



BUDGET IMPACT ANALYSIS OF DOCETAXEL REIMBURSEMENT IN INDUCTION THERAPY OF LOCALLY ADVANCED HEAD AND NECK SQUAMOUS CELL CARCINOMA IN POLAND

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INTRODUCTION:

Head and neck squamous cell carcinoma (HNSCC) is the sixth most common cancer worldwide. The estimated incidence rate is about 2% in male population and 0.6% in female population, in Western Europe there are about 76,000 new cases of the oral cavity, the throat and the larynx cancers and 37,000 new cases in the USA [1]. In Poland, about 5,700 new cases of HNSCC and 3,600 deaths are projected annually [2]. General managements in HNSCC treatment are surgery, radiotherapy and chemotherapy. They are administered separately or in combination. The treatment strategy should be dependent on the patients' performance status, stage of the tumor extension, its localization and grading [2].

OBJECTIVES:

The aim of the analysis was to estimate the impact of docetaxel reimbursement for the induction therapy of locally advanced head and neck squamous cell carcinoma on the budget of the Public Payer (the National Health Fund) in Poland. A strategy containing docetaxel (TPF – docetaxel/cisplatin/fluorouracil) was compared with the standard strategy of induction treatment (PF – cisplatin/fluorouracil), reimbursed in Poland.

METHODS:

Population and time horizon

The budget impact analysis was performed with a 5-year time horizon (years 2008-2012) of docetaxel reimbursement.

The target population were adult patients with locally advanced (stages III or IVA and IVB) HNSCC (according to ICD-10 classification) that had been diagnosed by histologic or cytologic analysis.

In the analysis, the following categories were considered according to ICD-10 classification:

Table 1.

Code	Category name
C01	Malignant neoplasm of base of tongue
C02	Malignant neoplasm of other and unspecified parts of tongue
C03	Malignant neoplasm of gum
C04	Malignant neoplasm of floor of mouth
C05	Malignant neoplasm of palate
C06	Malignant neoplasm of other and unspecified parts of mouth
C09	Malignant neoplasm of tonsil
C10	Malignant neoplasm of oropharynx
C12	Malignant neoplasm of piriform sinus
C13	Malignant neoplasm of hypopharynx
C14	Malignant neoplasm of other and ill-defined sites in the lip, oral cavity and pharynx

Perspective

The analysis was estimated from the Public Payer's perspective (the National Health Fund).

Scenarios

Two scenarios were compared:

- **Present**; assuming that all patients qualified for an induction chemotherapy are treated with standard regimen (PF).
- **Future**; assuming that regimen with docetaxel is reimbursed as induction chemotherapy in the treatment of patients with HNSCC and all patients from the target population are treated with TPF.

Costs

In the budget impact analysis, direct medical costs were considered using Polish cost data:

- costs of drugs used in the induction chemotherapy,
- costs of premedication,
- costs of hospitalization,
- costs of serious adverse events.

RESULTS:

Estimated number of patients with HNSCC who potentially qualify for an induction chemotherapy in subsequent years are listed in the Table 2.

Table 2.

Year	Target population
2008	483
2009	485
2010	486
2011	487
2012	488

Total expenses from the Public Payer's budget for the reimbursement of docetaxel in the treatment of patients with HNSCC for present and future scenarios are:

Table 3.

Year of reimbursement	2008	2009	2010	2011	2012
Total payer's expenses – present scenario [PLN]	2,565,333.91	2,868,165.50	2,876,807.07	2,883,014.09	2,887,175.76
Total payer's expenses – future scenario [PLN]	6,106,680.87	6,828,432.43	6,849,006.91	6,863,785.02	6,873,693.54
Incremental costs [PLN]	3,541,346.96	3,960,266.93	3,972,199.83	3,980,770.93	3,986,517.78
Percentage change [%]		11.82	0.30	0.22	0.14

1€ = 4,55 PLN, 25.03.2009

Figure 1.
Budget impact analysis - total expenses of Public Payer

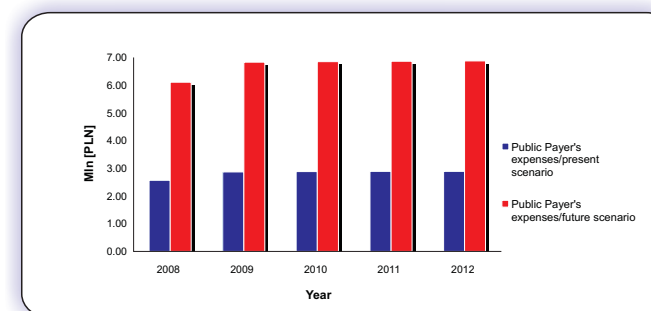
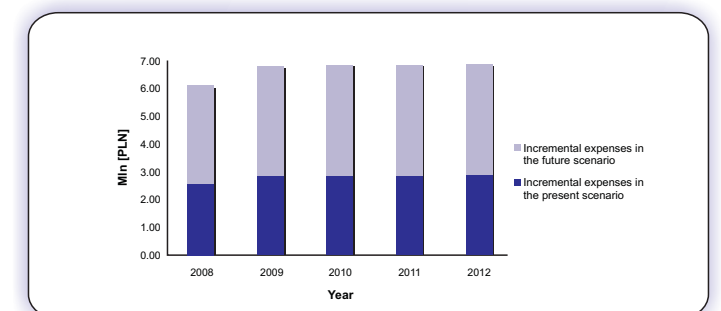


Figure 2.
Budget impact analysis - incremental expenses of Public Payer



While considering treatment of patients with HNSCC using the induction chemotherapy with docetaxel (TPF) instead of the standard regimen (PF), annual expenses from Public Payer's budget would increase in comparison with the present scenario by:

- about 3.54 mln PLN in the year 2008,
- about 3.96 mln PLN in year 2009 (418.9 thousand PLN change when it is compared to the year 2008),
- about 3.97 mln PLN in year 2010 (11.93 thousand PLN change when it is compared to the year 2009),
- about 3.98 mln PLN in year 2011 (8.57 thousand PLN change when it is compared to the year 2010),
- about 3.99 mln PLN in year 2012 (5.75 thousand PLN change when it is compared to the year 2011).

CONCLUSIONS:

Docetaxel reimbursement in the treatment of locally advanced HNSCC will not considerably influence the expenses of the Public Payer in Poland. Treatment with docetaxel improves survival compared with standard care.

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