

Patients' preference regarding inpatient versus outpatient setting - A systematic review

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Abstract

Objectives: Continuously rising healthcare costs have led to financial pressure on the healthcare systems. One of the trends for the reduction of costs is the shift towards outpatient treatment. However, research has not focused on the patients' preferences regarding inpatient versus outpatient treatment settings. The purpose of this review is to examine existing studies surveying patients' preferences related to inpatient and outpatient treatment methods. The aim is to find out whether patients' wishes were queried and considered in the decision-making process.

Design: Therefore, the reviewers performed a systematic approach utilizing the PRISMA standards and screened 1'646 articles out of 5'606 articles from the systematic search.

Results and Conclusion: The screening resulted in 4 studies that analyzed exclusively the patient's choice of treatment setting. The search showed an apparent paucity of current literature and highlights the need for further research. The authors' recommendation includes a better involvement of patients in the decision-making process as well as adding preferred treatment settings to advanced treatment directives and patient satisfaction questionnaires.

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KEYWORDS

advanced treatment directive, ambulatory, decision-making, hospital, stationary

Highlights

- Shift from inpatient to outpatient treatment.
- Patients' personal preferences regarding inpatient versus outpatient treatment are neglected.
- The systematic review revealed only 4 studies regarding patient choice.
- Patients' preferences regarding setting should be added to the decision-making process.

1 | INTRODUCTION

The shift from inpatient to outpatient treatment settings started nearly 40 years ago in the United States.¹ This trend was fostered by medical and technological advancements in therapy, economical legislation, and pressure such as reimbursement for overnight stays. In Germany and Switzerland, additional economical pressure was put on the healthcare system with the introduction of a new financial procedure Diagnosed Related Groups (DRG). The SwissDRG (Swiss Diagnosis Related Groups) is in effect since 2012 and regulates the remuneration of inpatient hospital services with a system similar to flat rates.² Simultaneously, including patients in the decision-making process became more relevant as reflected in the shared decision-making model and advanced treatment directives. Shared decision-making is a process where physicians and patients both take active roles in setting goals and planning the treatment process.³ Advanced treatment directives describe the written desires and requests of patients for future treatment in case of inability of their own decision-making.⁴

These developments, the shift from stationary to ambulatory treatment on one hand and the empowerment of patients within the treatment process on the other hand led to many studies addressing the differences between inpatient versus outpatient treatment (IP vs. OP treatment).^{5,6} For the most part, studies asked questions about safety, efficacy, and medical advantages regarding different settings, for example, these two recent reviews about the safety and medical advantages in a surgery setting^{7,8} or these reviews on the efficacy of medical treatment in different medical specializations.^{9,10} Another part of the articles addressed economical questions like savings and cost reduction.¹ A quick overview of the systematic reviews showed a large preponderance of reviews that addressed costs and treatment success, for example, Crawford, Li.¹¹ Hence, very few articles addressed psychosocial aspects or patients' choices for inpatient or outpatient settings.¹² Some reviews did inquire about the patient's decision for or against inpatient treatment.¹³ However, it was not inquired why a patient opted for inpatient or outpatient treatment and whether these reasons also went beyond the concepts of cost, safety, and medical benefit.

Even though Swift and Callahan¹⁴ showed in their meta-analytic review that including patients in the decision-making process led to a slightly better treatment outcome and a lower drop-out rate when receiving the preferred therapy we were hardly able to find studies that included explicitly the patients' choice or the reasons behind the decision on inpatient versus outpatient treatment setting. The authors assumed that patient decisions are not only made based on criteria such as cost, effectiveness, and safety. Rather, patients also factor life circumstances and psychological considerations into their decisions.

The purpose of this review is to examine if the decision-making-process is referring to the totality of the patient's reasons behind a decision taken. This explicitly must include psychological aspects, which seem not to be addressed in the patient-physician discussions.

2 | METHODOLOGY

The literature review at hand followed the guidelines and checklist of the Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement guarantees a systematic and accepted research standard.¹⁵ For the current article, the PRISMA Checklist 2020 was used and followed. This guideline is recommended to improve the quality of systematic reviews.¹⁶ To follow quality guidelines, selection criteria, search strategy, and article selection were performed by at least two of the authors and were rigorously documented for transparency and reproducibility.

2.1 | Study selection criteria

The following criteria for eligibility were applied. Relevant articles were published between 2000 and 2020. This time frame was chosen because of the considerable changes in outpatient treatment remuneration in the last 20 years and because older studies could not take medical and technological advancements into account.^{11,17} Both qualitative as well as quantitative study designs were included. There was no restriction as to sample size and geographical location. Given that the common research language is English, all articles selected are English papers. Reviews and editorials were excluded. The Critical Appraisal Skills Programme (CASP) Systematic Review Checklist was used to assess the quality of the systematic review.¹⁸

2.2 | Information sources

Studies were identified by searching the databases Cochrane, PubMed, and Web of Sciences. All databases were accessed online. The last search date was 10 March 2020.

2.3 | Search strategy

The expert consensus consisting of two of the four researchers (Andres R. Schneeberger and Sabina Heuss) used selected literature and trial search methods to define the search terms for the current study. The search terms were

1. patient
2. participant
3. preference
4. option
5. choice
6. view
7. perspective
8. expectation
9. motivation

These terms were used in the first step to gain an overview of the articles. For Web of Science the following search string was used:

((TS= (Patient) OR TS= (participant) AND TS= (preference) OR TS= (option) OR TS= (choice) OR TS= (view) OR TS= (perspective) OR TS= (expectation) AND TS= (motivations)) AND TS= (outpatient vs. inpatient)) AND DOCUMENT TYPES: (Article) Indexes = SCI-EXPANDED Timespan = 1990–2020.

Having many results overlapping search terms and, therefore, multiple duplicates, the search terms were adjusted. The authors discovered that there was no combination of selected terms and 'patient'. A search including

TABLE 1 Exclusion criteria.

Exclusion criteria	Comments
Age group	Excluding children (and therefore, paediatric, neonatal and childbirth)
Age of article	2000–2020
Study design	Qualitative and quantitative
Sample size	No
Geographic location	No
Language	English (as research terms are in English)
Publication	Excluded reviews and editorials

'inpatient', or 'outpatient' did not yield any additional discriminatory value and was therefore excluded. The exclusion criteria can be seen in detail in Table 1.

Further research characteristics compromised the exclusion of 'childbirth', 'neonatal' and 'pediatric' (see Table 2). The exclusion is based on the fact that in inpatient versus outpatient settings in childbirth, neonatal and pediatric treatment is chosen by parents and not the child. Also, the fact that childbirth is not a 'medical treatment' leads to different decision-making. Patients' preferences regarding treatment setting in the end-of-life phase are outside of the scope of this research question and were therefore excluded.

Four researchers (SB, SH, AS, SW) performed the search individually and sequentially using the reference management software EndNote.¹⁹ The PRISMA flow diagram can be found in Figure 1 and visualizes the different phases of the study selection such as identification, screening, eligibility, and the inclusion of articles.

Identification phase: PubMed, Web of Science, and Cochrane were used to search for literature accessing titles and abstracts. The searches were performed between 18 February 2020 and 10 March 2020. After the literature was identified, duplicates were excluded.

Screening phase: Within the screening phase, the age group 'children', articles before 1999, and articles in other languages than English as well as reviews and editorials were excluded. The researchers SB and SW individually reviewed 1646 summaries in EndNote, viewing abstracts and/or full text where necessary, and, decided whether the article addresses the decision made by patients for either outpatient or stationary medical treatment. If this was not the case, the records were excluded.

Eligibility phase: The next step included a full-text assessment of the remaining 10 articles by SB, SH, AS, and SW. The records were exported into Word files. The researchers individually decided whether the studies met the review criteria and reported the criteria in a document. A record of those remaining 10 papers in the eligibility phase was kept including the reasons for rejection or inclusion. This was followed by a discussion within the research group until a consensus was reached on the remaining articles.

Inclusion phase: The included records consist of 4 articles.

3 | RESULTS

A total of 5606 sources were identified addressing preferences on inpatient versus outpatient treatment of which 1646 were published between 2000 and 2020. The further triage of the articles resulted in 10 articles that addressed the patient's choice based on psychosocial factors such as the feeling of stress, travel necessities, and lodging, demands of childcare, or feeling of safety and support. The titles and abstracts from the remaining 10 sources were read by 4 researchers and 4 were put forward for full-text review.

The remaining articles were 4 as visualized in Table 2. Four articles inquired specifically about the patient's preferences. The article by Cox, Goel²⁰ was a randomized, unblinded, two-period cross-over trial with 53 patients who were treated with high-dose cisplatin as part of their chemotherapy in Australia. The first outcome was

TABLE 2 Summary of chosen articles.

Authors	Publication year	Title	Content	Patients included	Results/outcome
Nicola Mitchell-Jones, Jessica Alice Farren, Aurelio Tobias, Tom Bourne, Cecilia Bottomley	2017	Ambulatory versus inpatient management of severe nausea and vomiting of pregnancy: a randomised control trial with patient preference arm	To determine whether ambulatory (outpatient (OP) treatment of severe nausea and vomiting of pregnancy is as effective as inpatient (IP) care. Non-blinded, randomized, control trial with patient preference arm.	152	The study shows that many of the women approached would not have participated if they had not had their choice of IP versus OP. Half of the women participating in the study had a strong preference over IP or OP. Reasons were: no child care (desire for outpatient), not able to care for children at home (desire for inpatient), round trip not possible (desire for inpatient), working conditions (desire for outpatient), feeling too bad to go home (desire for inpatient). More women with more severe symptoms preferred IP, although the outcome was the same with IP and OP.
K. M. Cox, S. Goel, R. L. O'Connell, M. Boyer, P. J. Beale, R. J. Simes and M. R. Stockler	2009	Randomized cross-over trial comparing inpatient and outpatient administration of high-dose cisplatin	The study design was a randomized, unblinded, two-period cross-over trial. This study explicitly asked about the choice between inpatient and outpatient setting.	53	Most patients preferred the outpatient setting. 60% of patients saw OP treatment as much better or moderately better. Less common in the OP setting were feelings of dislocation, less perceived nausea, and generally better psychological state. On the other hand, feeling less caught up and less access to an emergency were more common. Also, inpatient setting felt more stressful.
Cristiane J. Gomes-Lima, Di Wu, Pejman H. Kharazi, Gauri J. Khojekar, Matthew D. Ringel, Richard J. Vetter, Gary Bloom, Kenneth D. Burman, Leonard Wartofsky and Douglas Van Nostrand	2017	Selected Radiation Safety Aspects Including Transportation and Lodging After Outpatient ¹³¹ I Therapy for Differentiated Thyroid Cancer	The objective of this study was to survey selected aspects of radiation safety of patients treated with ¹³¹ I for differentiated thyroid cancer as an outpatient.	1'549	Whether radioactive iodine (¹³¹ I) treatments for differentiated thyroid cancer should be performed as an outpatient or inpatient remains controversial. The authors strongly encourage the assessment and documentation of the patient's personal situation regarding inpatient versus outpatient ¹³¹ I treatment.

(Continues)

TABLE 2 (Continued)

Authors	Publication year	Title	Content	Patients included	Results/outcome
Leslie Anne Campbell, Steve R. Kisely	2012	Advance treatment directives for people with severe mental illness	The review found only two trials with 321 patients with severe mental illness.	321	Too few data are available to formulate recommendations. The two studies examined in this article showed no significant differences in the number of hospital admissions, psychiatric outpatient attendances, nor in compliance with treatment, self-harm or number of arrests. In contrast, patients with advanced treatment directives required less social workers time and had fewer violent acts.

that OP treatment was equally safe but used fewer resources than IP treatment. The second outcome was that most patients preferred OP treatment (36 vs. 13). The reason for this specific choice was that patients felt less distressed when thinking about another cycle of high-dose cisplatin when treated previously in an OP setting. Patients were not asked for their reasoning regarding their choice. The authors assumed that the psychological well-being of patients in an OP setting occurs because of reduced anxiety or dislocation as compared to overnight hospitalizations.²⁰ Another assumption of the authors was that self-perceptions of 'sickness' might be reduced. The authors also assumed that within an OP setting, a feeling of not being supported enough and having less access to an emergency hospital could occur. These assumptions were based on literature and not the study itself. The literature was older than 2000 and therefore not included in this present review.^{1,13} The study by Vokes, Schilsky¹³ about infusion chemotherapy asked specifically about the choice of patients but was rather small with 22 patients included.

The study by Mitchell-Jones, Farren²¹ analyzed the patient's IP or OP choice in severe nausea and vomiting in pregnancy. This non-blinded randomized controlled trial included 152 women to determine whether IP or OP treatment showed greater effectiveness in patient care. The first outcome of the study was the conclusion that IP and OP management were equally effective. The second outcome was that many women only agreed to participate in the study if the patient's preference for IP or OP was followed. The study setting had to be adjusted accordingly and randomization was eliminated. Common reasons for declining randomization and the choice for one of IP or OP treatment were: no childcare at home (requested OP), unable to care for children when unwell (requested IP), unable to travel to and from the hospital daily (requested IP), work commitments (requested OP) and felt too unwell to go home (requested IP). Hence, the reasons for a strong preference for one of the settings were often based on psychosocial factors. It also means that in the case of severe nausea and vomiting in pregnancy both treatment settings, need to be offered to address the strong preferences of women with this condition.

The third article was a study about radiation safety aspects. The study by Gomes-Lima, Wu²² was the largest in this review with 1549 participants. The researchers treated the question of whether radioactive iodine treatment for differentiated thyroid cancer should be treated in an IP or OP setting. The article concentrated on the safety aspects like transportation from the treatment place to the patient's home or lodging. Precaution must be taken for radiation safety and risks to individuals irradiated by exposure to patients treated with ¹³¹I. The study which consisted of 90%

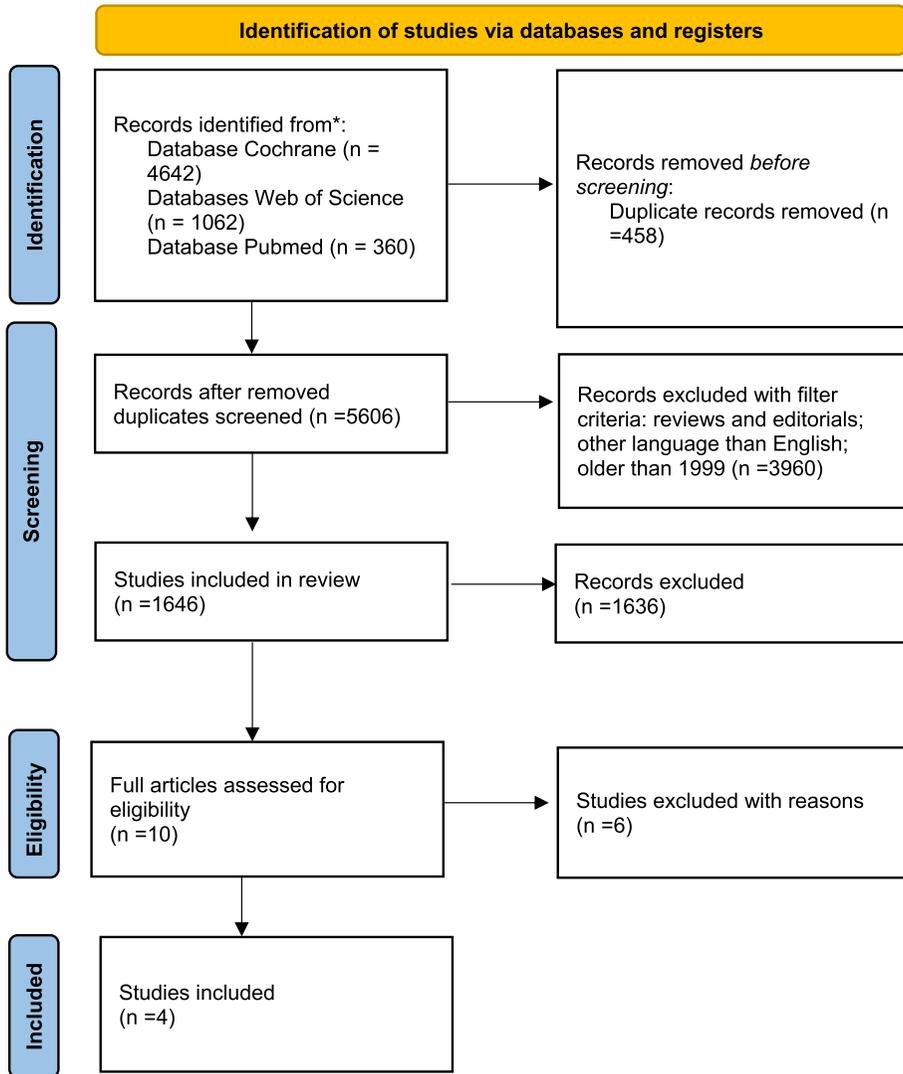


FIGURE 1 PRISMA flow diagram. [Colour figure can be viewed at wileyonlinelibrary.com]

female participants demonstrated *who* took the decision rather than *why* a decision was taken. Physicians made 75% of the decisions. In 21% of these cases, patients contributed by filling out a questionnaire but in 45% no discussion with the patient was conducted. In only 11,3% of all cases the patient was the decision maker. 5% of all cases were decided by the insurance.

One of the articles did not correspond completely to all review criteria but was included nonetheless for the following reason. The article by Campbell and Kisely⁴ discussed the effects of advanced treatment directives for people with severe mental illness on hospital admission or psychiatric outpatient attendance. Although the motives behind the choice for inpatient versus outpatient treatment were not the subject to the review, this article demonstrated the importance of advance directives for patients and the impact on IP versus OP treatment preference which was not included in the criteria for this review. The review concludes that too little data are available to formulate recommendations for advance directives. Advanced directives might comprise the choice for patients for one of the treatment options. Further research should be done on this topic.

4 | DISCUSSION

We screened thousands of articles to conclude that a major part of articles about 'choice' is dedicated to the treatment quality and outcome and the medical differences between an inpatient versus outpatient setting. Many others focused on the quality of life and treatment satisfaction.^{23,24} There are very few, 4, articles that addressed actual patient choices based on psychosocial factors. A patients' choice about inpatient versus outpatient settings needs to be based on treatment outcome. It was somehow surprising how little research has been done on the patient's opinion about the setting of his or her treatment as well as the reasons behind the preference.

A literature review by Friedrichs, Spies²⁵ on patient preferences and shared decision-making suggests that matching patients' preferences to treatment options and settings may raise treatment adherence and outcome. This is in line with older research.¹⁴ The results showed that patients with substance abuse disorders preferred OP settings but no significant effect on substance use reduction was found. The preference for IP versus OP setting also depended on the substance abuse. Results remained vague concerning alcohol use disorders but were significant concerning opioid and cocaine dependency where a majority preferred OP treatment. Another outcome of this review was that patients had a strong preference to be actively involved in the decision-making process of IP versus OP treatment. The interpretation of various studies suggested that matching the setting preferences resulted in better treatment outcomes. But results were vague and depended heavily on the substance abuse and attendant symptoms and comorbidity such as depression or schizophrenia.²⁶ Hence, more research needs to be done on the reasons affecting treatment setting preferences and the relationship with better treatment outcomes.

In almost all European countries, healthcare costs are rising every year for many reasons.²⁷ One of the financial levers to get these costs under control is the shift from inpatient to outpatient treatment. Most studies examining IP versus OP settings concentrate on the medical outcome. Whilst this is certainly the most important aspect, other aspects such as the patients' reasons to choose one of the settings need to be more in focus of physicians and researchers. The articles by Mitchell-Jones, Farren,²¹ and Friedrichs, Spies²⁵ demonstrate that most patients express a strong preference for IP or OP treatment. The study by Cox, Goel²⁰ showed that the treatment setting (IP or OP) influences the psychological well-being of patients. Depending on the treatment they feel less stressed, less sick, or on the other hand more supported and safer with immediate access in an emergency. Also, the personal situation at home (childcare situation, distance, and travel time) or at work (work commitments) influence the decision. Therefore, we recommend more systematic research on patients' reasons to choose between IP or OP treatment settings. This will help better understand patients' psychological reasons and personal situations and where necessary, respond with more adequate infrastructure and services.

The article by Gomes-Lima, Wu²² highlights the scarce involvement of patients in the decision-making process of the treatment setting. Physicians are mostly in charge of deciding between IP or OP treatment. More focus needs to be put on the patient's active involvement in decision-making in treatment settings as well as further research on the effect of such a more active involvement.

5 | CONCLUSION

The review evidenced a paucity of studies examining the patient's reasons behind decision-making regarding inpatient versus outpatient settings. An overview of the existing evidence is missing. This literature review closes the gap in providing a thorough evaluation of the existing literature about patients' preference for inpatient versus outpatient treatment settings. The review is the first to our understanding to focus on the psychosocial aspects of choice rather than economical or medical questions.

Based on the reviewed articles we recommend acknowledging that patients express a strong preference for IP or OP treatment and that such preference needs to be addressed by physicians and considered during the decision-making process. Discussing not only the preferences but also the reasons behind the preference reveal

the socio-psychological factors and could help physicians and clinics to adapt their services and infrastructure. Since matching setting preferences may result in better treatment outcome, as Friedrichs' literature review suggests,²⁵ more research needs to be conducted for further evidence.

6 | LIMITATION

The review took approximately a year. During this time one researcher's employment ended, and a successor was recruited. Potential faults due to this fact were minimized by recording the operating procedures accurately. Furthermore, having English as the main language for search terms might have omitted research published in other languages.

AUTHOR CONTRIBUTIONS

Andres R. Schneeberger: Supervision, conceptualization, methodology, writing. **Sarah Werthmueller:** Data curation, visualization, writing. **Santiago Barco:** Investigation, data curation. **Sabina C. Heuss:** Supervision, conceptualization, methodology, writing.

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CONFLICT OF INTEREST STATEMENT

We wish to confirm that there are no known conflicts of interest associated with this publication.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

ETHICS STATEMENT

Not applicable.

STRENGTHS AND LIMITATIONS OF THIS STUDY

- This is the first systematic literature review focusing on patient's preferences regarding inpatient versus outpatient treatment settings.
- Potential faults due to the workplace change of one of the researchers were minimized by recording the operating procedures accurately.
- Having English as the main language for search terms might have omitted research published in other languages.

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