determine the cost implications of using different types of opioid including considerations such as staff time involved, management of side-effects, concomitant medication and cost of delivery systems.
Methods: A decision tree is being developed in consultation with a panel of UK experts in palliative medicine, palliative nursing, general practice and pharmacy. The tree represents likely pathways for terminally ill patients from the time they are switched from a weak to a strong opioid, until death. Mean drug dose and duration of treatment are derived from the Mediplus database. This covers 5% of the UK population and provides details of 2000 patients with cancer receiving 11,500 prescriptions for opioids. Mediplus findings have been discussed with and confirmed by the expert panel. Other costs such as time spent by nurses or doctors in administering analgesia and the cost of managing side-effects such as constipation and nausea are based on published studies or consultation with the expert panel.
Results: The findings from this model will be presented at the meeting. The results will show the cost of each treatment option and put the cost of opioids into context in terms of the total cost of palliative care. The model will show that hospice care and hospitalisation are the key cost drivers in managing terminally ill patients. Therefore any opioid that reduces in-patient stay will have a significant impact on these costs.

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PP13. Comparison of the cost of managing constipation in cancer patients receiving oral morphine or transdermal fentanyl

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Background: The acquisition cost of a drug represents only one component of its true cost. The incidence of side-effects and the cost of treating them should be considered when comparing the costs of different types of treatment. Clinical trials have shown that patients receiving transdermal fentanyl suffer less constipation than those taking oral morphine. We used one such trial as the clinical basis for an economic model of the cost of managing this side-effect in patients with cancer pain.
Methods: A large-scale randomised, cross-over comparison of sustained-release oral morphine and transdermal fentanyl was used to provide data on the incidence of constipation associated with the two treatments. Patients received either morphine (MST Continus) or fentanyl (Durogesic) for 15 days and then the alternative treatment for a further 15 days. Short-acting oral morphine was available throughout the study for breakthrough pain. Pain scores in the two groups were comparable. Health service resource use for preventing and treating constipation were gathered from interviews with investigators from UK palliative care centres and then valued in monetary terms. Sensitivity analysis was used to assess the effect of variations within the model.
Results: The clinical trial showed that 51% of patients experienced constipation during treatment with morphine compared to 29% during treatment with fentanyl. The mean cost of managing constipation per patient for two weeks was £26.24 for those receiving morphine and £4.47 for those receiving fentanyl. The key cost-driver was hospitalisation for severe constipation. The mean doses in the clinical trial were 98.6mg bd morphine and 63.43µg fentanyl/hour giving mean acquisition costs for the two-week study period of £28.08 and £60.60 respectively. Including the cost of managing constipation reduces the cost difference between the two opioids: the model indicates that the mean cost per patient of two weeks treatment is £54.32 for morphine and £65.07 for fentanyl. The model assumed that 1.5% of patients were hospitalised for severe constipation. If this is increased to 2.5% the total mean cost of treating a patient with morphine exceeds the corresponding cost of treatment with fentanyl.
Discussion: Differences in oral laxative use between the treatment groups did not translate into major cost differences because of their low acquisition cost and the variation in types of laxatives used. Hospitalisation was the key cost-driver in the model. Since cancer patients are often admitted for several reasons it is difficult to estimate the exact contribution of constipation. Only admissions solely for the treatment of constipation were included, and this may therefore be an under-estimate.
Conclusion: Including the cost of treating side-effects may reduce the cost difference of drugs with different acquisition costs such as morphine and fentanyl.

Ref: Ahmedzai & Brooks, Journal of Pain & Symptom Management, 1997, 13:254-61

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PP14. Cost of serious adverse drug reactions related to anti-cancer chemotherapy

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Therapeutic agents used in neoplastic diseases have a narrow therapeutic index which increases the risks of iatrogenic events. The incidence of adverse drug reactions (ADRS) in cancer treatment could impair the efficiency of care and the quality of life of the patients. In order to assess the clinical and economic impact of ADRs in patients treated by anti cancer chemotherapy, we investigated the frequency of serious ADRs (i.e. those leading to hospitalization of the patient or increasing the length of stay/ life threatening ADRs/ ADRs leading to the death) occurring during one year (1995) in a French regional cancer institute.
Patients with a serious ADR were identified by searching the hospital databases using the ICD-9 code of a " noxious effect of a drug ". We found 467 hospitalizations relative to 305 patients. Excess hospital days related to ADRs represented at least 1,300 days (3% of the total hospital days). These ADRs concerned 6.7% of the total of inpatients in 1995. Nine patients died because of the seriousness of the ADR. In almost cases, ADRs were expected side effects of drugs. The average excess cost per patient to treat ADRs was 5,645 French Francs. The highest cost was due to blood transfusions (2,233 FF/patient, 28% of the total blood products cost), followed by pharmaceutical cost (1,620 FF/patient, 4% of the total drug cost) and laboratory cost (1,147 FF/patient). These results emphasize the high incidence and excess costs of ADRs related to anticancer chemotherapy. Use of blood transfusion and drugs such as antibiotics or growth hematopoietic factors represent the major health care costs despite the use of supportive care.

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PP15. Methods for conducting economic analysis of the long-term management of breast cancer: Description of two current Canadian studies

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Background: This paper provides details of two ongoing studies of the long-term management of women with breast cancer. Both studies are funded by the National Cancer Institute of Canada (NCIC) and include a substantive prospective economic component but with markedly different research designs. The studies differ in the phase of cancer studied, in the method of analysis and in the specific health care and economic issues addressed.
Methods: One of the studies is a randomised clinical trial comparing the follow-up of breast cancer patients in remission by either their family practitioner or a specialist physician. The study is multi-centred and a total of 1045 patients will be enrolled. Early stage breast cancer patients are eligible for the study 1 year post initial diagnosis, and are followed for five years. An economic analysis is fully integrated with the RCT and will be conducted on a sub-sample of the study population: 414 women. Data are