METHODS: To expedite the healing process, in addition to current practice, the total costs of using Exogen, an ultrasound device designed to increase the risk of complications. This study estimates the costs and outcomes of each treatment. The model compared Exogen against conservative treatment (i.e., plaster cast), and also considered the cost impact of using Exogen to augment patients who underwent surgery. Resource use for each stage in the pathway was multiplied by the unit cost of that resource. Effectiveness data were drawn from published sources. Cost data were derived from existing national databases, whilst resource use data were based on interviews with clinical experts. The perspective is that of the National Health Service (NHS). RESULTS: Exogen is expected to be cost saving for patients with a fresh tibial fracture who are at risk of delayed healing or non-union. For a current smoker, for example, whose probability of healing is around 63% of the general population, the addition of Exogen reduces expected cost by £1300–£1600 per patient. CONCLUSION: Between 8% and 9% more patients are likely to be healed within 6 months, using Exogen before surgery (where possible and clinically appropriate). The model compared Exogen against conservative treatment (i.e., plaster cast), and also considered the cost impact of using Exogen to augment patients who underwent surgery. Resource use for each stage in the pathway was multiplied by the unit cost of that resource. Effectiveness data were drawn from published sources. Cost data were derived from existing national databases, whilst resource use data were based on interviews with clinical experts. The perspective is that of the National Health Service (NHS). RESULTS: Exogen is expected to be cost saving for patients with a fresh tibial fracture who are at risk of delayed healing or non-union. For a current smoker, for example, whose probability of healing is around 63% of the general population, the addition of Exogen reduces expected cost by £1300–£1600 per patient. CONCLUSION: Between 8% and 9% more patients are likely to be healed with Exogen after one year of treatment. For patients with a non-union (defined as a fracture which remains unhealed at 6 months), using Exogen before surgery (where possible and clinically appropriate) is expected to be a lower cost option than immediate surgery. This approach is expected to reduce cost by almost £3500 per patient, with no significant reduction in fracture healing. The funding for this study was provided by Smith & Nephew.

HEALTH CARE UTILIZATION AND COSTS ASSOCIATED WITH BLUNT AND PENETRATING TRAUMA IN A UNITED STATES MANAGED CARE POPULATION

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OBJECTIVE: Few studies have examined the direct economic burden of traumatic injury. In this study, we estimated total permanent charges for healthcare resources consumed by patients with blunt or penetrating trauma in a population of US managed care organization (MCO) enrollees. METHODS: Retrospective claims from the Ingenix MCO database were analyzed for 14,841 patients hospitalized for blunt or penetrating trauma between 1/1/03 and 2/1/05. Study subjects had ≥6 months of health plan enrollment prior to and following initial injury. Three cohorts were identified based on published definitions for claims data: isolated traumatic brain injury (TBI); other blunt or penetrating trauma with TBI; and other blunt or penetrating trauma without TBI. Per-patient charges for all health care resources utilized over a 6-month period following initial injury were estimated. Baseline patient characteristics examined included mean age and Injury Severity Score (ISS) at initial injury, as well as mean Charlson Comorbidity Index (CCI) for the 6-month period prior to initial injury. RESULTS: Among those with isolated TBI (N = 3028, age = 38.17, ISS = 10.06, CCI = 0.69), mean per-patient charges incurred during the index hospitalization were $30,333; mean per-patient charges incurred during post-discharge encounters were $4606 for subsequent hospitalizations, $764 for pharmaceuticals, and $7658 for outpatient and other ancillary care. Among those with other trauma and TBI (N = 2726, age = 37.53, ISS = 18.28, CCI = 0.44), these mean charges were $101,189, $6018, $726, and $14,599, respectively. Among those with other trauma but without TBI (N = 9087, age = 50.09, ISS = 8.90, CCI = 1.08), these mean charges were $42,509, $6443, $11102, and $10,952, respectively. CONCLUSION: Charges incurred during the index hospitalization were 39% higher among patients with both TBI and other trauma compared to the other cohorts combined. When examining total charges, the premium for combination trauma was >17%. Results of this study illustrate and underscore the significant direct economic burden associated with combined systemic and TBI injury.