COST-EFFECTIVENESS ANALYSIS OF CURRENTLY MARKETED LONG-TERM CONTRACEPTIVES

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OBJECTIVES: To compare the costs and benefits, from a health plan perspective, of contraceptive methods currently marketed in the United States among individuals desiring long-term contraception.

METHODS: A semi-Markov model was constructed to compare cost-effectiveness among 14 contraceptive strategies (including injectables, implants, oral contraceptives, IUDs, barrier methods, and surgical methods). Primary health states included method discontinuation, initial/continued use, method failure and plan disenrollment with transitions every year for five costs. For method failure, other discontinuation, and method-related events (amenorrhea, hysterectomy, menorrhagia, urinary tract infection, and venous thromboembolism) are included in the model. Baseline event rates, costs, and method effects on rates were derived from a comprehensive literature review, average wholesale drug prices, and the 2000 Medicare Reimbursement Fee Schedule, in conjunction with expert opinion. One-way sensitivity analyses were performed on several key variables.

RESULTS: The five most effective methods were vasectomy, tubal ligation, implant, progestin-releasing IUD, and copper IUD, with average effectiveness of (99.9%, 99.8%, 98.6%, 98.2% and 97.8%, respectively). The five least expensive methods were vasectomy, progestin-releasing IUD, copper IUD, implant, and injectables with respective five-year costs/person of $800, $1,196, $1,217, $1,237, and $1,764. Vasectomy dominated other methods over five years. After excluding vasectomy, progestin-releasing IUD, implant and tubal ligation dominated, with a marginal cost-effectiveness of $71 per additional percent of effectiveness between progestin-releasing IUD and implant, and $958 between progestin-releasing IUD and tubal ligation. The cost-effectiveness ranking among methods did not vary significantly in most sensitivity analyses except those based on method costs.

CONCLUSIONS: Over five years, vasectomy is the most cost-effective long-term contraceptive strategy. Among long-term contraceptive options for women, progestin-releasing IUD had a lower cost-effectiveness ratio than either implant or tubal ligation and dominated all other methods.

COST EFFECTIVENESS MODELING COMPARING RECOMBINANT FSH WITH URINARY FSH FOR OVARIAN STIMULATION—A MULTINATIONAL EVALUATION

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OBJECTIVES: The focus on cost-containment imposed by shrinking national health care budgets is increasingly putting pressure on investigators to demonstrate that newer interventions are cost-effective. In assisted reproductive technology (ART), a shift in usage is occurring from urinary derived to biotechnology – derived (recombinant) gonadotropins for ovarian stimulation. Provision of treatment with ART involves several cycles, each associated with multiple steps with varying outcomes at each step. To take into account all the situations that are possible during the repeated cycles of treatment when trying to evaluate different ovarian stimulation regimens is a complex task that requires large numbers of subjects to adequately address the cost-effectiveness. A more efficient approach is to employ modeling techniques that can easily be applied to the different national health care systems. The objective of this study was to compare the cost-effectiveness of recombinant(r) FSH with urinary(u) FSH in the UK, USA, Germany and Spain.

METHODS: The analyses used the Markov model and Monte-Carlo simulations taking into account the different health care environments in the four countries. For each nation, costs were provided by their national formulary and clinic tariff, and probabilities for outcomes were obtained from randomized controlled trials, the medical literature and national registries. The data were they validated by a panel of national experts and the estimation of variability in the transition probabilities was also ratified by the panel. This approach provided a range of transitional probabilities from which a precise standard deviation could be obtained for each outcome. The final Markov matrix included 300–600 health states that represented the complete ART process over multiple cycles involving the transfer of fresh or cryopreserved embryos.

RESULTS: Country Mean cost per pregnancy uFSH rFSH Difference UK £6060 5906 154 USA $47,096 40,688 6408 Germany DM 45,510 43,311 2199 Spain PTAS 3,405,347 3,284,241 121,106

CONCLUSION: The studies confirmed that rFSH is more cost-effective than uFSH for ovarian stimulation. The lower average cost per pregnancy was observed consistently in each country.

IDENTIFYING PATIENT AND HOSPITAL-RELATED PREDICTORS OF MATERNITY LENGTH OF STAY AND TOTAL INPATIENT CHARGES FOR OBSTETRICAL DELIVERIES IN A NATIONAL SAMPLE

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Obstetrical delivery is the most frequent cause of hospital admissions (4 million) in the US.

OBJECTIVE: To assess the relationship of patient and hospital-related characteristics with maternity length of stay (LOS) and charges for obstetrical deliveries.
METHODS: Records of 62,003 obstetrical deliveries were extracted from a Nationwide Inpatient Sample of the Healthcare Cost and Utilization Project data (DRG 371 for cesarean delivery without complications and 373 for vaginal delivery without complications). Regression analyses were conducted to predict maternity LOS and total charges based on type of delivery, age, race, number of diagnoses at discharge, primary payer (Medicaid, private insurance/HMO, self-pay, other), and hospital characteristics of bed size, region (northeast, midwest, south, west), location (rural, urban), teaching status, and control/ownership.

RESULTS: In 1997, 82% of the deliveries were vaginal while 18% were cesarean. Average LOS for vaginal and cesarean deliveries was 1.86 and 3.36 days, respectively. Mean total charges for vaginal deliveries were $3,778 as compared to $7,243 for cesarean deliveries. Regression results indicate that type of delivery was the strongest predictor of LOS and total charges. Women with a cesarean delivery stayed on an average 1.3 days more in the hospital and incurred 64% more charges than women with vaginal delivery. For vaginal delivery, an additional day of hospitalization increased total charges by 12.4% as compared to 6.7% for cesarean delivery. Medicaid patients had shorter LOS than private insurance/HMOs, and longer LOS than self-paying patients. Northeast hospitals had greater LOS while hospitals in the West had higher charges. Urban hospitals and teaching hospitals had higher LOS and charges.

CONCLUSIONS: Significant variations in maternity LOS and total charges were observed on the basis of type of delivery and hospital-related characteristics, which warrant further investigation. Additionally, the impact of LOS and total charges on mother and infant morbidity should be explored.

MEN’S & WOMEN’S HEALTH—Quality of Life Presentations

BENIGN PROSTATIC HYPERPLASIA: RECOGNITION OF THE PATHOLOGY FOR THE SPOUSE
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Urinary problems secondary to benign prostatic hyperplasia (BPH) are found in 20 to 25% of the population of men over 50 years of age. This is thus a public health problem with a number of diagnostic, therapeutic and economic facets. The severity of the problem is assessed by the score obtained on the IPSS, a well known and recognised questionnaire.

OBJECTIVE: As part of the growing importance attached to the care giver, it is interesting to evaluate the consequences of this masculine pathology for the spouse.

METHOD: As part of a cohort study (October 2000–March 2001), the GP gave the patient 2 «PFM» (Patient Family Measurement) self-questionnaires for himself and his spouse. For the analysis, 357 patient questionnaires and 316 spouse questionnaires were analysed. The rate of return of the spouse questionnaires (88%) was very satisfactory. The quality of life (QOL) of the patient was measured by the SF12; the results consisted of 2 scores: mental (MCS-12) and physical (PCS-12).

RESULTS: The norm observed in the American population, and from which the scores were standardised, was 50. In the patient where the QOL had deteriorated, all the scores were lower than this norm, (PCS-12 = 46 & MCS-12 = 47.2). This deterioration in the quality of life also applied to the spouse. (PCS-12 = 44.4 & MCS-12 = 45.9). For the PCS-12, the difference was significant.

CONCLUSION: The rate of return of the spouse questionnaires showed the interest and involvement of spouses in their husband’s pathology. The deterioration in the quality of life of the spouse highlighted the impact of the disease on those around him. In both the patient and the spouse, the quality of life deteriorated with the severity of the BPH.

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BENIGN PROSTATIC HYPERPLASIA: CONSEQUENCES OF THE PATHOLOGY FOR THE SPOUSE—RISK OF SOMNOLENCE
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Urinary problems secondary to benign prostatic hyperplasia (BPH) are found in 20 to 25% of the population of men over 50 years of age. This is thus a public health problem with a number of diagnostic, therapeutic and economic facets. Severity of the problem is assessed by the score obtained on the IPSS, a well known and recognised questionnaire.

OBJECTIVE: As part of the growing importance attached to the care giver, to evaluate the impact of this masculine pathology upon the spouse.

METHOD: As part of a cohort study (10/2000–03/2001), the GP gave the patient two «PFM» (Patient Family Measurement) self-questionnaires for himself and his spouse. During the consultation, 36.1% of the patients spontaneously complained of sleep problems.

RESULTS: We are most interested in the impact of daytime somnolence. The Epworth Scale was used to evaluate this. The score observed in a control population with normal sleeping habits is 5.9. For the analysis, we analysed 482 patient questionnaires and 382 spouse questionnaires. The rate of return of the spouse questionnaires (80%) was very satisfactory. For the patient, the risk of daytime somnolence was made worse by the severity of the urinary problem (slight—moderate—severe = 5.9–6.4–8.9). For the spouses, the score rose to 5.2. For the spouses, depending on the severity group slight—moderate—severe of their husbands, the score rose to