

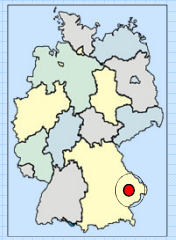
# The Mobile Oncological Service for Out-Patients (MOD): Analysis of Cost Effectiveness and Quality of Life in the first year of action

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**Abstract:** The mobile oncological service for outpatients (MOD) is a project of the Oncologic-Palliative-Care-Network of Landshut, Germany. Central idea of the MOD is to delegate doctoral tasks to specially trained medical personnel, called "assistants for oral and subcutaneous tumor therapy" in rural areas.

These tasks include the monitoring of oral or s.c. therapy, the assistants liaise constantly with the supervising oncologist, including the general practitioner and nursing service about status and developments.

As a trend-setting project for rural areas lacking the infrastructure for complex cancer-patients, the MOD has been nominated for the Bavarian Health Award 2013. We present the analyses of patient satisfaction and cost effectiveness of this novel service in the first year of action.



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**Methods:** Data of all patients included into the MOD from August 2013 till end of July 2014 was prospectively collected. Patient's requirements for inclusion in the MOD were: oncological patient, poor general condition, lack of transportation means or increased danger of infection. For comparing costs of the MOD to alternative services necessary for reaching consultation, we calculated the standard rates of ambulance with or without professional attendance and regional cab fares. Patient satisfaction and quality of life (QOL) analyses were measured by a standardized questionnaire for patients visited at least ten times and included for at least three months into the MOD with six questions and answering options ("very good" to "very bad").

**Results:** In one year, 491 visits were performed for a total of 71 different Patients included into the MOD. 45 patients have been excluded till July 2014 due to death (n=12), patient wish (n=1) or changes in inclusion or exclusion criteria (=32). Median visits per quarter (three months) and patient were 4,79. Due to multiple visits in one area, the average distance per patient and quarter was 87km for the MOD, whereas 133km would have been necessary if the patients would have come to the practice. An average of 60 minutes was necessary for driving, patient consultation, documentation and communication per visit by the MOD, with a calculated cost of 50 Euros per hour. Also, QOL was dramatically improved, measured by standardized questionnaires.

<b>Average time per visit:</b>	<b>59,82min</b>
•patient consultation:	27,09 min
•driving:	22,73 min
•Doctors consultation:	5 min
•Documentation:	5 min

<b>Average time saved for patient and quarter:</b>	
Time travelling:	~2,5 h
Time in practice:	~10 h

<b>Costs MOD per quarter and patient:</b>	<b>223 Euros</b>
Taxi-Cost (133km):	~260 Euros
Ambulance-Cost (133km):	~320 Euros
Supervised Ambulance-Cost (133km):	~600 Euros

<b>Possible cost reduction by MOD per quarter:</b>	
<b>MOD vs. Taxi</b>	<b>-15%</b>
<b>MOD vs. Ambulance:</b>	<b>-30%</b>
<b>MOD vs. Supervised Ambulance</b>	<b>-63%</b>

## Quality of life Evaluation:

- **Stress relief for patient by having at-home consultation:**  
95 % evaluated a "very good" relief
- **Strain relief for family members**  
68 % stated "very good", 32 % stated "good" relief
- **Improvement in treatment security by MOD**  
82 % as "very good", 18 % as „good“ improvement
- **Improvement of overall QOL**  
68 % reported "very good" and 32% „good“ improvement
- **Importance of MOD for patients**  
91 % „very important“, 9 % „important“
- **Overall Patient satisfaction:**  
95 % "very good"

**Conclusion:** The MOD is a novel and unique service for cancer patients in rural Germany. Our results show that this service not only reduces costs for health care while improving patient safety, but also leads to a dramatic improvement of quality of life. We conclude that this service should be implemented into all rural areas facing these issues. The advantages of the MOD can be summarized as follows:

- Improving quality of life
- Cost effective and time effective for the health care system
- Ensuring high qualified oncological care for seriously ill and the elderly in rural areas
- reduced travel hassles, avoidance of stressful situations, reduced waiting times
- less strain for family and relatives
- improved compliance for oral chemotherapy and sc-therapies
- reduction of hospitalization for patients

