routine service cost, and cost of adverse event treatment. RESULTS: EGFR-TKI treat-
ment provided a better progression-free survival and overall survival compared with
docetaxel. Except rash, dry skin and dry eyes, the incidence of other adverse events
in patients treated with EGFR-TKI was lower than docetaxel. However, the monthly
treatment cost and total treatment costs of EGFR-TKI were higher than docetaxel at
37,017.55 bhat/month and 451,071.08 bhat respectively. The incremental cost-effec-
tiveness ratio (ICER) was 631,426.01 bhat/life-year-gained (LYG). CONCLUSIONS:
Though EGFR-TKI has a more favorable clinical outcome than docetaxel, the addi-
tional cost per LYG is significant. This ICER is greater than the threshold suggested
by the WHO, three times of GDP/capita (300,000 bhat), which may consider to be
not cost-effective. Both docetaxel and EGFR-TKI are the effective and available treat-
ments for aNSCLC in Thailand. When making a decision and policy regarding the
treatments of aNSCLC, this economic evidence should be taken into account along
with other clinical aspects.

ECONOMIC EVALUATION OF PEMETREXED IN PATIENTS WITH
PREVIOUSLY TREATED ADVANCED NON-SMALL CELL LUNG CANCER IN JAPAN

Kanae Y1, Nakahara N2, Moriwaki K1, Enatsu S3, Nambu Y4
1Kobe University Graduate School of Health Management, Kobe, Japan; 2Kansai Medical University, Osaka, Japan; 3Kumamoto University, Kumamoto, Japan; 4Kobe University, Hyogo, Japan

OBJECTIVES: to elucidate the more cost-effective dosing strategy for the administra-
tion of pemetrexed in the second-line treatment of patients having been treated for
advanced non-small cell lung cancer (NSCLC). METHODS: Validation of the model
was based on efficacy and safety data from a phase II clinical study conducted in Japan
of two pemetrexed doses: 500 mg/m² (P500) versus 1000 mg/m² (P1000). Cost-effect-
iveness and cost-minimization analyses were performed to estimate the impact of
P500 versus P1000 on expected life-years and costs from the perspective of the Japa-
nese national health insurance (NHI) system. Costs covered additional treatment and
test which are needed due to the treatment of pemetrexed and adverse events. A sub-
group analysis was conducted to compare the cost-effectiveness of pemetrexed in patients with different NSCLC histologies. RESULTS: P1000 exhibited a nega-
live life-years gained (LYG) of -0.115 at an incremental cost of US$13,674 compared to
P500, implying simple dominance of P500 over P1000. The incremental cost-effec-
tiveness ratio (ICER) of pemetrexed therapy with P1000 was estimated at US$19,479/
LYG, compared with the same therapy in squamous cell carcinoma, when it is per-
formed in non-squamous cell carcinoma. Results of a probabilistic sensitivity analysis
demonstrated an almost 100% likelihood of the ICER of pemetrexed with P500 for non-
squamous cell patients falling below the threshold of US$50,000/LYG. CONCLU-
SIONS: P500 is a more cost-effective dosing regimen than P1000 for pemetrexed
chemotherapy in patients with NSCLC. Also, results suggest that pemetrexed is more
cost-effective in NSCLC patients of non-squamous histology than of squamous histol-
ogy from the payer's perspective.

ECONOMIC IMPLICATIONS OF THE FIRST-LINE TREATMENT OF
ADVANCED REnal CELL CARCINOMA IN THAILAND: A COST-
EFFECTIVENESS ANALYSIS

Soponapong P, Naarasameen S, Pinarnyantikul N, Vinyanonwatthikul C, Sirirangong V
Chulalongkorn University, Bangkok, Thailand

OBJECTIVES: To determine the economic implications of agents used to treat meta-
static renal cell carcinoma (mRCC). METHODS: A lifetime Markov model was developed
to simulate the pattern of disease progression and to determine the out-
comes under treatment of available medications including interferon alpha (IFNa), sunit-
linib, sorafenib, and bevacizumab. Costs were measured based on the perspective
of a health-care provider. Resource utilization derived from retrospective chart reviews
of 18 mRCC patients treated at the King Chulalongkorn Memorial Hospital, Bangkok,
Thailand. Costs and survival benefits were discounted annually at 3%. RESULTS: The
major assumption of the study was that the projected PFS and overall survival
were for sunitinib than the other comparative treatments based on results of
published studies. Additional treatment after failure of one tyrosine kinase inhibitor
(TKI) in the model was limited which fit well with the practical scenario in developing
country. Cost-effectiveness analyses demonstrated that IFNa had the most favorable
cost-effectiveness ratio at 1.3 million Baht/QALY's followed by sunitinib, sorafenib,
and bevacizumab at 1.7, 1.9, 9.3 million Baht/QALY's respectively. However, sunitinib
had a better incremental cost-effectiveness ratios (ICERs) over IFNa at 2.0 million
Baht/QALY, 2.7 million Baht/LYG, and 3.6 million Baht/QALY gained. Sensitivity
analysis showed that the most sensitive parameters for sunitinib were the overall
survival, treatment costs. CONCLUSIONS: Our study reveals that sunitinib has the
most cost-effectiveness profiles as one of the first line treatment of mRCC. With
current study model, it may be applicable to the situation in developing country with
limited availability of TKIs in the treatment of mRCC. However, sunitinib's ICER
comparing to IFNa is still beyond the ICER threshold for a developing country. This
cost-effectiveness evidence should be taken into account in conjunction with other
clinical, societal and ethical considerations in the treatment of mRCC.

P500 is a more cost-effective dosing regimen than P1000 for pemetrexed
advanced non-small cell lung cancer (NSCLC). RESULTS: P1000 versus P500 had
an incremental cost-effectiveness ratio (ICER) of 1.1 million Baht/QALY, implying
simple dominance of P500 over P1000. The incremental cost-effectiveness ratio of
P500 versus P1000 on expected life-years and costs from the perspective of Japan.

CONCLUSIONS: The preliminary results show that the screening will
increase the expected life-years gained in 30 years with an incremental cost
effectiveness ratio of 2400 for life-year gained. CONCLUSIONS: The results outcome
those of previous studies (Sonnenberg, 2000), signalling an increasing effectiveness of CRC
screening program in Italy. The main literature on this topic refers to USA and few studies have
been conducted in Italy to date (Zappa et al. 1997, Tappendon et al. 2007). Aim of
the paper is to shed some light on the effectiveness and costs of screening programs in the
Italian health-care system, presenting the results of a cost-effectiveness analysis of a
CRC screening program in Italy. METHODS: We use as case-study a Regional CRC
screening program to determine the full costs and the effectiveness of the adopted
techniques, FORT combined with colonoscopy. The costs involved in each phase of
the program are evaluated using a micro-costing analysis. Effectiveness is valued in terms
of early detected lesions and years of life gained. Costs are used to estimate the costs for year of life gained, using a MISCAN-COLON
Model© to simulate and compare two alternative scenarios, with or without the
screening program. RESULTS: The preliminary results show that the screening will
provide almost 2.0 deaths (11.2% of 1000 screened individuals) in 19.4 years of life gained in 30 years with an incremental cost effectiveness ratio
of 2400 for life-year gained. CONCLUSIONS: The results outcome those of previous
studies (Sonnenberg, 2000), signalling an increasing effectiveness of CRC
screening program. Besides, the paper highlights the importance of implementing a screening
not only for the effects that prevention can have in clinical terms, but also for the
economic impact of such a policy in relation to the long-term sustainability of health-
care systems.

ECONOMIC ANALYSIS OF A FOBT-BASED COLORECTAL
Cancer Screening Program

Pizzo E1, Bracci E2, Vagnoni E2, Wilscuter J3, van Ballegooijen M3
1Imperial College London, London, UK; 2University of Ferrara, Italy; Ferrara, Italy; 3Tumours
MC University Medical Center Rotterdam, Rotterdam, The Netherlands

OBJECTIVES: Colorectal cancer (CRC) is one of the most common forms of cancer
in western countries and represents the second leading cause of cancer mortality in
Europe (AIREUM, 2009). Early detection and removal of cancerous lesions can reduce
the incidence of CRC, its mortality and improve patients’ quality of life (Taupin et al.
2006). The main literature on this topic refers to USA and few studies have been
conducted in Italy to date (Zappa et al. 1997, Tappendon et al. 2007). Aim of
the paper is to shed some light on the effectiveness and costs of screening programs in the
Italian health-care system, presenting the results of a cost-effectiveness analysis of a
CRC screening program in Italy. METHODS: We use as case-study a Regional CRC
screening program to determine the full costs and the effectiveness of the adopted
techniques, FORT combined with colonoscopy. The costs involved in each phase of
the program are evaluated using a micro-costing analysis. Effectiveness is valued in terms
of early detected lesions and years of life gained. Costs are used to estimate the costs for year of life gained, using a MISCAN-COLON
Model© to simulate and compare two alternative scenarios, with or without the
screening program. RESULTS: The preliminary results show that the screening will
provide almost 2.0 deaths (11.2% of 1000 screened individuals) in 19.4 years of life gained in 30 years with an incremental cost effectiveness ratio
of 2400 for life-year gained. CONCLUSIONS: The results outcome those of previous
studies (Sonnenberg, 2000), signalling an increasing effectiveness of CRC
screening program. Besides, the paper highlights the importance of implementing a screening
not only for the effects that prevention can have in clinical terms, but also for the
economic impact of such a policy in relation to the long-term sustainability of health-
care systems.