: a descriptive study. *BMJ Open* 2018;8:e020452.
21 Lang I, King A, Jenkins G, *et al*. How common is patient and public involvement (PPI)? Cross-sectional analysis of frequency of PPI reporting in health research papers and associations with methods, funding sources and other factors. *BMJ Open* 2022;12:e063356.
22 Benizri N, Hallot S, Burns K, *et al*. Patient and Family Representation in Randomized Clinical Trials Published in 3 Medical and Surgical Journals: A Systematic Review. *JAMA Netw Open* 2022;5:e2230858.
23 Gamble C, Dudley L, Allam A, *et al*. Patient and public involvement in the early stages of clinical trial development: a systematic cohort investigation. *BMJ Open* 2014;4:e005234.
24 Husson M, Dechartres A, Ramdjee B, *et al*. Patient and public involvement is suboptimal in randomized controlled trials addressing a chronic condition. *J Clin Epidemiol* 2023;160:71–82.
25 Vanneste A, Wens I, Sinnaeve P, *et al*. Evolution of reported patient and public involvement over time in randomised controlled trials in major medical journals and in their protocols: meta-epidemiological evaluation. *BMJ* 2025;389:e082697.
26 Crocker JC, Ricci-Cabello I, Parker A, *et al*. Impact of patient and public involvement on enrolment and retention in clinical trials: systematic review and meta-analysis. *BMJ* 2018;363:k4738.
27 Moher D, Weeks L, Ocampo M, *et al*. Describing reporting guidelines for health research: a systematic review. *J Clin Epidemiol* 2011;64:718–42.
28 Schlussel MM, Sharp MK, de Beyer JA, *et al*. Reporting guidelines used varying methodology to develop recommendations. *J Clin Epidemiol* 2023;159:246–56.
29 Stevens A, Shamseer L, Weinstein E, *et al*. Relation of completeness of reporting of health research to journals' endorsement of reporting guidelines: systematic review. *BMJ* 2014;348:g3804.
30 Pussegoda K, Turner L, Garritty C, *et al*. Systematic review adherence to methodological or reporting quality. *Syst Rev* 2017;6:131.
31 Nguyen P-Y, Kanukula R, McKenzie JE, *et al*. Changing patterns in reporting and sharing of review data in systematic reviews with meta-analysis of the effects of interventions: cross sectional meta-research study. *BMJ* 2022;379:e072428.
32 Catalá-López F, Ridao M, Tejedor-Romero L, *et al*. Transparency, openness, and reproducible research practices are frequently underused in health economic evaluations. *J Clin Epidemiol* 2024;165:111208.
33 Caulley L, Catalá-López F, Whelan J, *et al*. Reporting guidelines of health research studies are frequently used inappropriately. *J Clin Epidemiol* 2020;122:87–94.
34 Caulley L, Cheng W, Catalá-López F, *et al*. Citation impact was highly variable for reporting guidelines of health research: a citation analysis. *J Clin Epidemiol* 2020;127:96–104.
35 Catalá-López F, Alonso-Arroyo A, Page MJ, *et al*. A cross-sectional analysis identified co-authorship networks and scientific collaboration on reporting guidelines for health research. *J Clin Epidemiol* 2023;157:22–34.
36 Shamseer L, Hopewell S, Altman DG, *et al*. Update on the endorsement of CONSORT by high impact factor journals: a survey of journal "Instructions to Authors" in 2014. *Trials* 2016;17:301.
37 Moher D, Shamseer L, Clarke M, *et al*. Preferred reporting items for systematic review and meta-analysis protocols (PRISMA-P) 2015 statement. *Syst Rev* 2015;4:1.

38 Shamseer L, Moher D, Clarke M, *et al*. Preferred reporting items for systematic review and meta-analysis protocols (PRISMA-P) 2015: elaboration and explanation. *BMJ* 2015;350:g7647.
39 Wu P, Hu Y. Interpretation of reporting guidance for research involvement of patients and the public (GRIPP2). *Chin J Evid-Based Med* 2018;18:96–100.
40 Catalá-López F, Ganuza E, Staniszewska S, *et al*. GRIPP2: adaptación al español de las guías para mejorar la presentación de la participación de pacientes y ciudadanos en la investigación. *Gac Sanit* 2026;40:102564.
41 Kulkarni AV, Aziz B, Shams I, *et al*. Comparisons of citations in Web of Science, Scopus, and Google Scholar for articles published in general medical journals. *JAMA* 2009;302:1092–6.
42 Martín-Martín A, Orduna-Malea E, Thelwall M, *et al*. Google Scholar, Web of Science, and Scopus: A systematic comparison of citations in 252 subject categories. *J Informetr* 2018;12:1160–77.
43 Harzing AW. Publish or perish (version 8) [computer software]. Melbourne: Tarma Software Research Pty Ltd; 2021. Available: https://harzing.com/resources/publish-or-perish [Accessed 17 Mar 2026].
44 Catalá-López F, Alonso-Arroyo A, Hutton B, *et al*. Global collaborative networks on meta-analyses of randomized trials published in high impact factor medical journals: a social network analysis. *BMC Med* 2014;12:15.
45 Catalá-López F, Aleixandre-Benavent R, Caulley L, *et al*. Global mapping of randomised trials related articles published in high-impact-factor medical journals: a cross-sectional analysis. *Trials* 2020;21:34.
46 Szomszor M, Adie E. Overton: A bibliometric database of policy document citations. *Quantitative Science Studies* 2022;3:624–50.
47 Haunschild R, Williams K, Bornmann L. The influence of public policy and administration expertise on policy: an empirical study. *Evid Policy* 2025;21:1–22.
48 Sebo P. Using genderize.io to infer the gender of first names: how to improve the accuracy of the inference. J Med Libr Assoc 2021;109:609–12.
49 National Institute for Health and Care Excellence (NICE). Guide to the Methods of Technology Appraisal. London: NICE, 2013.
50 Guyatt G, Rennie D, Meade MO, *et al*. *Users' Guides to the Medical Literature: A Manual for Evidence-Based Clinical Practice*. 3rd edn. New York: McGraw-Hill Education, 2015.
51 Hopewell S, Chan A-W, Collins GS, *et al*. CONSORT 2025 statement: updated guideline for reporting randomised trials. *Lancet* 2025;405:1633–40.
52 Page MJ, McKenzie JE, Bossuyt PM, *et al*. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. *Syst Rev* 2021;10:89.
53 Husereau D, Drummond M, Augustovski F, *et al*. Consolidated Health Economic Evaluation Reporting Standards 2022 (CHEERS 2022) statement: updated reporting guidance for health economic evaluations. *BMJ* 2022;376:e067975.
54 International Association for Public Participation. IAP2 Public Participation Pillars, Available: https://www.iap2.org/page/pillars [Accessed 17 Mar 2026].
55 Smits D-W, van Meeteren K, Klem M, *et al*. Designing a tool to support patient and public involvement in research projects: the Involvement Matrix. *Res Involv Engagem* 2020;6:30.
56 Hoekstra F, Mrklas KJ, Khan M, *et al*. A review of reviews on principles, strategies, outcomes and impacts of research partnerships approaches: a first step in synthesising the research partnership literature. *Health Res Policy Syst* 2020;18:51.
57 Lopez Gousset V, Silveira Silva A, Holtorf AP, *et al*. The three-domain impact framework for characterizing impact of patient involvement in health technology assessment. *Int J Technol Assess Health Care* 2024;40:e52.
58 Stoll M, Kerwer M, Lieb K, *et al*. Plain language summaries: A systematic review of theory, guidelines and empirical research. *PLoS One* 2022;17:e0268789.
59 Newman MEJ. Coauthorship networks and patterns of scientific collaboration. *Proc Natl Acad Sci USA* 2004;101:5200–5.
60 Barabási AL. Network Science. Cambridge University Press, Ltd: Cambridge, 2016.
61 Börner K, Polley DE. Visual Insights: A Practical Guide to Making Sense of Data. Cambridge, Massachusetts: MIT Press, 2014.
62 Batagelj V, Mrvar A. Pajek 3.10 [Computer Software]. Program for Large Network Analysis. Ljubljana: University of Ljubljana, 2013.
63 Bastian M, Heymann S, Jacomy M. Gephi: An Open Source Software for Exploring and Manipulating Networks. *ICWSM* 2009;3:361–2.
64 Weschke S, Franzen DL, Sierawska AK, *et al*. Reporting of patient involvement: a mixed-methods analysis of current practice in health research publications using a targeted search strategy. *BMJ Open* 2023;13:e064170.
65 Patsopoulos NA, Analatos AA, Ioannidis JPA. Relative citation impact of various study designs in the health sciences. *JAMA* 2005;293:2362–6.
66 Thelwall M, Haustein S, Larivière V, *et al*. Do altmetrics work? Twitter and ten other social web services. *PLoS One* 2013;8:e64841.
67 Haustein S. Grand challenges in altmetrics: heterogeneity, data quality and dependencies. *Scientometrics* 2016;108:413–23.
68 Kolahi J, Khazaei S, Iranmanesh P, *et al*. Meta-Analysis of Correlations between Altmetric Attention Score and Citations in Health Sciences. *Biomed Res Int* 2021;2021:6680764.