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Global research trends on case managers in chronic disease management: A bibliometric analysis (2005–2025)

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ABSTRACT

Background: Chronic diseases are the leading global cause of mortality, and fragmented care can worsen outcomes, especially in health systems with workforce and coordination constraints. Case management-related roles (case managers, care coordinators, patient navigators) are increasingly used to support continuous, integrated, people-centered care. However, prior reviews mainly assess effectiveness in specific diseases or settings and rarely map global publication trends, geographic disparities, collaboration patterns, or thematic evolution.
Aim: To map the global research landscape on case management-related roles in chronic disease management (2005–2025), including publication trends, geographic contributions, influential documents, and thematic structures.
Methods: A bibliometric analysis was conducted using Scopus and PubMed. English-language articles, reviews, and conference papers (2005–2025) were included. Records were deduplicated and analyzed in VOSviewer using keyword and title/abstract term co-occurrence mapping; screening followed PRISMA 2020.
Results: After screening, 574 publications were included. Output increased markedly after the mid-2010 s and was concentrated in high-income countries, with limited representation from low- and middle-income countries. Co-occurrence mapping showed interconnected themes spanning integrated care models, community/navigation approaches, role development, and evaluation/implementation, with recent emphasis on multimorbidity, self-management, and technology-enabled coordination.
Conclusion: Research on case management-related roles in chronic disease care has expanded and diversified toward integrated, people-centered, longitudinal care. Future work should strengthen implementation-focused evidence (including outcomes and costs), reduce geographic inequities, and clarify how digital tools are embedded within redesigned care pathways to support scalable and equitable chronic care.

1. Introduction

Chronic diseases remain the leading cause of morbidity and mortality worldwide, responsible for an estimated 74% of all annual deaths and disproportionately affecting low- and middle-income countries (Vos et al., 2020; World Health Organization, 2023). Conditions such as cardiovascular disease, diabetes, cancer, and chronic respiratory illness are among the leading contributors to disability-adjusted life years (DALYs), rising healthcare costs, and reduced quality of life (Nugent, 2019). Recent estimates suggest that over 2.4 billion people are currently living with at least one chronic condition, and this burden is projected to escalate further due to population aging and lifestyle transitions, making the effective management of chronic diseases a pressing global public health priority (Ferrari et al., 2024).

One of the key challenges in chronic disease care is fragmented care and poor coordination across services. Patients with multimorbidity often navigate multiple specialists, facilities, and treatment regimens, leading to duplicated interventions, poor adherence, and gaps in

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continuity of care (Jackson-Morris et al., 2024). These systemic inefficiencies compromise health outcomes and create additional financial strain on already overburdened health systems (Smith et al., 2021). To address these challenges, case management has emerged as a crucial strategy for improving integration, continuity, and patient-centeredness in chronic care.

Case managers, typically experienced nurses or allied health professionals, are central to coordinating care for individuals with chronic illness. Their responsibilities include linking patients with health and community resources, facilitating interprofessional communication, monitoring adherence, and empowering patients in decision-making (Teper et al., 2020). Evidence demonstrates that case management interventions reduce unplanned hospitalizations, improve treatment adherence, enhance patient satisfaction, and may lower healthcare costs (Smith et al., 2021). Beyond clinical outcomes, case managers play a vital role in holistic and relational care by supporting patient self-management, addressing psychosocial needs, and engaging families in care processes (Stewart et al., 2024).

The relevance of case management is reinforced by international quality standards. The National Safety and Quality Health Service (NSQHS) Comprehensive Care Standard emphasizes integrated, individualized, and continuous care as benchmarks for safe practice (Australian Commission on Safety and Quality in Health Care, 2021). Similarly, the Joint Commission International (JCI) Accreditation Standards highlight continuity of care, care coordination, and patient engagement as essential components of healthcare quality worldwide (Joint Commission International, 2024). These frameworks underscore the need to embed case managers into health systems as pivotal actors for chronic disease management. Despite these advances, global research on case management in chronic illness remains characterized by fragmented care. Much of the existing evidence originates from high-income countries, while research from low- and middle-income settings is limited, leaving significant knowledge gaps on scalability and contextual adaptation (Chudasama et al., 2020).

Furthermore, many reviews and trials remain disease-specific, often focusing on conditions such as diabetes or cancer, and rarely provide a cross-cutting perspective of case management across multiple chronic conditions (Jani et al., 2019). Although systematic reviews confirm effectiveness in improving outcomes, they do not capture how research activity has evolved over time, which countries and institutions lead the field, or what emerging themes are shaping the future of case management (Smith et al., 2021).

To date, limited bibliometric study has systematically mapped the global research landscape on case managers in chronic disease management. Existing reviews and systematic reviews have largely concentrated on assessing the effectiveness of chronic care models, care coordination interventions, or specific clinical outcomes. While these reviews provide important evidence on what works in chronic disease management, they do not address how research activity has evolved over time, how scholarly output is distributed across regions, or how thematic priorities related to case manager roles have developed and diversified (Kroenke et al., 2024; Reynolds et al., 2018). Consequently, critical gaps remain in understanding publication trends, geographical disparities, collaboration patterns, and the intellectual structure of this field.

Bibliometric analysis provides a unique opportunity to quantify trends, visualize keyword co-occurrence, identify thematic clusters, and highlight collaboration networks that underpin scientific progress (Chireshe et al., 2024). This approach is particularly timely given the global rise in multimorbidity, the shift toward integrated and people-centered care, and the rapid expansion of digital health technologies that are reshaping coordination and continuity of chronic care. Under these evolving conditions, the role of case managers has expanded beyond disease-specific coordination toward leadership within interdisciplinary and cross-setting care delivery.

In this context, using bibliometric mapping is crucial to trace how research on case managers has responded to system-level changes and to detect emerging hotspots as well as persistent blind spots, especially in low- and middle-income countries, while also clarifying how the field's main themes and concepts have matured over time. By analyzing two decades of research output, this study provides a comprehensive overview of global research trends, thematic evolution, and collaboration networks, offering an evidence-based foundation to inform future research agendas, workforce development, and policy decisions aligned with integrated chronic disease care.

This study adopts a broad view of coordination roles, encompassing case managers, care coordinators, and patient navigators as they are described in the literature. For clarity, we use "case managers" as an umbrella term when presenting our findings and discussing the mapped field, while preserving the original role labels used by authors where appropriate (for example, in article titles or when referring to specific interventions). On this basis, the bibliometric analysis aims to: (1) describe publication and citation trends in research on case managers in chronic disease management between 2005 and 2025, (2) identify leading countries, sources, and highly cited articles, and (3) map the thematic and conceptual structure of the field using keyword- and term-based co-occurrence analysis.

2. Methods

2.1. Study design

This study employed a bibliometric design to systematically map global research trends on case managers in chronic disease management. Bibliometric analysis is a quantitative approach used to describe the structure and evolution of a research field by examining publication outputs, citation impact, and knowledge structures (e.g., co-occurrence and collaboration networks) (Donthu et al., 2021). This approach is particularly useful for identifying leading countries, institutions, and influential documents, as well as detecting thematic patterns and emerging topics over time (Chireshe et al., 2024; Moral-Muñoz et al., 2020). The identification and selection process was reported using the PRISMA 2020 flow framework to ensure transparent handling of records across databases (Page et al., 2021; Zupic & Čater, 2015).

2.2. Search, eligibility criteria, and selection strategy

A multi-database search was conducted in Scopus and PubMed (accessed via institutional subscription) to improve coverage and reduce database-specific bias. Searches were performed on 30 December 2025 using the respective web interfaces. The complete, copy-pastable search strategies (including fields and limits) for each database are reported in Table 1.

Eligibility criteria were defined a priori using the PCC framework: Population (patients with chronic diseases/long-term conditions); Concept (case management, care coordination, or patient navigation, including case managers/care coordinators/patient navigators); and Context (healthcare and community settings). Records were included if they (1) were published between 1 January 2005 and 31 December 2025, (2) were written in English, and (3) were journal articles, reviews, or conference papers. Records were excluded if they were editorials, letters, commentaries, notes, or if they were unrelated to chronic disease management and/or did not address the focal concepts (case management/care coordination/patient navigation).

All retrieved records from both databases were exported and merged in Zotero (version 7.0.32). Duplicate records were removed using matching rules based primarily on DOI; where DOI was unavailable, potential duplicates were identified using combinations of title and first author, followed by manual verification for ambiguous cases. After deduplication, 1149 unique records remained and were screened on titles and abstracts. Of these, 575 records were excluded as irrelevant to the study scope, resulting in 574 records that met all eligibility criteria

Table 1
Database search strategy.

Database	Full search string
Scopus Institutional access (Scopus web interface) (accessed: 30 December 2025)	TITLE-ABS-KEY((“case manag*” OR “care coordinat*” OR “patient navigat*”) AND (“chronic disease manag*” OR “chronic illness manag*” OR “chronic disease” OR “chronic illness” OR “chronic care” OR “long-term condition*”)) AND PUBYEAR > 2004 AND PUBYEAR < 2026 AND (LIMIT-TO (LANGUAGE, “English”)) AND (LIMIT-TO (DOCTYPE, “ar”) OR LIMIT-TO(DOCTYPE, “re”) OR LIMIT-TO(DOCTYPE, “cp”))
PubMedInstitutional access (PubMed web interface) (accessed: 30 December 2025)	(“case management” [Title/Abstract] OR “case manager” [Title/Abstract] OR “care coordination” [Title/Abstract] OR “care coordinator” [Title/Abstract] OR “patient navigation” [Title/Abstract] OR “patient navigator” [Title/Abstract]) AND (“chronic disease management” [Title/Abstract] OR “chronic illness management” [Title/Abstract] OR “chronic disease” [Title/Abstract] OR “chronic illness” [Title/Abstract] OR “chronic care” [Title/Abstract] OR “long-term condition” [Title/Abstract]) AND (“2005/01/01″[Date – Publication]: ”2025/12/31″[Date – Publication]) AND english[Language]

and were retained for bibliometric mapping (the PRISMA flow is presented in the Results section).

No API-based or automated retrieval was used; all records were downloaded via the database web interfaces.

2.3. Data extraction and analysis

Records from Scopus and PubMed were exported in CSV format and managed in Zotero (version 7.0.32). The merged bibliometric dataset retained standard metadata fields available from each source, including (where available): title, authors, year, source/journal, abstract, author keywords, affiliations, country/territory, and identifiers (e.g., DOI/PMID).

Citation analysis was performed using Scopus only, because Scopus provides standardized and curated citation metrics, whereas PubMed is not a citation-indexing database. Accordingly, citation counts and Scopus-specific descriptive indicators (annual publication trends, document type distribution, country/territory distribution, and most-cited documents) were extracted from the Scopus “Analyze results” feature and reported for the Scopus subset, then interpreted alongside the merged dataset for thematic mapping.

Science mapping was conducted using VOSviewer (version 1.6.20). Two co-occurrence analyses were performed using the merged dataset: (1) keyword co-occurrence using All keywords with full counting, minimum occurrences = 10, and selecting 100 keywords for visualization; and (2) term co-occurrence using Title and abstract fields with binary counting = Yes, minimum occurrences = 10, and selecting 100 terms. The threshold of 10 occurrences was chosen to balance noise reduction and map stability, retaining frequently used and conceptually central terms while excluding very rare terms that contribute little to the overall structure. Limiting the visualizations to the top 100 nodes in each analysis enabled clear identification of dominant clusters and relationships without overloading the maps.

A thesaurus-based cleaning step was applied in VOSviewer to improve interpretability by merging obvious synonyms or spelling variants (e.g. singular/plural forms) and excluding generic or non-informative terms (e.g. “article”, “study”) identified during iterative map inspection (Donthu et al., 2021; Van Eck & Waltman, 2010).

3. Results

3.1. Study selection results

Fig. 1 illustrates the study selection process following the PRISMA 2020 framework. The database search identified 594 records from Scopus and 670 records from PubMed (total n = 1264). After merging the two datasets and removing 115 duplicates, 1149 unique records remained for title and abstract screening. These records were assessed for relevance to case management, care coordination, or patient navigation in the context of chronic disease or long-term condition management. At the title/abstract screening stage, 575 records were excluded because they did not meet the PCC-defined scope (i.e., not addressing the focal coordination roles and/or not situated in chronic disease management).The remaining 574 records fulfilled all eligibility criteria and constituted the final dataset used for bibliometric mapping and network analysis.

3.2. Document type trends

Analysis of document types indicates that the literature on case management in chronic disease care is predominantly empirical in nature, with original research articles forming the core of the evidence base (Fig. 2). Review articles represent a substantial secondary contribution, reflecting increasing efforts to synthesize evidence and evaluate care coordination models as the field matures. Overall, the document type distribution suggests a transition from early exploratory work toward consolidation and evaluation, consistent with the growing institutionalization of case management within chronic care systems.

3.3. Country distribution

Geographical analysis demonstrates that research on case management in chronic disease management is highly concentrated in high-income countries (Fig. 3). Output is dominated by the United States, the United Kingdom, and Australia, with more limited contributions from continental Europe and minimal representation from low- and middle-income countries.

This uneven distribution highlights a structural imbalance in the global knowledge base, despite the substantial burden of chronic disease in resource-constrained settings. The findings suggest that current evidence may disproportionately reflect health system contexts with well-established primary care and financing infrastructures.

3.4. Most cited documents

Table 2 summarizes the most influential publications shaping research on case management and care coordination in chronic disease care. Highly cited works predominantly focus on collaborative care models, telehealth-supported coordination, community-based interventions, and comprehensive care for older adults with complex needs.

Collectively, these publications form the conceptual backbone of the field, emphasizing multidisciplinary collaboration, continuity across care settings, and outcomes beyond disease control, such as quality of life and system efficiency. The dominance of systematic reviews and large-scale evaluative studies among highly cited documents further reflects the field’s orientation toward evidence synthesis and policy-relevant insights.

3.5. Co-occurrence and network analysis

The keyword and term co-occurrence networks reveal a dense and highly interconnected knowledge structure, underscoring the multidisciplinary and system-oriented nature of case management research in chronic disease care (Fig. 4). Rather than forming isolated thematic

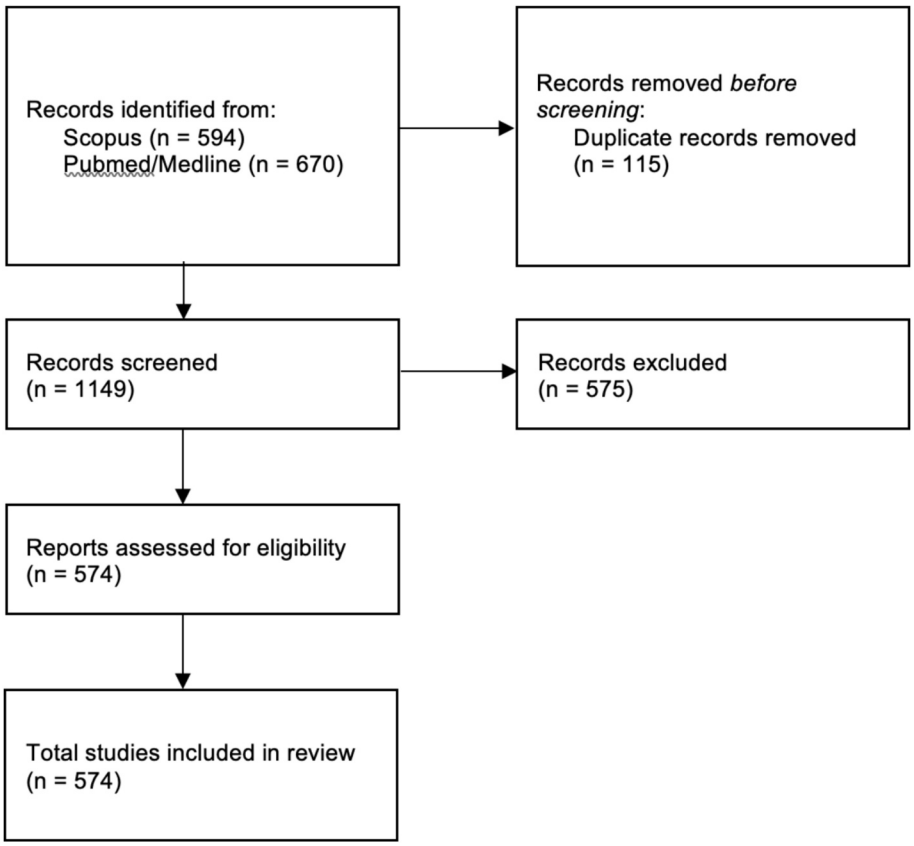

Fig. 1. Study selection process,

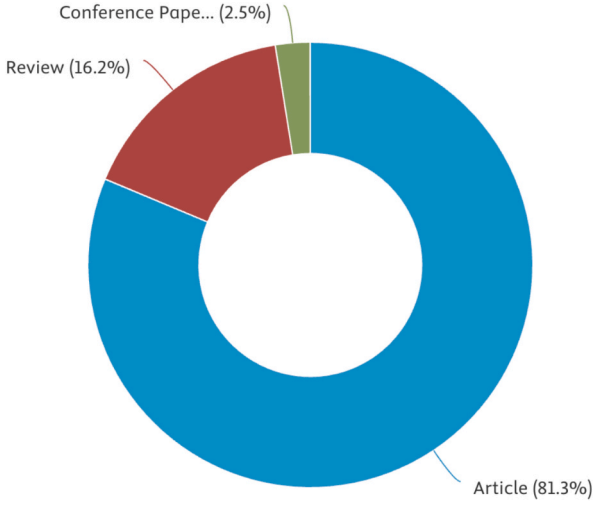

Fig. 2. Document type.

silos, concepts related to clinical care, organization, patient experience, and evaluation are strongly interlinked, indicating conceptual convergence across domains Fig. 5.

Across both keyword-based and title-abstract-based maps, several dominant thematic patterns emerge. One cluster centers on clinical and nursing-oriented chronic care, emphasizing patient care, hospitalization, disease management, and nursing roles. A second cluster reflects integrated and organizational perspectives, focusing on care coordination, primary health care, quality management, and system-level delivery models. A third cluster highlights community-based and patient-centered approaches, including multimorbidity, long-term conditions, self-care, and patient satisfaction.

Additional clusters capture evaluative and methodological dimensions, such as trials, outcomes, cost-effectiveness, and implementation, illustrating the increasing emphasis on assessing effectiveness and scalability rather than solely describing interventions.

Importantly, node size and link strength are unevenly distributed, indicating skewed metric patterns in which a limited number of core concepts (e.g., chronic disease, patient care, case management) dominate network centrality. This skew suggests intellectual consolidation around foundational constructs, while more peripheral terms represent emerging or specialized lines of inquiry. Overall, the network structure reflects a shift from disease-specific interventions toward integrated, evaluative, and system-level perspectives on chronic care coordination.

3.6. *Global research trend*

The overlay map suggests a shift in dominant terminology over time. The color gradient reflects the average publication year of the high-frequency terms included in the map (VOSviewer output), not the latest publication year covered by the search. Therefore, although the dataset spans 2005–2025, the overlay primarily emphasizes terms that were most prominent around 2014–2020, when their co-occurrence met the inclusion thresholds for visualization.

Overall, the map suggests a shift from role- and service-model terminology toward a stronger emphasis on evidence synthesis, outcomes, and effectiveness evaluation. Earlier terms (darker colors) cluster around workforce and service delivery concepts such as “community matron,” “carer,” and context-specific references (e.g., England), reflecting foundational discussions on case management roles and community-based service configurations. In the mid-period, the map becomes dominated by effectiveness and implementation-oriented language (e.g., “care system,” “efficacy,” “information technology,”

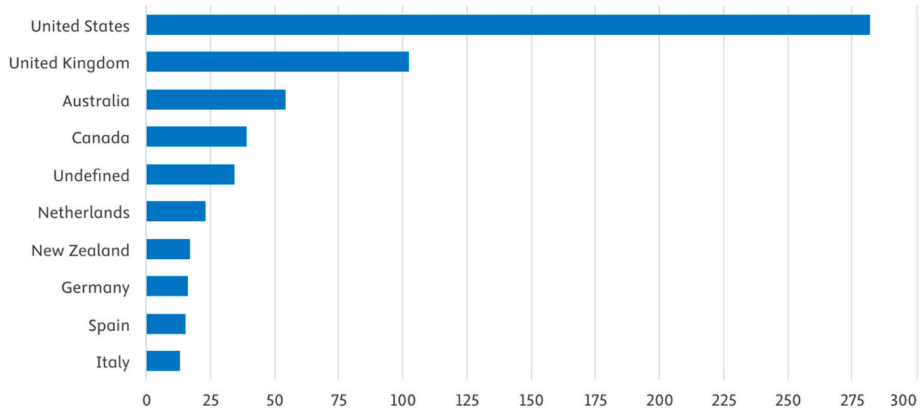

Fig. 3. Country distribution.

"enrollment," and utilization-related terms such as "readmission rate"), indicating increasing attention to how case management and coordination interventions are operationalized and evaluated.

More recent terms within the overlay (lighter colors) are concentrated around evidence synthesis and comparative evaluation, including "systematic review," "meta analysis," "scoping review," and effect-estimation language such as "mean difference," alongside trial-related terminology (e.g., "RCT," "clinical trial," "arm," "primary outcome"). Collectively, these patterns indicate maturation of the field: research increasingly prioritizes quantifiable outcomes, comparative effectiveness, and synthesis of accumulated evidence, rather than primarily describing roles or service models. Importantly, because bibliometric indicators (including term frequency and citation counts) are inherently right-skewed and newer publications have had less time to accrue citations or stabilize term usage, trend interpretations should be viewed as descriptive of dominant and sustained themes, not as definitive evidence that activity stopped after 2020.

4. Discussion

This bibliometric analysis maps the evolution of global research on case management-related roles (case managers, care coordinators, and patient navigators) in chronic disease management from 2005 to 2025. The increasing publication volume, particularly after the mid-2010 s, likely reflects a growing recognition that multimorbidity and long-term conditions require coordinated, longitudinal care rather than episodic, single-disease approaches. This pattern is consistent with broader health system shifts toward integrated and person-centered models of chronic care that emphasize patient activation, empowerment, interprofessional collaboration, and sustained self-management support across care trajectories (Donthu et al., 2021; Heggdal et al., 2023). Rather than positioning patients as passive recipients of care, contemporary models increasingly frame individuals with chronic illness as active partners whose experiential knowledge, self-management capacity, and engagement are central to effective care coordination (Heggdal et al., 2023).

The post-2020 acceleration may also relate to COVID-19 era pressures that amplified the risks of fragmented care for people living with chronic conditions and heightened policy and research attention to continuity, coordination, and patient-centered approaches capable of sustaining care beyond traditional face-to-face encounters (Chudasama et al., 2020; Stewart et al., 2024).

The geographic distribution shows a clear concentration of publications in high-income countries, led by the United States and other countries with mature health systems and established care coordination infrastructures. This skew likely reflects differences in research capacity, funding mechanisms, and the institutionalization of coordination roles within primary and community care models (Melchiorre et al., 2020). In contrast, contributions from low- and middle-income countries (LMICs) remain limited despite a substantial chronic disease burden and common fragmentation challenges. This imbalance suggests the evidence base may disproportionately represent contexts with stronger research ecosystems rather than where coordination needs are greatest, reinforcing the need for capacity-building, equitable partnerships, and context-sensitive implementation research in LMIC settings (Endalamaw et al., 2024; Nugent, 2019).

A key contribution of the co-occurrence mapping is clarifying that the field organizes around applied coordination problems such as care transitions, teamwork, self-management, and delivery redesign rather than isolated disease silos. Importantly, several thematic clusters align with areas where outcome evidence is relatively established. Clusters centered on integrated and collaborative care correspond to a strong evidence base showing improvements in clinical outcomes, adherence, and patient experience when collaborative care is embedded into routine workflows and supported by structured care plans and team communication (Donthu et al., 2021; Thota et al., 2012). Community- and navigation-oriented clusters also mirror evidence that community health worker and navigation-type interventions can improve access and process outcomes (e.g., completion of recommended care and closing care gaps), although effects on utilization and cost vary by population risk, program intensity, and the degree of integration with primary care systems (Endalamaw et al., 2024; Melchiorre et al., 2020; Mistry et al., 2021).

Telehealth and digital coordination emerge as cross-cutting enablers consistent with foundational highly cited work and are often linked to improved follow-up, monitoring, and access; however, stronger effects on "hard" outcomes are more consistently reported when digital tools are embedded within redesigned clinical workflows and accountability mechanisms rather than deployed as standalone add-ons (Donthu et al., 2021; Mills et al., 2020). In parallel, clusters focused on frailty and older adults reflect a long-standing challenge in chronic care. Although case management for older people living with frailty is widely promoted as a way to improve coordination and patient experience, recent systematic review evidence suggests that such programmes generally make little or no difference to hospital admissions, mortality, physical function, quality of life, or overall costs compared with usual care (Melchiorre et al., 2020; Sadler et al., 2023). Overall, the thematic structure of our mapping suggests that the most reproducible impact is observed when coordination is treated as a system-level function operationalized through team roles, workflow integration, and information continuity rather than as an isolated role label.

The thematic shifts observed also mirror real-world uptake of person-centered coordinated care priorities. Increasing prominence of terms such as "care coordination," "patient-centered care," and "transition" aligns with health-system quality and accreditation frameworks emphasizing comprehensive, individualized, and coordinated care pathways as benchmarks for safety and quality (Australian Commission

Table 2
Most cited documents.

No	Title	Author(s), Year	Journal	Total Citation
1	Care coordination/home telehealth: The systematic implementation of health informatics, home telehealth, and disease management to support the care of veteran patients with chronic conditions	(Darkins et al., 2008)	Telemedicine and e-Health	478
2	Effects of community-based health worker interventions to improve chronic disease management and care among vulnerable populations: A systematic review	(Kim et al., 2016)	American Journal of Public Health	407
3	Collaborative care to improve the management of depressive disorders: A community guide systematic review and *meta*-analysis	(Thota et al., 2012)	American Journal of Preventive Medicine	406
4	Successful models of comprehensive care for older adults with chronic conditions: Evidence for the institute of medicine's "retooling for an Aging America" report	(Boult et al., 2009)	Journal of the American Geriatrics Society	295
5	Collaborative care for bipolar disorder: Part II. Impact on clinical outcome, function, and costs	(Bauer et al., 2006)	Psychiatric Services	252
6	Overview of the prevalence, Impact, And management of depression and anxiety in chronic obstructive pulmonary disease	(Coventry et al., 2014)	International Journal of COPD	212
7	Guided care for multimorbid older adults	(Boyd et al., 2007)	The Gerontologist	172
8	Telemedicine experience for chronic care in COPD	(De Toledo et al., 2006)	IEEE Transactions on Information Technology in Biomedicine	165
9	In new survey of eleven countries, us adults still struggle with access to and affordability of health care	(Osborn et al., 2016)	Health Affairs	157
10	Navigation roles support chronically ill older adults through healthcare transitions: A systematic review of the literature	(Manderson et al., 2012)	Health and Social Care in the Community	157

on Safety and Quality in Health Care, 2021; Joint Commission International, 2024). The growing visibility of "multimorbidity" and "self-management" further reflects policy emphasis on proactive longitudinal management and patient engagement, moving beyond acute-only or visit-based chronic care models (Nugent, 2019; World Health Organization, 2023). In some systems, this translation is also reflected in reimbursement mechanisms and service models that incentivize coordination outside traditional face-to-face encounters, though implementation barriers (e.g., documentation burden, workflow redesign, and patient cost-sharing) can shape uptake and equity of access (Harris et al., 2024; Mills et al., 2020).

Methodologically, keyword-based retrieval remains vulnerable to terminological heterogeneity because coordination roles are described differently across countries and disciplines (e.g., case manager, care coordinator, community matron, navigator). This study mitigated the risk by using two databases, broadening search terms, and conducting deduplication and screening in a reference manager with manual verification for ambiguous cases. Nevertheless, future bibliometric studies could further improve sensitivity by complementing keyword retrieval with text-mining based query expansion, controlled vocabulary augmentation (e.g., MeSH-informed strategies), and targeted manual screening of borderline records. In addition, because citation distributions are typically highly right-skewed, highly cited documents in this study should be interpreted as signals of influence within the field rather than as direct proxies for study quality; therefore, citation findings were triangulated with thematic mapping to support interpretation.

This study has several strengths. First, it provides one of the first two-database bibliometric mappings of case management-related roles in chronic disease management by combining Scopus and PubMed records, improving coverage and reducing database-specific bias. Second, the science mapping identified coherent thematic clusters that integrate clinical, organizational, community, and evaluative dimensions of the field. Third, the study triangulated citation analysis (Scopus) with network-based mapping (VOSviewer) and supported reproducibility through an open repository containing raw exports and processed datasets (see Data Availability Statement).

Several implications follow. First, more implementation-focused evaluations are needed that specify program components (caseload, intensity, workflow integration, digital infrastructure, and accountability) and link these explicitly to outcomes, including cost and sustainability. Second, equity-oriented research should expand evidence generation in LMIC settings and within-country underserved populations to address the mismatch between need and research output (Endalamaw et al., 2024; Nugent, 2019). Third, as digital tools become more visible, future studies should distinguish between technology as a standalone addition versus technology embedded within redesigned care pathways, ideally supported by economic evaluation and long-term follow-up. To support transparency and reproducibility, the raw exports and processed datasets underpinning this bibliometric mapping have been deposited in the Open Science Framework (OSF) repository (details provided in the Data Availability Statement).

This policy emphasis is consistent with quality and accreditation frameworks that operationalize coordination and continuity as measurable expectations for safe, comprehensive care (Australian Commission on Safety and Quality in Health Care, 2021; Joint Commission International, 2024). From a policy perspective, the fragmented terminology and heterogeneous role definitions observed in this mapping reinforce the need for greater standardization of case management functions within health systems. Countries that have moved toward clearer role descriptions and financing mechanisms, for example through national care coordination frameworks, competency standards for case managers, or reimbursement codes that specify structured chronic care management activities, offer useful models. Such efforts can clarify scope of practice, support training and certification, and embed case management within universal health coverage and primary care reform agendas rather than treating it as a time-limited project add-on. Future research could explicitly compare systems that have formalised case manager roles with those that have not, examining implications for role stability, interprofessional collaboration, and equity in access to coordinated care.

5. Limitations

This study has several limitations. First, although Scopus and PubMed were searched, relevant records indexed in other databases (e.

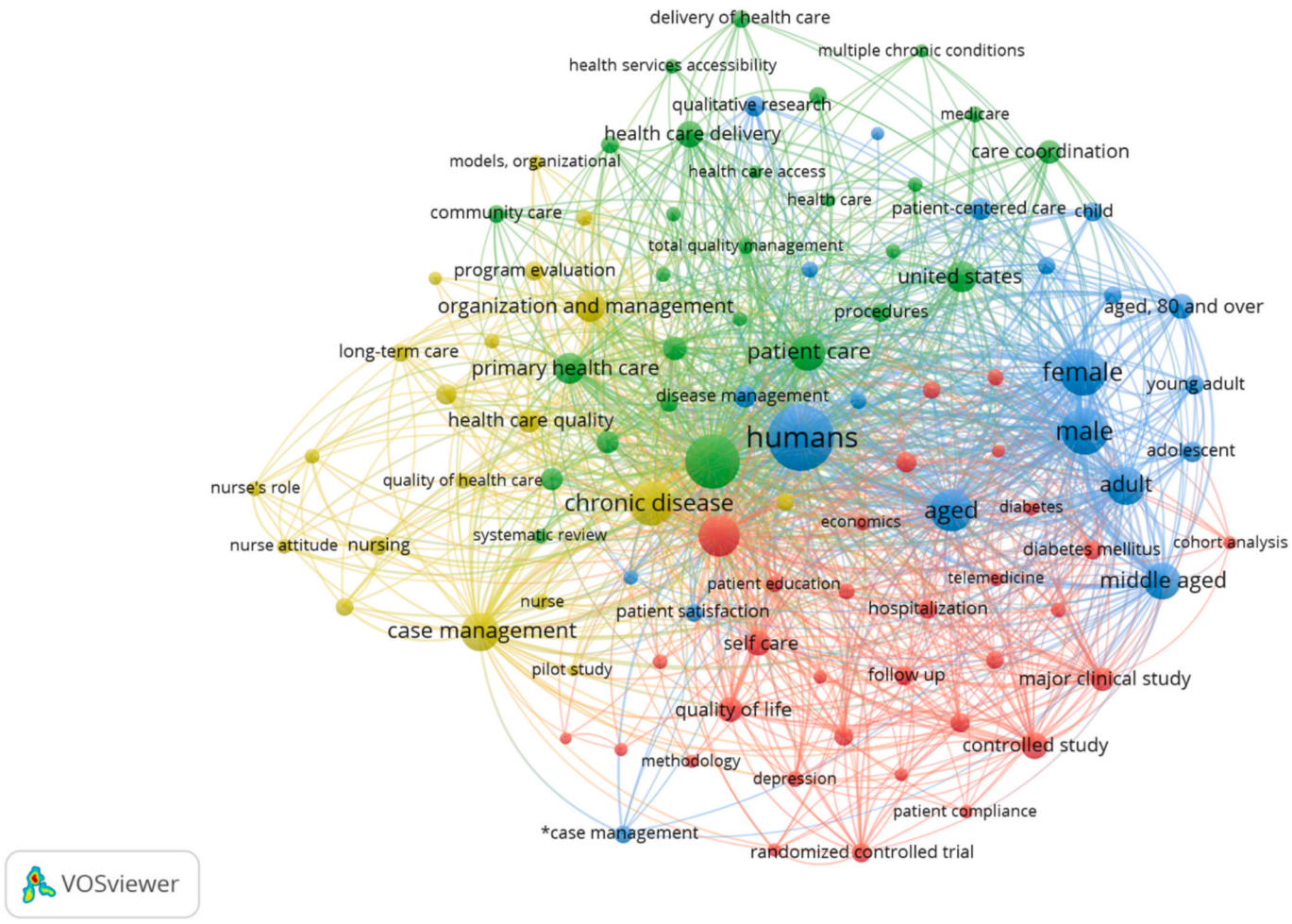

Fig. 4. Network visualization of keyword co-occurrence in case management and chronic disease research.

g., Web of Science, Embase, CINAHL) may be missing, and restricting inclusion to English-language publications (2005–2025) may introduce language and time-window bias. Second, citation metrics are inherently right-skewed and time-dependent; highly cited papers can dominate "most-cited" lists, while recent publications are disadvantaged by citation lag. In addition, Scopus provides integrated citation analytics, whereas PubMed does not; therefore, citation performance was primarily interpreted using Scopus-derived metrics, limiting direct comparability across the fully merged dataset. Third, combining two sources may introduce metadata inconsistencies (e.g., keywords, affiliations/country fields) and residual deduplication/disambiguation issues, and co-occurrence maps depend on parameter settings and thesaurus cleaning choices, which can influence cluster structure and overlay interpretations.

6. Conclusion

This bibliometric study provides a comprehensive overview of global research on case management-related roles (case managers, care coordinators, and patient navigators) in chronic disease management between 2005 and 2025. The field has expanded steadily over the past two decades, with publication growth particularly evident after the mid-2010 s, and is dominated by original research articles from high-income countries. Thematic mapping shows that the literature has evolved from describing specific roles and disease-focused programs toward more integrated, patient-centered, and system-oriented models of care that link coordination, continuity, and self-management support across settings.

The co-occurrence clusters highlight several core areas: hospital- and nursing-based chronic care, integrated and collaborative care models, community and navigation-oriented approaches, and evaluative work in frailty and multimorbidity. These clusters largely align with evidence that case management is most impactful when embedded within interdisciplinary teams, supported by structured workflows and information continuity, rather than implemented as an isolated role. At the same time, the strong concentration of research output in high-income settings underscores a persistent equity gap: contexts with the highest chronic disease burden and most fragmented systems particularly low- and middle-income countries remain under-represented in the evidence base.

Although the Discussion and Conclusion highlight digital tools and AI-enabled case management as important future directions, the bibliometric maps did not reveal a distinct "digital health" hotspot or cluster. This apparent discrepancy likely reflects three factors. First, many telehealth or informatics-enabled interventions are conceptually embedded within broader coordination or chronic care programs, and their digital components are not always foregrounded in keywords or abstracts, making them less visible in co-occurrence analysis. Second, our term-selection thresholds in VOSviewer (minimum 10 occurrences and top 100 terms) favor stable, frequently used concepts such as "chronic disease", "patient care", and "care coordination", while more specialized digital terms may appear less often and thus fall below the cut-off.

Third, much of the early telehealth work was framed around service models or specific technologies rather than "case management" per se, meaning that such studies were only captured in our dataset when they

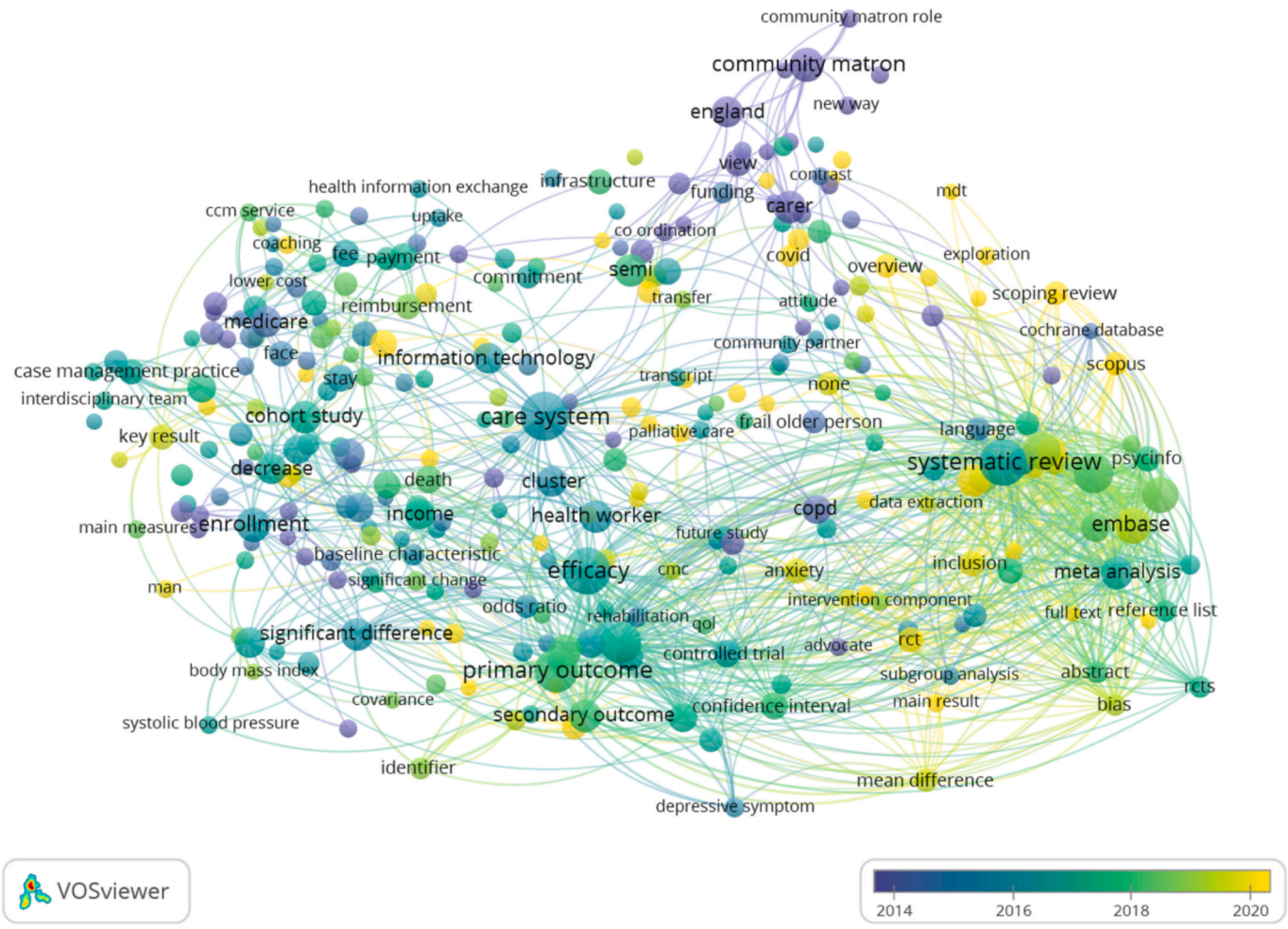

Fig. 5. Overlay visualization of term co-occurrence (title & abstract) showing global research trends in case management (2005–2025).

explicitly linked digital tools to case manager type roles. Taken together, these factors suggest that digital health currently functions as a cross-cutting enabler of case management rather than a standalone thematic cluster in the published literature, even though it is likely to become more central in future research.

Moving forward, research and policy agendas should prioritise more detailed, implementation-focused evaluations that specify the core components of case management (such as caseload, intensity, digital infrastructure, and accountability mechanisms) and examine how these relate to outcomes, costs, and sustainability. Equity-oriented studies are needed to expand evidence generation in under-served populations and LMIC health systems, including family- and community-based coordination strategies that reflect real-world resource constraints. As digital health tools become increasingly common, future work should distinguish between technology deployed as a standalone add-on and technology embedded within redesigned care pathways.

Strengthening the conceptualisation and reporting of case management interventions, while fostering cross-country collaboration, will be essential to aligning case management with integrated, people-centred chronic care and to realising its potential contribution to more resilient and equitable health systems.

Declaration of Generative AI and AI-assisted technologies in the writing process

During the preparation and writing process of this paper, AI technology was not applied.

CRediT authorship contribution statement

Muhammad Rizky Asfarada: Writing – original draft, Visualization, Methodology, Formal analysis, Data curation, Conceptualization. **Ati Surya Mediawati:** Writing – review & editing, Validation, Supervision. **Maria Komariah:** Writing – review & editing, Validation, Supervision. **Mohd Khairul Zul Hasymi Firdaus:** Writing – review & editing, Validation, Supervision. **Sidik Maulana:** Writing – review & editing, Investigation. **Musmulyono:** Writing – review & editing, Validation, Supervision.

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Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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Data availability

The data supporting the findings of this study are derived from Scopus and PubMed. Scopus source records are subject to licensing restrictions and are therefore not publicly available. PubMed records are publicly accessible via the National Library of Medicine; however, the exact study dataset used for analysis (including exported records, deduplication outputs, and cleaned/processed files) is provided for reproducibility. The processed and cleaned datasets generated during the current study, together with the full search strategies and documentation of data handling, are openly available in the Open Science Framework (OSF) repository at: https://osf.io/x27ne/overview?view_only=fa5b695cdec44bbdae1f826dc6372b41.

The complete search strategies for both databases are reported in the Methods section of this manuscript. Additional details can be provided by the authors upon reasonable request.

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