A behaviourally informed systematic review of pharmaceutical-led patient support for individuals with cancer

KEY TAKEAWAY

Pharmaceutical-led patient support shows promise for adherence and experience, but effectiveness remains largely untested and under-theorised.

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Acknowledgements: We thank the IQVIA Medical Communications team for their editorial support and poster design.

BACKGROUND

Pharmaceutical-led patient support is increasingly implemented post-prescription in oncology; however, both its effectiveness and the behavioural mechanisms underpinning this support remain underexplored.

We conducted a systematic review to examine:

- how pharmaceutical-led patient support in oncology is designed,
- which behavioural components it includes, and
- its impact on behavioural, psychological, and clinical outcomes.

Then, we mapped synthesised findings onto behavioural frameworks (e.g. COM-B[1], TDF[2]) and the behaviour change technique (BCT) taxonomy[3] to understand how these interventions work.

METHODS

1. The review protocol was registered with **PROSPERO** (CRD420251073793)[4].
2. Comprehensive searches were conducted across **PubMed**, **Web of Science**, **PsycInfo**, and **CINAHL**, supplemented by **citation tracking** and **grey literature searches**.
3. Studies were screened in Rayyan according to predefined eligibility criteria based on Population, Intervention, Comparison, Outcomes, and Study design (**PICOS**).[5]
4. Data were extracted on study design, intervention characteristics, outcomes, and behavioural content.
5. **Methodological quality was appraised using the Mixed Methods Appraisal Tool** (**MMAT**).[6]
6. A narrative synthesis was undertaken, alongside behavioural mapping using the **COM-B model**, **TDF**, and the **BCT taxonomy**.

ELIGIBILITY CRITERIA

INCLUSION

- **Population:** Individuals diagnosed with any cancer type or stage, including those receiving active or maintenance/survivorship treatments.
- **Intervention:** Pharmaceutical-led or pharmaceutical-sponsored patient support programmes delivered post-prescription, providing structured clinical, educational, adherence, symptom-management, or care-coordination support via any delivery mode.
- **Comparator:** Usual care, no support, or non-pharmaceutical patient support (comparator not required).
- **Study Design:** Quantitative, qualitative, or mixed-methods primary studies (e.g., randomised controlled trials, observational, quasi-experimental, qualitative), including peer-reviewed and relevant grey literature.
- **Context:** Any healthcare setting (e.g., hospital, community, home-based) with no geographic restrictions.

EXCLUSION

- Non-cancerpopulations or primary/secondary cancer prevention in undiagnosed individuals.
- Non-pharmaceutical interventions or unstructured general healthcare services.
- Financial access or affordability programmes without clinical, educational, or adherence components.
- Pre-prescription education, awareness campaigns, or general health promotion only.
- Studies without primary data (e.g., reviews, protocols, editorials, opinion pieces) or lacking assessment of intervention impact.

RESULTS

10 studies included (7 peer-reviewed, 3 grey literature), involving **4,856 patients.**

Heterogeneous designs: prospective (comparative and non-comparative), retrospective, cross-sectional, and one qualitative case series.

Overall evidence quality was **low-moderate.**

Interventions were mainly **structured patient support programmes (PSPs).**

Most were **multi-component** and delivered **longitudinally**.

No study explicitly used behavioural theory, though most implicitly targeted **COM-B determinants.**

Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) Flowchart for Systematic Review Process

Key takeaway:
Despite a comprehensive search, the evidence base was small and heterogeneous, with few eligible studies and overall low methodological quality.

Scan to learn more

Behavioural Outcomes

- **Medication adherence** was most frequently assessed (8/10 studies).
- **Large adherence improvements** reported in descriptive and mixed methods studies (e.g., adherence 85–98%).
- **Randomised trials showed no adherence benefit** from **education-only** interventions.

Psychological Outcomes

- Descriptive studies reported **high satisfaction and improved quality of life,** particularly for **home-based and digital support.**
- **No consistent improvements in emotional wellbeing** demonstrated in controlled trials.

Clinical and Other Outcomes

- **Psychological distress** was infrequently and inconsistently measured.
- **Limited and mixed evidence** for symptom improvement.
- **Digital monitoring** associated with **reduced hospital stay and fewer unplanned visits.**
- **High patient satisfaction** (often >85–95%) and reported **operational efficiencies** (e.g., faster enrolment, reduced costs).

Key takeaway:
Behavioural mechanisms were widely targeted but rarely labelled.

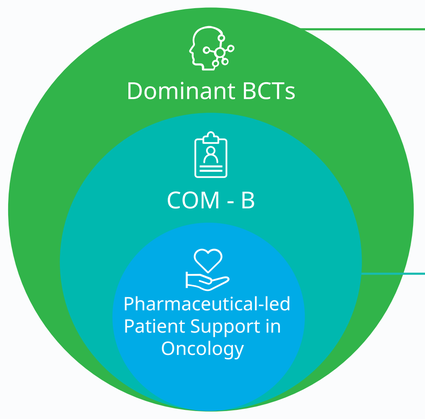

Figure 1:
Behavioural mechanisms targeted by pharmaceutical-led patient support in oncology

CONCLUSIONS AND IMPLICATIONS

What works in pharmaceutical-led patient support, and what's missing:

WHAT WORKS

- Support delivered over time, aligned with ongoing treatment journeys
- Care delivery changes that reduce practical and contextual barriers
- Services which are complementary with routine clinical care

WHAT DOESN'T WORK

- Education-only support, delivered in isolation
- Limited use of behavioural theory
- Low quality and heterogeneous evidence
- Limited testing across patient subgroups and cancer types

Overall study quality was low-to-moderate and transparency of intervention and behavioural reporting was poor, limiting confidence in effectiveness estimates. As a result, behavioural mapping and mechanistic inferences should be considered tentative, reflecting implicit rather than explicitly theory-driven intervention design.

To advance the evidence base and address current limitations, future research should seek to:

Design and evaluate theory-informed patient support, explicitly applying behavioural frameworks (e.g. COM-B, TDF) and systematically mapping intervention components to evidence-based behaviour change techniques to inform both development and evaluation.

Enhance reporting of behavioural mechanisms and implementation processes, including clearer descriptions of behavioural content, hypothesised mechanisms of action, and real-world delivery considerations.

Improve transparency in the design and reporting of pharmaceutical-led patient support, through publication of intervention development processes, to support cumulative evidence building and replication.

Strengthen methodological rigour by:

- Prioritising well-designed comparative and randomised studies that assess behavioural, psychological, and clinical outcomes.
- Reporting interventions using standardised frameworks such as the Template for Intervention Description and Replication (TIDieR) checklist, enabling learning from previously effective patient support where evidence exists.

Examine differential effectiveness of pharmaceutical-led patient support across cancer types, treatment stages, and patient subgroups to better understand for whom and under what conditions interventions are most effective.

REFERENCES:

ABBREVIATIONS:
BCT = behaviour change technique; **COM-B** = capability, opportunity, motivation, and behaviour; **MMAT** = Mixed Methods Appraisal Tool; **PICOS** = Population, Intervention, Comparison, Outcomes, and Study design; **PRISMA** = Preferred Reporting Items for Systematic Reviews and Meta-Analyses; **TDF** = theoretical domains framework; **TIDier** = Template for Intervention Description and Replication