program. **Results:** The R^2 explanatory power for same year costs for age 65 and over was 18.7% for total cost (ref. 16%) and 45.5% for pharmacy cost (ref.10%). For those under age 65, the values were 20.5% (ref. 21%) for total cost and 39.1% (ref. 29%) for pharmacy cost. In predicting which members would be in the high (top 5%) cost bracket, we correctly identified 33,479 members (based on 2006 data) as being at risk for high total cost out of the 85,059 members who did have a high total cost in 2007. The positive predictive value was 39.4%. **Conclusions:** We have validated the ACG-DX tool for an Israeli population for both risk management and predictive modeling. This tool can be now used for a large variety of managerial and medical uses, including population, disease and case management, budget allocation and provider payment as well as improving health care equity and quality assurance.

C-C2-03:

Incidence-based Costs of Multiple HAART Switches Among HIV-infected Patients in an HMO

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Background: Highly active antiretroviral therapy (HAART) or combination antiretroviral (ARV) therapy is associated with reduced morbidity and mortality. Yet, many HIV-infected patients endure incomplete HIV suppression from HAART or combination ARV therapy, increasing cost and limiting effectiveness. Little is known about the direct healthcare costs of HIV+ patients requiring multiple HAART regimen switches because of incomplete HIV suppression. In an HMO-based population of HIV+ patients, we examined resource and cost implications of multiple relative to single (or no) HAART switches starting from first HAART regimen. **Methods:** Retrospective analysis of HIV+ patients of the Northern California and Northwest regions of Kaiser Permanente during 2004. Continuous active 12-month membership and minimum 12 months of continuous HAART. Cases on third or later HAART regimen; controls on 1st or 2nd regimen. Regimen switch is combination change of two or more additions of ARV drugs to an existing HAART regimen. Cost categories drugs, outpatient, inpatient, lab, and radiology. Patients followed from first HAART regimen to death, disenrollment, or end of study up to 60 months. **Results:** 287 cases (19% female); 1,645 controls (12% female) followed from 1st regimen. Mean total per-patient follow-up costs were $105,132 (cases) vs. $70,004 (controls). Mean pharmacy costs were $70,672 (cases) vs. $49,668 (controls) ($P$ <.04). Of cases mean pharmacy costs, 85% were antiretroviral-based (90% for controls). Mean dispenses of both ARV and non-ARV drugs were higher for cases (80 vs. 60 for antiretrovirals, 64 vs. 60 for non-antiretrovirals). Mean outpatient costs were $13,100 (cases) vs. $8,952 (controls) ($P$<.0001). Mean ER and mean non-specialty visits were both higher among cases (P <.03). Fourteen percent of cases had at least one inpatient stay vs. 10% of controls. Inpatient costs per patient with at least one stay were $101,396 (cases) vs. $72,000 (controls) (not significant). Mean radiology costs were $1,412 (cases) vs. $956 (controls) ($P$=.05); mean lab costs were $4,728 (cases) vs. $3,472 (controls) ($P$<.0001). **Conclusions:** HIV-infected patients on a third or later HAART regimen incurred costs in total and across most categories that greatly exceeded costs of similar patients on earlier regimens. Working to ensure success with initial HAART regimens appears to lower total cost of HIV care.

PS2-12:

How to Move From Belief to Proof? Economic Evaluation of Care Programs for Chronically Ill

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Worldwide, care programs for chronically ill are implemented without evidence that these programs make worthwhile use of scarce resources. Generally, these programs aim to improve quality of care and mitigate healthcare costs. They seek to identify chronic conditions more quickly, treat them more effectively and thereby slow the disease progression. This is pursued through a combination of 1) more effective team care and planned interactions; 2) self-management support; 3) integrated decision support; 4) electronic patient registries and other supportive information technology. Although some positive results with regard to quality of care are shown, published evidence on cost-effectiveness remains largely inconclusive. Previous research also demonstrates that this uncertainty around cost-effectiveness of chronic care programs is not simply due to heterogeneity in programs. Rather, ignorance of the relation between healthcare structures, program-design and outcomes might be the cause. Hence, we hypothesized that the decision uncertainty around cost-effectiveness of chronic care programs decreases when parameters reflecting healthcare structure and program design are explicitly included in the economic evaluation of such programs. To test this hypothesis, the relation between structure parameters, program design and cost-effectiveness is investigated in a comparative international study including programs for adults with diabetes, heart failure, depression, asthma or Chronic Obstructive Pulmonary Disease. Subsequently, a decisionanalytic model is developed to estimate the short and long-term cost-effectiveness of programs for a given healthcare structure. Dependent on the remaining uncertainty around program cost-effectiveness, stakeholders can decide if these should be further implemented or that more information is required. Additionally, it is determined how the cost-effectiveness of programs can be maximized by adjustments in their design. With tools to better estimate the cost-effectiveness of chronic care programs in a given setting, and optimize their design accordingly, we will be able to improve care for the chronically ill in a systematic and cost-effective way. An outline of this advanced cost-effectiveness model and its potential application to case studies will be presented at the conference.

PS2-34:

Implementation Cost Analysis of Telephone and Internet-based Interventions for the Maintenance of Weight Loss

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Objectives: The Weight Loss Maintenance Trial (WLM) was a multi-center, randomized trial comparing two weight loss maintenance interventions, a telephone-based personal contact program (PC) with monthly contacts primarily by phone and an Internet-based program (IT), to a self-directed control group, among overweight or obese individuals at high cardiovascular risk. This presentation describes the implementation costs of both interventions as well as the development costs of the IT program. **Methods:** Intervention costs were micro-costed using both internal and external measurement sources. Length of trial participation was 30 months. IT development costs were assessed over the 36 months of development. Primary analytic perspective was that of a healthcare system considering adoption of an extant intervention, rather than development of its own intervention. Uni-variate and multivariate sensitivity analyses were performed. **Results:** 30-month implementation costs for 342 PC participants were $558.3K ($1,632 per participant), and for 348 IT participants were $223.3K ($653 per participant). Under all plausible scenarios, IT implementation costs were below PC implementation costs. Total estimated IT development costs over 36 months were $879.4K ($2,527 per IT participant). **Conclusions:** When hosted in a facility with substantial resources devoted to and expertise in website delivery, costs of implementing and maintaining a Web-based intervention for the maintenance of weight loss are substantially less than similar costs of a conventional intervention using a combination of phone and in-person contacts. In such a situation, per-participant website cost remains less than the personal contact intervention, even including development costs. If future trials demonstrate the effectiveness of these or similar interventions in maintaining initial weight loss, our results can be used to inform the economic evaluations that will assess the true value for money produced by their implementation.