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Cost-Effective Psychotherapy for Personality Disorders in The Netherlands: The Value of Further Research and Active Implementation

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A B S T R A C T

Objective: In a budget-constrained health care system, decisions regarding resource allocation towards research and implementation are critical and can be informed by cost-effectiveness analysis. The objective of this study was to assess the societal value of conducting further research to inform reimbursement decisions and implementation of cost-effective psychotherapy for clusters B and C personality disorders (PDs).

Methods: Value of information and value of implementation analyses were conducted using previously developed cost-effectiveness models for clusters B and C PDs to evaluate the parameters that contribute to most of the decision uncertainty, and to calculate the population expected values of perfect information (pEVPI) and perfect implementation (pEVPIM).

Results: The pEVPI was estimated to be €425 million for cluster B PDs and €315 million for cluster C PDs, indicating that gathering additional evidence is expected to be cost-effective. The categories of parameters for which reduction of uncertainty would be most valuable were transition probabilities and health state costs. The pEVPIM was estimated to be €595 million for cluster B PDs and €1,372 million for cluster C PDs, suggesting that investing in implementation of cost-effective psychotherapy is likely to be worthwhile.

Conclusions: The societal value of additional research on psychotherapy for clusters B and C PDs is substantial, especially when prioritizing information on transition probabilities and health state costs. Active implementation of cost-effective treatment strategies into clinical practice is likely to improve the efficiency of health care provision in The Netherlands.

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Introduction

Cost-effectiveness analyses increasingly are being used to inform policy decisions regarding the adoption and reimbursement of mental health interventions. Recently, two decision-analytic modeling studies evaluated the cost-effectiveness of various modalities of psychotherapy in treating cluster B personality disorders (PDs) [1], including borderline, antisocial, histrionic, and narcissistic PDs, and cluster C PDs [2], including avoidant, dependent, and obsessive-compulsive PDs. Results indicate that, at a societal willingness to pay of €40,000 per quality-adjusted life year (QALY), outpatient psychotherapy is the optimal treatment for patients with cluster B PDs, whereas short-term inpatient psychotherapy is the most cost-effective choice for patients with cluster C PDs. If the objective of the health care system is to maximize gains in health outcome subject to a budget constraint, these treatment strategies are, on average, expected to generate the highest level of net benefit and should be adopted.

The decision of whether to adopt a treatment strategy is unavoidably subject to uncertainty, as current information on costs and effects is rarely perfect or complete. If the decision based on existing information turns out to be wrong, there will be costs in terms of health benefit and resources forgone, because patients are assigned to suboptimal treatment strategies. An important question, therefore, is whether more information regarding these decisions is desirable [3]. Gathering additional evidence for uncertain parameters is valuable because it is expected to reduce decision uncertainty and, thus, the probability and the net consequences of a wrong decision; however, it is not without costs.

Although our evidence-based findings of cost-effective care in treating personality disorders can inform recommendations for clinical guidelines, it does not guarantee diffusion into clinical practice. This imperfect translation into clinical routines may be due to limited availability in settings where patient demand exceeds treatment capacity. Moreover, it is unlikely that clinicians will immediately alter their professional practice once a treatment is identified as cost-effective [4]. Adherence to suboptimal treatment strategies will compromise the efficiency of health care provision, resulting in health and resources forgone [5]. Resources need to be allocated toward active implementation of cost-effective treatment strategies using activities such as restructuring and planning of care or education and training of professionals.

Cost-effective health care policy involves making decisions about the reimbursement of cost-effective treatments as well as weighing the potential value of collecting additional evidence and implementation efforts against the costs of these activities. Adequate priority setting and efficient resource allocation thus requires an integral economic analysis of these separate but related options to improve care.

This study places an upper bound on the value of conducting further research regarding the decision question of cost-effective psychotherapy for clusters B and C PDs and aims to feed the priority-setting process by indicating which type of research would be most valuable. Additionally, the potential worth of ensuring the implementation of cost-effective care for these patient populations is estimated. We use a single, unified framework that evaluates the uncertainty associated with the adoption decisions to estimate both the value of information and the value of implementation [6,7]. The findings from our study can be used to inform policy debates regarding the efficient allocation of health care resources among health care provision, research funding, and investments in implementation strategies.

Methods

Patient population and empirical data

Based on the prevalence of cluster C PDs (median 4.2%; 1.4% avoidant PDs, 0.8% dependent PDs, and 2.0% obsessive-compulsive PDs) [8] in the population of The Netherlands (16,377,153), the percentage of treatment-seeking patients with a PD (19.1%) [9], and the percentage of patients with a PD receiving psychotherapy (16.4%), we estimated the annual incident cluster C PD population eligible for treatment to be 21,546 patients. The total eligible population (discounted over 5 years) was calculated to be 99,756. The various modalities of psychotherapy in treating patients with cluster C PDs include long-term outpatient psychotherapy, short-term and long-term day hospital psychotherapy, and short-term and long-term inpatient psychotherapy.

For cluster B PDs (median 6.0%; 1.5% borderline PDs, 2.6% antisocial PDs, 1.8% histrionic PDs , and 0.1% narcissistic PDs) [8], we assumed the incidence of eligible patients per annum to be 30,780 and the total eligible population (discounted over 5 years) to be 142,508. Treatment options include outpatient psychotherapy, day hospital psychotherapy, and inpatient psychotherapy.

Patient-level data were obtained from the largest existing clinical trial of psychotherapy for PDs (the SCEPTRE trial), which included over 900 patients [1,2]. Patients were assigned to one of the treatment groups, based on a comprehensive assessment battery combined with the expert opinion of clinicians. To avoid selection bias, we controlled for initial differences in patient characteristics with the multiple propensity score method [10].

With 63 out of 448 cluster C patients of the SCEPTRE population receiving short-term inpatient psychotherapy, we assumed the current level of implementation to be 0.141. For long-term outpatient psychotherapy, short-term day hospital psychotherapy, long-term day hospital psychotherapy, and long-term inpatient psychotherapy, we estimated the current level of implementation to be 0.214, 0.190, 0.230, and 0.225, respectively. For cluster B PDs, 57 out of 241 patients received outpatient psychotherapy; therefore, we assumed the current level of implementation to be 0.237. For day hospital psychotherapy and inpatient psychotherapy the current level of implementation was estimated to be 0.411 and 0.353, respectively.

Cost-effectiveness analysis and decision uncertainty

Cost-effectiveness analyses were previously conducted using a Markov cohort model based on second-order Monte Carlo simulation [11]. Results were reported from the societal perspective and in terms of costs per QALY gained. To be consistent with most other cost-effectiveness studies that are based on clinical