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The Effect of a Tiered Hospital Benefit and Safety Incentive on Hospital Admissions: Evidence from Stated and Revealed Preference Data

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Background: Recent years have seen a movement towards both 'consumer directed' and 'pay for performance' programs in health care. Many of these programs utilize 'tiered networks' for hospital care, where consumer out-of-pocket coinsurance or co-payments vary based on the hospital chosen. While most of the early tiering efforts were based on hospitals' charges only, there is an increasing movement towards placing hospitals into tiers based on both cost and quality/safety information. However, little has been published about consumers' response to tiered hospital benefits or the impact of tiered networks on hospital admissions and revenues.

Objective: This paper examines the effect of a tiered hospital benefit in a commercially insured population. We specifically test whether employees subject to the incentive changed their hospital preferences and admissions decisions relative to a control group of employees that were not faced with the same hospital incentive. The paper also examines whether estimates from the hospital choice model are improved when stated preference data from a consumer survey are added to revealed preference data from claims.

Study Setting: In conjunction with its major labor unions, the Boeing Company instituted the Hospital Safety Incentive (HSI) for union (i.e., hourly) employees enrolled in Boeing's Traditional Medical Plan (TMP). The HSI, which took effect in July 2004, is an ERISA, self-funded health plan administered for Boeing by Regence Blue Shield of Seattle, Washington, USA. The HSI is unique because it gives patients a financial incentive to choose hospitals that meet the Leapfrog Group's three patient safety "leaps" (www.leapfroggroup.org). While the TMP's standard coverage for hospital care became 95% of allowed hospital charges after July 1, 2004 (from 100% previously), union beneficiaries enrolled in the TMP could achieve a benefit of 100% for hospital care if admitted to a hospital that meets the Leapfrog standards. Boeing's actuaries have estimated the average value of the 5% coinsurance to be approximately $450 per admission. We estimate the effect of the HSI on patients in Boeing's major employment hub (Seattle, WA in the United States).

Data Sources: We combine data from four primary sources. First, we use claims and enrollment data from Boeing's third party administrator, Regence Blue Shield of Seattle, WA. The claims data identify the subset of employees with a hospitalization and form the basis for defining the hospital choice set and for identifying the preferred hospital. The claims data also form the sampling frame for our second data source, which is information collected from a twenty minute telephone survey of salaried and hourly employees of the Boeing Company and their beneficiaries. The telephone survey collected information about preferences for various hospital attributes (e.g., distance from residence, reputation, amenities, quality), and the degree to which hospitalized patients were involved in the choice of hospital or deferred entirely to their physician's preference. The survey variables were then merged with the claims and enrollment data at the individual employee level. The third data source was the 2003-2005 American Hospital Association (AHA) annual survey, which contains detailed information about the service offerings and financial status of most general acute care hospitals in the United States. The fourth source of data was the "Quality Check" data from the Joint Commission on Accreditation of Healthcare Organizations (www.qualitycheck.org). The Quality Check data contains standardized quality of care measures reported at the hospital level for a variety of conditions (e.g., heart attack, pneumonia, etc.). The AHA and Quality Check data were merged by hospital identification number and the resulting data were then merged to the claims and survey data for all hospitals in each hospitalized employee's choice set, including the hospital that he/she was admitted to. The choice set was defined differently for each hospitalized patient and included all hospitals located in the Seattle metropolitan area that offered treatment for the diagnosis or procedure for which the patient was hospitalized. We use GIS software to compute the distance between the centroid of each patient's zip code of residence and each hospital in the patient's choice set.

Study Design: We utilize a pre-post study design and take advantage of the fact that the HSI did not apply to non-union (i.e., salaried) employees. We examine changes in hospital admissions patterns and survey question responses for union and non-union employees, including hospitalized employees, using a difference-in-difference-in-difference design. Targeted survey respondents were randomly sampled from four groups in each period (union/non-union, hospitalized/non-hospitalized), and we completed approximately 1,200 interviews in each period and achieved a 70% survey cooperation rate.

Analytic Methods: We estimate a random utility model to express the probability that individual *i* chooses hospital *j* from a set of *k* hospital alternatives, where *k* varies by individual and includes all hospitals in the Seattle metropolitan area that offer treatment for the condition for which individual *i* was hospitalized. In this model an

individual's utility for a given hospital is specified as a function of individual level characteristics X_i and hospital level characteristics H_j. The vector of individual level characteristics include both patient demographic variables as well as the patient's response to specific survey questions about the importance of various hospital attributes such as distance, quality and reputation. The hospital level characteristics include measures from both the AHA and the Quality Check data. We also include interaction terms between certain X and H variables that match, for example between the patient's survey response about the importance of distance in selecting a hospital and the actual distance variable computed using the GIS software. By interacting these terms we test whether employees that reported a stated preference for more proximate hospitals actually choose hospitals that are, on average, closer to the employee's home, all else constant. The model is estimated using the conditional logistic choice regression.

Principal Findings: Preliminary findings indicate that the HSI did not influence union employees' choice of hospitals. Answers to other survey questions provide insight about why. In particular, patient-physician relationships are very important, and admission to a Leapfrog compliant hospital would often require switching physicians. In addition, other factors seem to dominate the hospital selection decision including prior experience, etc. One limitation of the study, which may explain the lack of effect of the HSI, is that few hospitals met the safety standards and thus did not qualify for the coinsurance waiver. Future work will quantify the dollar value of the HSI needed to move a significant share of the commercial market from non-compliant to Leapfrog compliant facilities.

Conclusions: While benefit plans that include tiered provider networks (e.g., hospital and physicians) aimed at increasing consumer sensitivity to cost, quality and safety have grown in popularity and are theoretically attractive, little is known about how they work operationally. Our study provides important insight regarding the practical limitations of these benefit structures as well as consumer response to them. As far as we know we are also the first study to examine hospital choice using both stated and revealed preference data.

Keywords: Tiered hospital benefits, Patient safety, Leapfrog Group, hospital choice, Centers of excellence.

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1. Introduction

Recent years have seen an explosion of innovations in health insurance products and health financing mechanisms aimed at addressing the escalation of health cost inflation and mounting evidence regarding problems with the quality and safety of health care in the United States. Examples of these innovations include consumer directed health insurance plans (CDHPs), which utilize high deductibles in combination with health savings or health retirement accounts [Parente et al. (2004a, 2004b)], "pay for performance' (P4P) programs [Rosenthal et al., (2005), Dudley (2005)], disease management (DM) programs [Beich et al., 2006], and tiered pharmacy, hospital and provider networks [Robinson, 2003]. Aiding the growth of these innovations has been the burgeoning industry of performance measurement in virtually all areas of health care (e.g., health plans, hospitals, nursing homes, physician groups), as well as the associated increase in the dissemination of health care "report cards" based on these measures. While these innovations differ, they all tend to combine – to varying degree, both increased cost sharing and information about the quality of care delivered by health care providers. In fact, the genesis of these programs is typically the desire to measure and reward value in the health care industry, where value is defined as the level of quality received for the health care dollar [Fraser and McNamara, (2000), Scanlon, Chernew, and Doty, (2002)].

The assumption driving many of these recent insurance and payment innovations is that consumers and purchasers will increase their sensitivity to cost and quality differences, and thus move the supply side of the health care market to provide better quality care more efficiently. Similarly, innovations more directly aimed at rewarding the supply side (e.g., P4P programs) are assumed to yield significant improvement in the way care is organized and delivered. Unfortunately these assumptions are relatively untested and there is little published evidence

about the impact of these new approaches. Where evidence does exist, is it often anecdotal or generated from weak research designs that are subject to the possibility of bias resulting from non-random participation and program selection [Dudley, 2005].

In this paper we add to the scant evidence regarding the impact of these new insurance innovations by taking advantage of a health benefits experiment at the Boeing Company. In its health care consumerism campaign, Boeing enacted a "hospital safety incentive" (HSI) in its two major union populations [International Association of Machinists (IAM) and Society for Professional Engineers in Aeronautics and Aviation (SPEAA)]. The HSI created a financial incentive – by waiving the 5% co-insurance required under the standard insurance benefit - for union beneficiaries to use "safer" hospitals. The HSI is essentially a tiered hospital benefit where the "preferred" or safer hospitals require no coinsurance.

Research by Donald Steinbrooks (2004), James Robinson (2003) and Gabel et al. (2003), have illustrated that tiered hospital networks are becoming increasingly common in insurance benefit design, even among HMOs which traditionally have not utilized deductibles or copayments for hospital care. The emergence of tiered hospital networks has followed the widespread adoption and popularity of tiered co-payments in pharmaceutical benefit design. While there is a solid research base for understanding the impact of tiered pharmaceutical benefit designs [Goldman et al., (2004), Gibson et al., (2005)], hospital care is much different conceptually and little is known about how tiered hospital networks function, or how they impact providers or patients, particularly the chronically ill or poor. Thus, an examination of the effectiveness of these new network designs in influencing patients' choices and providers' pricing strategies is one area where research is greatly needed is. While we don't focus on

provider strategies in the current analysis, we do address three research questions related to the impact of the HSI on patient decisions.

- *What factors are important in the selection of a hospital for non-emergent inpatient care?*
- *Did the HSI alter the factors important in selecting a hospital for the union population?*
- *Are estimates from the hospital choice model improved by including stated preference data from the beneficiary survey (relative to claims data alone), and if so how is the model improved?*

In section II we present details about Boeing's Hospital Safety Incentive (HSI) and Health Consumerism campaign. In section three we describe a conceptual framework for assessing the impact of a tiered hospital network on hospital admissions decisions. Section four describes the data used in the study, including the survey data we collected and used in our empirical analysis. Section five discusses the conditional logit hospital choice model, while section six reports the model's results. Section seven concludes with a discussion, including implications for health insurance markets and health policy.

2. Background on Boeing's Hospital Safety Incentive (HSI)

The HSI was one piece of an overall health care strategy the Boeing Company implemented in 2004 and had been planning for some time. According to Boeing documentation, its health care strategy involved increased consumerism, cost-sharing, and incentives for patients and providers to use information technology. Specific actions outlined as part of this overall health care strategy included; a) providing employees and beneficiaries with a meaningful choice of health plans; b) consolidating health plans, insurance pools, and administrators, based on high performance; c) improving health plans for quality, safety, and

efficiency; d) targeting health care cost sharing with employees at competitive levels; and e) educating employees and providing incentives to use the most effective plans, providers and care management programs. Figures 1-2 provide examples of the health consumerism campaign materials that were distributed as part of the 2004 health insurance plan open enrollment period. Though not shown in figures, Boeing also made significant investments to provide beneficiaries with online access to decision support tools including physician and hospital quality reports as well as a general health information portal ("BoeingWellness.com") operated by the Mayo clinic. Recently published evidence on problems of quality, safety and inefficiency in health care (e.g. the Institute of Medicine's *To Err is Human* (1999) and *Crossing the Quality Chasm* (2001) reports), and Boeing's leadership as a national private sector health care purchaser in organizations like the Leapfrog Group, contributed to the design of its overall health care strategy.[1]

In particular, the evidence about problems associated with poor safety and inefficient care in hospitals led Boeing to work with its unions and third party administrator (TPA) – Regence Blue Shield of Seattle, Washington – to develop an incentive for use of safer hospitals. The incentive came to be known as the HSI and was negotiated with Boeing's two largest unions (IAM and SPEAA) in 2002 to take effect beginning July 1, 2004. Because the benefit did not apply to salaried non-union beneficiaries, these beneficiaries serve as a control group in our analysis. Because we were fortunate to become involved with Boeing's consumerism campaign and the HSI before it went into effect, we could monitor both union and non-union employees before and after the HSI was implemented (i.e., pre/post July 1, 2004) to observe pre/post differences.

[1] One of Boeing's two largest unions, the International Association of Machinists (IAM), also joined the Leapfrog Group as a member and agreed to work with Boeing on addressing the problems of patient safety outlined in the *To Err is Human* report.

The appendix provides a text description of the HSI available to Boeing employees as a .pdf file from the Regence Blue Shield website. Figures 3-5 provide "screen shots" about the HSI from Regence's web site, including a description of the HSI and how to search for hospitals that qualify for the 5% coinsurance waiver. Boeing also provided additional education and information about the HSI to the union population as part of the July 1, 2004 – June 30, 2005 health benefits open enrollment period. The HSI applies to Boeing's "Traditional Medical Plan (TMP)" which is a PPO that covers about 40% of Boeing's beneficiaries. Table 1 compares the TMP's inpatient benefits for non-union salaried (NUS) employees and union employees (IAM and SPEAA) before and after July 1, 2004.

3. Conceptual Framework

While most tiered hospital networks are currently based on cost/charge information only, Boeing's HSI was designed to give union beneficiaries a financial incentive to use safer hospitals, with the standard 5% co-insurance waived when care is received at hospitals designated to be safer according to national standards developed by the Leapfrog Group.[2] The key question is whether the HSI made a difference in the selection of hospitals among union beneficiaries who required inpatient hospital care. We assume that patients maximize expected utility and view the expected utility for hospital care as being a function of multiple attributes including expected out-of-pocket costs for hospital care, the amenities of the hospital, the physicians' referral/recommendation, etc. The expected utility model allows the weight of the attributes to vary by individual such that in the case where physician opinion/referral dominates, the patient's decision would ultimately become the physician's decision (i.e., patients would place 100% weight on the physicians' referral/opinion attribute).

[2] The Leapfrog Group is a national coalition of private and public purchasers focused on hospital patient safety and health care value (see http://www.leapfroggroup.org for more information).

In defining attributes of potential importance for the hospital decision, we reviewed the published literature, and we developed Figure 6 to illustrate those attributes, as well as the degree to which consumers' decisions regarding hospital, health plan and physician choice are potentially linked, making any one choice (e.g., hospital choice) potentially conditional on one or more of the other choices (e.g., health plan and physician choice). For example, some restrictive health plans contract with a subset of hospitals in a market, which effectively limits plan members' hospital choice set if care is to be covered by the insurance company. Likewise, physician staff privileges at hospitals effectively limit the hospital choice set for patients that choose a physician before choosing a hospital. We used this framework, which came from our review of the literature, to design a survey that queried respondents (those actually hospitalized and those not hospitalized) about the importance and relative importance of these various attributes when making a past decision about a hospitalization, and if hospital care should be needed in the future.

In many ways our conceptual framework and analysis fits most closely to the recent literature on the impact of health plan report cards. Several studies utilize a Bayesian estimation framework to examine the degree to which individuals update their priors and expectations about utility based on the availability of "report card" information [Chernew et al., (2001), Gin/Sorenson (in press), Dranove and Satterthwaite (1992)]. These studies assume that the utility for a health plan is a function of a vector of observed covariates known with certainty, as well as an unobserved component, such as quality, which is uncertain and thus consumers must form an expectation about. The expectation about quality is based on the best available information and then is updated after the release of a health plan report card. In the Chernew et al. study the report card occurs in the post period for the intervention group, allowing the

intervention group the ability to update its prior expectations about quality. Jin and Sorenson (in press) take a similar approach, albeit in a one period model, where information was available to a subset of the Federal Employees Health Benefits Program (FEHBP) but not to others in that population.

The Chernew et al. and Jin and Sorenson analyses use this Bayesian framework in a conditional logit model to estimate the impact of the quality reports on health plan enrollment decisions. We utilize the Bayesian framework in the interpretation of our empirical models by assuming that some attributes that contribute to the assessment of the expected utility of a hospital are known with certainty (e.g., physician opinion/referral), while other attributes (e.g., quality and safety) are uncertain and require the formation of an expectation. In addition, we assume the consumerism campaign around the HSI acts similarly to the health plan reports cards in the Chernew et al. and Jin and Sorenson papers by providing a subset of beneficiaries (the union beneficiaries) with information to update prior expectations about uncertain attributes, possibly leading to greater certainty about these attributes and/or greater or lesser weight applied to them. Interestingly, the introduction of the HSI most likely increased uncertainty about out-of-pocket hospital costs as union employees were moved from a situation (in the pre period) where hospital care required zero coinsurance, to a situation (in the post period) where 5% coinsurance was required if a safer hospital was not chosen. Since it is difficult for an employee to estimate the dollar value of 5% of hospital charges, it is likely that the HSI resulted in greater uncertainty for beneficiaries aware of the benefit change.

An important question about incentives like the HSI or other tiered hospital benefit programs is when beneficiaries learn about the benefit change/incentive. Because the need for hospital care is somewhat unpredictable, at least for a large portion of the healthy working or

early retiree age population, it is reasonable to expect that awareness of the HSI may not have been strong for most beneficiaries, including hospitalized beneficiaries, even though the Boeing Company and Regence Blue Shield announced the HSI through multiple communications and information channels. Furthermore, the union population had been accustomed to 100% coverage for hospital care, so the notion of "shopping" for a hospital based on price was not historically salient in this population. Hence, we hypothesize that awareness was relatively low initially. We hypothesize that the prime opportunity for awareness about the HSI would occur after an actual hospitalization when the union employee or covered union beneficiary received the explanation of benefits (EOB) from Regence Blue Shield and/or a bill from the hospital indicating that the 5% coinsurance was owed. At this point, the insured would become aware of the benefit change requiring coinsurance, and *may* also become aware of the fact that the 5% coinsurance could have been waived if a safer hospital was chosen.

4. Study Data

Data for this study came from four sources: 1) Claims and enrollment data from Boeing's third party administrator, Regence Blue Shield of Seattle, WA; 2) A telephone survey of a sample of Boeing employees and spouses enrolled in the Traditional Medical Plan (TMP); 3) The 2004 American Hospital Association (AHA) annual survey data; and 4) The *'Quality Check'* data from the Joint Commission on Accreditation of Healthcare Organizations (JCAHO) (www.qualitycheck.org). We describe each data source in turn.

4a. Claims and Enrollment Data from Boeing

We received enrollment and hospital claims data from Regence Blue Shield for union and non-union employees for the period June 2003 through April 2005. Information from the claims and enrollment data include the dollar amount of patient responsibility for hospital care

(including required contributions towards the deductible and coinsurance), gender, age, whether the individual was a Boeing employee, early retiree, or spouse of an employee or early retiree, and union status. We also have information about the Diagnostic Related Group (DRG) and primary and secondary diagnosis codes associated with the hospitalization. All HIPAA regulations were complied with and the Penn State Survey Research Center (SRC) served as an intermediary party that received the data and used the identifying information only for purposes of constructing the survey sampling frame, selecting samples, and attempting to gain the survey participation of those beneficiaries included in the samples. In order to provide the data to the research team, the SRC de-identified the data by assigning an encrypted beneficiary identification code, and removed any variables that would allow identification per HIPAA requirements. In order to compute distances from patient residence to hospitals, permission was granted to receive residential zip code information, which is part of the HIPAA limited data set.

4b. American Hospital Association Annual Survey Data

We use data from the 2004 AHA Annual Survey, which is a national survey of all specialty and general acute care hospitals in the United States. We use data from this survey for the 29 hospitals that constitute the general choice set for Boeing employees and Beneficiaries living in the Puget Sound area in the State of Washington. The AHA survey contains many variables that describe the ownership and governance of the hospital (e.g., for-profit status, public or private, religious affiliation, etc.), and special designations or service offerings (e.g., member of the council of teaching hospitals, presence of a trauma center, etc.) as well as demographic and financial characteristics of the hospital (e.g., number of licensed beds, size of the nursing staff, annual revenues and operating costs, etc.). For our analysis we use the AHA data to control for hospital characteristics such as the existence of specialty units (i.e., cardiac,

oncology, obstetrics, and transplant), ownership status (public, for-profit, or nonprofit), and teaching status, etc.

4c. Quality Check Data from the Joint Commission on Accreditation of Healthcare Organizations

The *Quality Check* data contains several hospital quality and safety ratings made available by the Joint Commission on Accreditation of Healthcare Organization's. The data was downloaded from the JCAHO web site and was based on the reporting period of April 2005 to March 2006. The source of the data for the ratings comes from information obtained by JCAHO as part of its hospital accreditation program and from other sources, such as the hospital measures that have been nationally endorsed by the *National Quality Forum*. For our study we included an index that captures hospitals' performance on the national patient safety goals and three quality improvement goals related to heart attack care, heart failure care, and pneumonia care. For each hospital we created an index taking on the value of 0-4, which measured for how many of the four goals the hospital exceeded the average of hospitals statewide. We view these ratings as quality and safety data publicly available to consumers and data that should, at least in theory, be highly correlated with the general reputation of the hospital among consumers in the Puget Sound market.

4d1. Telephone Survey of Boeing's Employees and Their Spouses

In order to understand the impact of Boeing's health consumerism campaign as well as the impact of the HSI, we designed a telephone survey to be conducted in the pre and post periods (i.e., before and after the HSI took effect on July 1, 2004). The full survey is available from the corresponding author, but the survey asked respondents questions about the following; a) awareness of enrollment materials and online decision support tools; b) opinions regarding the

quality and safety of health care; c) factors influencing hospital choice (for those respondents with a recent hospitalization); d) factors important for future choice of hospital if inpatient care is needed; e) factors related to health plan choice; and f) demographic characteristics. As discussed above, hospital choice is a tricky issue because the need for hospital care is often unpredictable and requires that a physician admit the patient to a hospital where he/she has practice privileges. Rather than rely exclusively on market share analysis alone (and because of concerns about the stability of shares based on just Boeing hospitalized beneficiaries), we designed the survey to ask recently hospitalized respondents several questions about the process by which they ended up at the hospital where they were admitted. Thus, we asked if the admission was planned or emergent, the degree to which the respondent was involved in the selection of the hospital and if the respondent deferred the selection to his/her physician, and which attributes of the hospital (e.g., out-of-pocket cost, amenities, travel time and distance, etc.) were important in the decision of choosing where to receive care. In short, we believed the survey would provide us with much richer data about the process by which individuals end up at various hospitals and would help us to evaluate the impact of the HSI.

4d2. Sampling Design for Boeing Survey

The sampling frame was designed to yield approximately 1,200 completed phone surveys of Boeing employees at both the baseline (pre-survey) and follow-up (post) survey for a total of approximately 2,400 completed responses. The random sample was designed to yield inferences that can be generalized to the entire Boeing population in the various sampling groups. The baseline survey design used disproportionate sampling to ensure adequate statistical power to measure differences between union and non-employees in their hospital selection decision process. The sampling frame was designed to yield approximately 60 percent of the sample being union and 40 percent non-union in the pre-period, and within each of these categories, the

pre-survey design was structured to yield approximately 60 percent hospitalized and 40 percent non-hospitalized beneficiaries (because another aspect of our research was focused on the impact of Boeing's consumerism campaign on all employees, regardless of hospitalization status). The sampling frame for the follow-up survey was designed to yield a more equal distribution with approximately 54% union and 46% non-union. Within each of these categories, the follow-up design also was structured to yield approximately 53% hospitalized and 47% non-hospitalized. This change in proportions was made to more closely mirror the proportions of respondents in these four categories obtained in the baseline survey.

The Pennsylvania State University Survey Research Center (SRC) received from Boeing's third party insurance administrator – Regence Blue Shield of Seattle, WA - a list all of union and non-union employees and their adult beneficiaries covered by Boeing's health plan as of January 2004. In addition, a list of Boeing beneficiaries that were hospitalized anytime between July 1, 2003 and April, 2005 was produced from the claims data. Both the beneficiary and hospitalization lists included information for the Boeing employee and the spouse of the employee if he/she were also covered by Boeing's TMP. Every attempt was made to find the correct telephone number for these employees, however correct telephone numbers were never located for 870 employees (28.3%) in the pre-survey period and for 811 employees (25.8%) in the post survey[3]. The interviews of the hospitalized group were designed to occur at least 2 months after the hospitalization discharge to allow enough time for the claim to be processed and the explanation of benefits and hospital bills to be mailed.

[3] Boeing only collects phone number information at the time of employment and does not routinely update this information in its human resources databases. Thus, the information was not available for employees that had changed phone numbers since the time of initial employment, or that may have switched to cell phone only households.

Table 2 shows the sampling distribution for both the pre- and post- hospital safety incentive (HSI) implementation survey. The first column shows the total population received from Regence for each category before removing duplicate cases, duplicates from the household, and cases included in the base line survey (applicable in the post-period only). For the non-hospitalized group, this is the total sample before also removing cases not imported into the follow-up sample but that were contained in the hospitalized sample delivered monthly. The second column shows the sample that was available after removing duplicate cases. Because the sample was designed to be representative of employee households, only one person was selected at random from each household. Employees with a spouse had a 50% chance of being included in the second column while employees without a spouse had a 100% chance. The third column shows the actual number of interviews completed.[4]

4d3. Survey Response Rates

The response rate for a survey can be computed several ways and so we report this detail for the benefit of the reader. To calculate the first response rate, the total number of interviews (completed, partially completed, and screen-out interviews) was divided by the sum of the number of interviews, the number of non-interviews (refusals, non-response, and no resolution working telephone numbers), and the total of all unknown telephone numbers. Calculating the response rate in this manner resulted in a response rate of 41.8% in the pre-period and 44.7% in the post period. Response rate 2 was calculated only using working telephone numbers, which does not penalize the response rate for missing phone number data. The response rate using this formula was 58.2% and 60.3% respectively.

[4] We asked survey respondents if they were hospitalized recently and included respondents in the hospitalized sample based on the response to this question, even if their answer to this question did not match the information we had about the respondent from the claims data we received. We opted for this approach because a respondent may have been hospitalized in a period more recent than covered by the claims data. Nonetheless, the concordance between the claims data and the survey data on the identification of hospitalized patients was xx%.

The cooperation rate determines the rate of participation among contacted households (69.1% in the pre survey and 70.1% in the post survey). Finally, the refusal rate was calculated by dividing the number of refusals by the sum of the number of interviews (completed, partially completed, and screen-out interviews), the total of non-interviews (refusals, non-response, and no resolution working telephone numbers), and the number of all unknown telephone numbers. Using this formula, the refusal rate for this survey was 14.7% and 15.5% respectively. In general, the response/cooperation/refusal rates achieved in this study are better than rates reported for similar studies in the published literature. These rates are also significantly better than obtained in Regence Blue Shield's annual performance assessment survey, which we attribute to the professionalism of the Pennsylvania State University's SRC and the use of a pre-notification letter from Boeing discussing the purpose and importance of the study.

4d4. Comparison of survey respondents and non-respondents

We conducted tests to compare survey respondents and non-respondents on the characteristics available for both samples, which came from the claims data received from Regence and which we used to formulate our sampling frame. Table 3 shows this comparison for the hospitalized sample. The p-values in these tables test the hypothesis that there were no differences in the mean values or proportions of the characteristics based on response status. The results suggest that there are some statistically significant differences (e.g., older individuals and greater proportion of early retirees are more likely to respond than not respond), but the mean (proportion) values are generally similar and the statistical differences that do exist seem driven by the large sample sizes, while some differences, such as the higher proportion of non-respondents with bad phone number information, is to be expected.

5. Conditional Choice Model

The standard approach employed in the economics literature for studying choice among alternatives is to model an individual's (e.g., individual *i*) utility for each possible alternative (e.g., hospital *j*) in a given time period *t*, as a function of observed characteristics of the choices, the chooser, or both. Utility is assumed to be stochastic and most models assume an independent and identically distributed error term, such as from the Type I extreme value distribution [McFadden (1973)]. Under this framework it is assumed that if individuals are utility maximizers, then individual *i* chooses alternative *j* if $U_{ij} > U_{ik}$ for all $i \neq k$. This framework, and the associated framework that aggregates individual choices to the market share level [Berry, (1994)], has been used in several health economics applications including choice of health plan [Feldman et al., (1989), Scanlon et al., (2002), Harris, (2002), Chernew & Scanlon (1989), Wedig & Tai-Seale, (2002), Beualieu, (2002)] and choice of hospital [Wan-Tzu, (2004), Garnick et al, (1989)].

We specify the utility that patient *i* derives from being admitted for care at hospital j as follows:

$$U_{ijt}(H_j, I_j, X_i, D_i, \Delta_{ij}) = \alpha H_j + \beta_1 I_j * D_i + \beta_2 \Delta_{ij} + \beta_3 \Delta_{ij} * X_i + \beta_4 \Delta_{ij} T + \beta_4 \Delta_{ij} U_i T_t + \varepsilon_{ijt} \qquad (1)$$

Where H_j is a column vector of hospital *j*'s characteristics and I_j is a column vector of hospital *j*'s specialty service offerings; the column vector D_i is patient *i*'s diagnosis; the column vector X_i is patient *i*'s characteristics that may affect hospital choice; and U_i is patient *i*'s union status and T_t is the post period. The variable Δ_{ij} is the distance from the patient's residential zip code to hospital *j*. The final term in equation 1, ε_{ij}, represents the personal and idiosyncratic component of patient *i*'s evaluation of hospital *j*.

Assuming ε_{ij} in Equation 1 are realizations of an independent, Type 1 extreme value process, then the probability of being admitted to hospital *j* from J alternatives is equation 2:

$$p_{ij} = \frac{\exp(U_{ij} - \varepsilon_{ij})}{\sum_{j=1}^{J} \exp(U_{ij} - \varepsilon_{ij})} \qquad (2)$$

where p_{ij} is the probability that individual i chooses hospital j.

The choice model includes as regressors the distance from patient i to hospital j and four other sets of variables. The first set, H_j , includes hospital characteristics: ownership status (for profit, non-profit, and government); teaching status; existence of a trauma center; and existence of a transplant center. The second set, denoted $I_j * D_j$, consists of "service match" dummies for the following conditions: Oncology, Obstetrics and Gynecology, and Cardiac care. Patients in each of these categories are unlikely to elect to receive care at hospitals without corresponding specialized services. For example, nearly all births occur in hospitals with dedicated labor and delivery rooms, a service typically maintained by 40-60% of hospitals in a market. If we did not include these match variables, we would underestimate travel aversion for these types of patients because they frequently bypass the closest hospitals for a more distant one with matching services.

The third set of variables is Δ_{ij} : the distance from a patient's residential zip code to hospital j. This is interacted with patient preferences (e.g., answers to the survey questions described above) and union status, denoted $\Delta_{ij} * X_i$. The final set of variables includes selected interactions between patient preferences, which come from answers to survey questions, and hospital characteristics. Specifically, we interact the reported survey preference for specialty services with teaching status because teaching hospitals tend to have the most specialized services; the reported survey preference for amenities is interacted with public hospital ownership because public hospitals have the fewest amenities; and the reported importance of quality ratings is interacted with our measure of quality rankings which is a count of the number

of times the hospital was ranked by JCAHO as being above average in the state for Heart Attack Care; Heart Failure; Pneumonia Care; and Surgical Infection Prevention (essentially a 0-4 count variable). Finally, union status is interacted with distance with and without a time interaction.

6. Results

Figure 7 illustrates how we arrived at our final estimation sample, starting with the 2,512 completed survey responses in both the pre and post periods. For this analysis we kept only hospitalized respondents with a residence in the Puget Sound area of Seattle WA. Furthermore, since choice of hospital is an entirely different process for those that were admitted through the hospital emergency room, we dropped all respondents with an emergent admission, which represented 39% of the hospitalized sample.[5] We also dropped 167 respondents that had missing values on one or more of the survey questions we used in our analysis, but future work will attempt to include these individuals by using multiple imputation techniques. After all of our exclusion restrictions, we are left with 431 patients included in our model, with 215 of these having a hospitalization before July 1, 2004, and 216 after this date. Approximately one third of hospitalized respondents in each period were union members, while the others were salaried non-union employees that were not subject to the HSI in either period.

Table 4 provides descriptive statistics for the 431 hospitalized patients included in our analysis. On average, patients traveled 17 miles from their residence to the hospital to which they were admitted. About 64% of the patients were female and the average age of the patient at the time of survey response was 51.3 years. Patients in our analysis worked for Boeing for an average of 21 years, suggesting a long employment relationship with the company. The

[5] The rate of emergent hospitalizations seemed quite large, but we verified with the Regence and Boeing staff that in fact this was consistent with historical averages for this population. It is likely that some of these hospitalizations were based on convenience or due to a lack of a usual source of care, and we are investigating this trend in ongoing work.

variables in Table 4 labeled q16-q26 are the average values provided on the survey questions that ask about the importance of various attributes when the patient selected the hospital (e.g., physician's recommendation, travel time or distance, quality ratings, etc.). Respondents were asked to answer on a 1-10 scale with one meaning 'not at all important' and ten meaning 'extremely important'. The results suggest quite a bit of average variation among respondents, and additional analysis, not presented, suggests that there was significant within person variation in responses to these questions. As discussed above, the responses to these survey questions are interacted in the hospital choice model with data from other secondary sources to gauge the value of adding stated preference to revealed preference data.

Table 5 presents descriptive information for the 29 hospitals included in the general choice set for all patients. While the actual choice set for each patient is a subset of these 29 hospitals, depending on how many offer the procedure or service for which the patient was actually admitted, these 29 hospitals represent the vast majority of hospitals used by Boeing beneficiaries living in the Puget Sound area. The results in Table 5 indicate that 10% of the hospitals were for-profit while 35% were public hospitals, and 7% of the hospitals were members of the council of teaching hospitals. The table also indicates the presence of specialty service offerings including trauma, transplant, and cardiac, oncology and obstetrics services. While the JCAHO quality index had a maximum value of 4, on average hospitals only scored 0.5 on this index of quality measures.

Table 6 provides the estimates from the conditional logit model. While the parameter estimates indicate the direction of the relationship between the covariate and the probability of choosing hospitals, the magnitude of the effect must be computed to obtain the marginal effect [Kim, I have not had a chance to compute the marginal effects yet but will do so and send to you

before the AEA meeting]. We report two columns of results in Table 6; the first column is considered our base model and includes all of the q16-q26 survey questions, while the more parsimonious specification in column two combines the responses to q16, 18, and q25 into one variable, and drops q17, q22, and q26. Two survey questions (q22 and q26) are dropped because they are believed to be highly correlated with several of the other survey questions, and q17 is dropped because Boeing's Traditional Medical Plan (TMP) essentially covers hospitalizations at any of the hospitals included in the choice set. The results from the base and parsimonious model are very similar and thus the choice of model does not substantively affect the results.

The existing literature on hospital choice has clearly established an inverse relationship between distance or drive time and the probability of selecting a hospital. While it is difficult to compare the results across studies because the impact of distance varies by market (e.g., traveling ten miles in New York City is different from traveling ten miles in Dallas), distance has nonetheless been established to be a very significant predictor of hospital choice. Thus, we use the distance coefficient as our key covariate on which to judge the effect of the HSI, by examining whether the HSI has a mediating effect on patients' willingness to travel, under the assumption that the financial incentive would make union employees less averse to travel in order to avoid the 5% coinsurance. The results in Table 6 indicate that distance is in fact extremely important, consistent with the findings from other studies. However, the interaction terms indicate that distance is not significantly different in its importance for union and non-union beneficiaries both at baseline and after the HSI took effect, suggesting that the HSI did not have a differential effect on the 'treatment' group relative to the 'control' group.

We also interacted distance with the responses to the survey questions and found that respondents stating that distance was very important, in fact did, on average, choose hospitals

that were more proximate to their residence. In addition, those that placed a greater value on the recommendation of family and friends or that valued the specialty medical services hospitals offered were willing to travel more for hospital care, on average.

The results in Table 6 also indicate that patients are less likely to be admitted to for profit and teaching hospitals. Patients requiring cardiac procedures are more likely to be admitted to hospitals offering specialty cardiac services, which is to be expected. Interestingly, while teaching hospitals are less likely to be chosen, survey respondents that value that value specialty medical services are more likely to be admitted to a teaching hospital. Similarly, those reporting that amenities are important are less likely to be admitted to a public hospital, which would offer fewer amenities, though this relationship does not achieve statistical significance at conventional levels. Finally, patients reporting they value hospital quality ratings are less likely to be admitted to the hospitals that score better on the JCAHO ratings, which is counterintuitive, but could indicate a lack of familiarity with the JCAHO measures (which are not highly publicized despite being available on the web to consumers) or could indicate a lack of belief in these ratings. The pseudo R-squared value from the conditional logit regressions indicates that the model explains a fair amount of variation in hospital selection.

6a. Marginal Effects and Sensitivity Analysis:

[Kim, per above, I still have yet to do this and will try to get you something before the AEA meetings, but I did not want to hold up getting you the paper].

7. Conclusions and Policy Implications

Despite the fact that many of the significant coefficients in our model our consistent with prior research and make intuitive sense, the preliminary results from our analyses suggest that the HSI did not have an effect on the hospital selection decisions of union employees, as there

was no significant difference in the importance of distance in the union population in the post period relative to the non-union population. These results raise the important question of *why* the HSI did not have an impact, and what implications, if any, this result has for those implementing tiered hospital networks.

First, our results identify the challenge that single employers and even large insurers may have when trying to institute tiered hospital programs. Several of the survey questions we asked (and not reported above) affirm the importance of the patient-physician relationship. Since physicians often have practice privileges at a limited number of facilities, it appears that tiered networks and financial incentives may have a hard time overcoming the importance of the physician relationship. Second, in the current application the HSI actually creates more uncertainty about out-of-pocket price for beneficiaries, which may have made it difficult to understand the impact of the HSI on price differences between competing hospitals.

Third, while anecdotal, consultants to the Center for Studying Health Systems Change project have indicated that it would take about 15% coinsurance to get consumers to move/switch hospitals. So, it is possible that the lack of an effect may simply be a function of 5% not being a significant dollar amount, and that something on the order of 15% would perhaps have a bigger impact. Though this may be true, the average value of the 5% was approximately $430. Fourth, the results may also suggest that people view their own experience with hospitals as pretty informative (and the question we asked about hospital satisfaction for those with a recent hospitalization seem to support this), and thus the dollar incentive and information provided does not appear to be enough to overcome one's own experience with hospitals and doctors. Of course it is also possible that the union beneficiaries did not believe the hospital

safety ratings were accurate, even though they are based on criteria developed by the Leapfrog Group.

One important limitation of our study is that few hospitals were eligible for the coinsurance waiver in the post-period because they had not yet met the Leapfrog safety criteria. The degree to which hospitals met the safety criteria varied, but very few hospitals met the CPOE requirement, while several facilities had instituted the use of intensivists and several hospitals met the requirement for the evidence based hospital referral procedures. But because CPOE applied to all patients in order to achieve the safety incentive, there were effectively very few hospitals that met the requirements for the coinsurance waiver in the Puget Sound market. Thus, it is a distinct possibility that the lack of an effect is due to the limited availability of hospitals meeting the coinsurance waiver in our study rather than an underlying disinterest of consumers in reducing their out-of-pocket costs by seeking care at safer hospitals. Unfortunately this was not predicted at the outset of the study, as Boeing predicted that about 40% of hospitals would quality for the HIS by the time it took effect.

If our preliminary results stand after additional analyses, they would suggest a major challenge for the insurance innovations currently being discussed and implemented in the market, including high deductible and consumer directed health plans. If true, this would suggest that policymakers, purchasers and insurers need to reconsider the potential of these innovations for addressing concerns about quality, safety and efficiency.

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Figure 1: Boeing's Health Care Benefits and Consumerism Campaign

Figure 2: Boeing's Health Care Benefits and Consumerism Campaign – Multiple Messaging

Figure 3: Regence Website Description of Hospital Safety Incentive

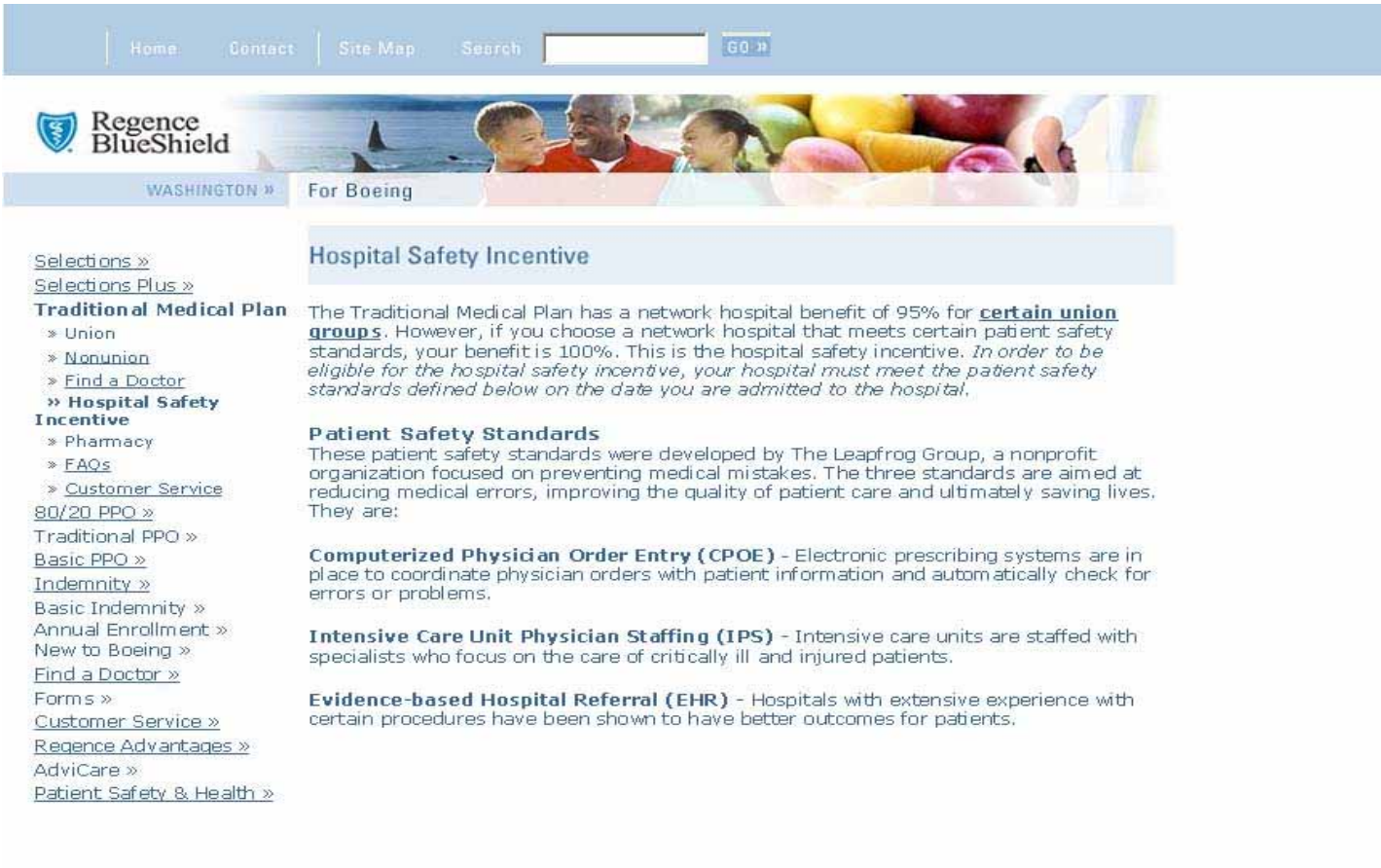

Figure 4: How the Hospital Safety Incentive Works

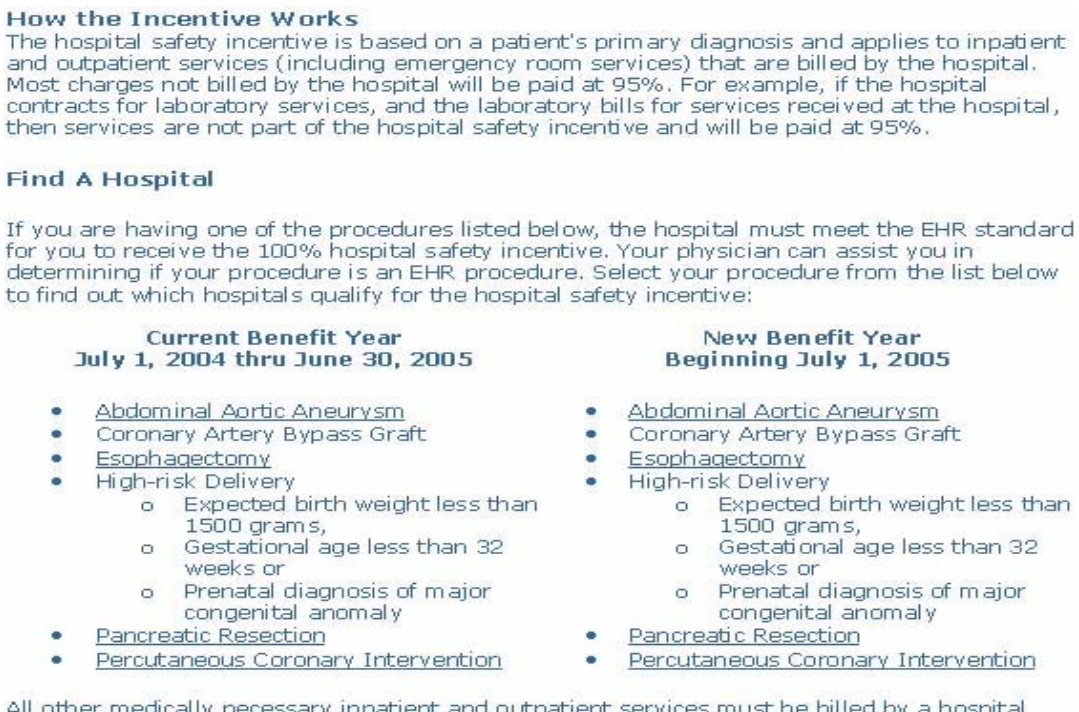

Figure 5: Finding a Hospital that Qualifies for the HSI

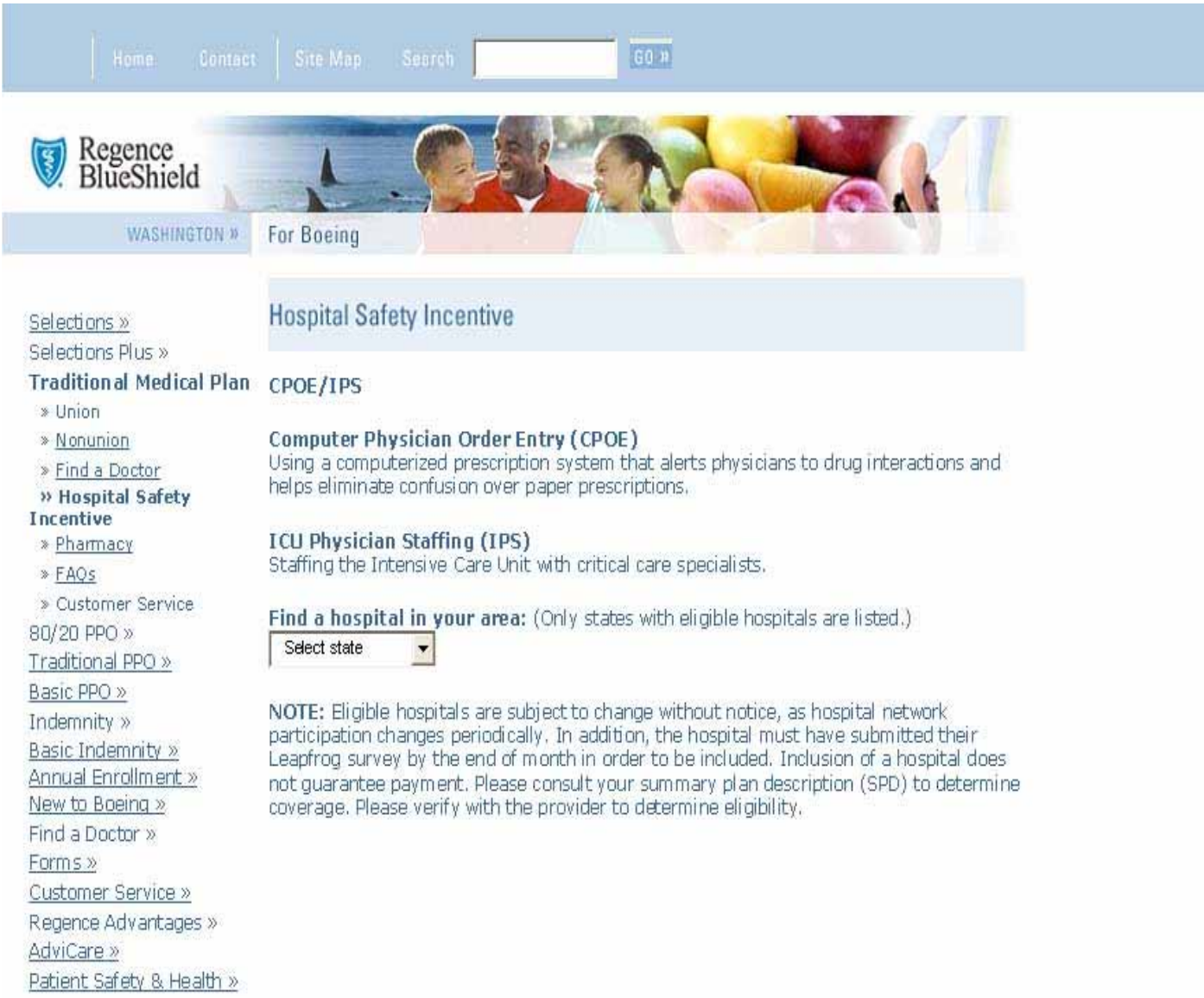

Figure 6: Relationship of Hospital Choice to Physician and Health Plan Choice

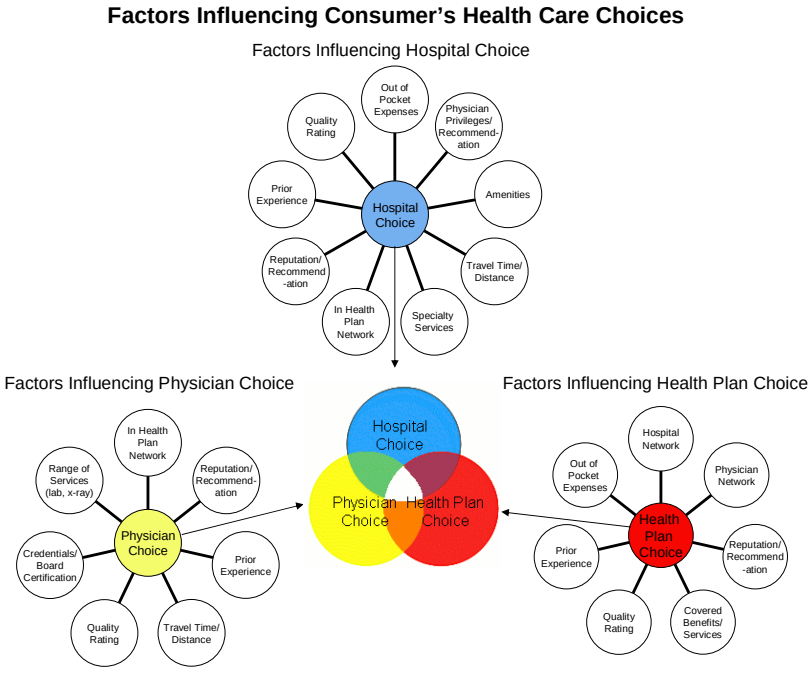

Figure 7: Flowchart of Observations in Hospital Choice Model

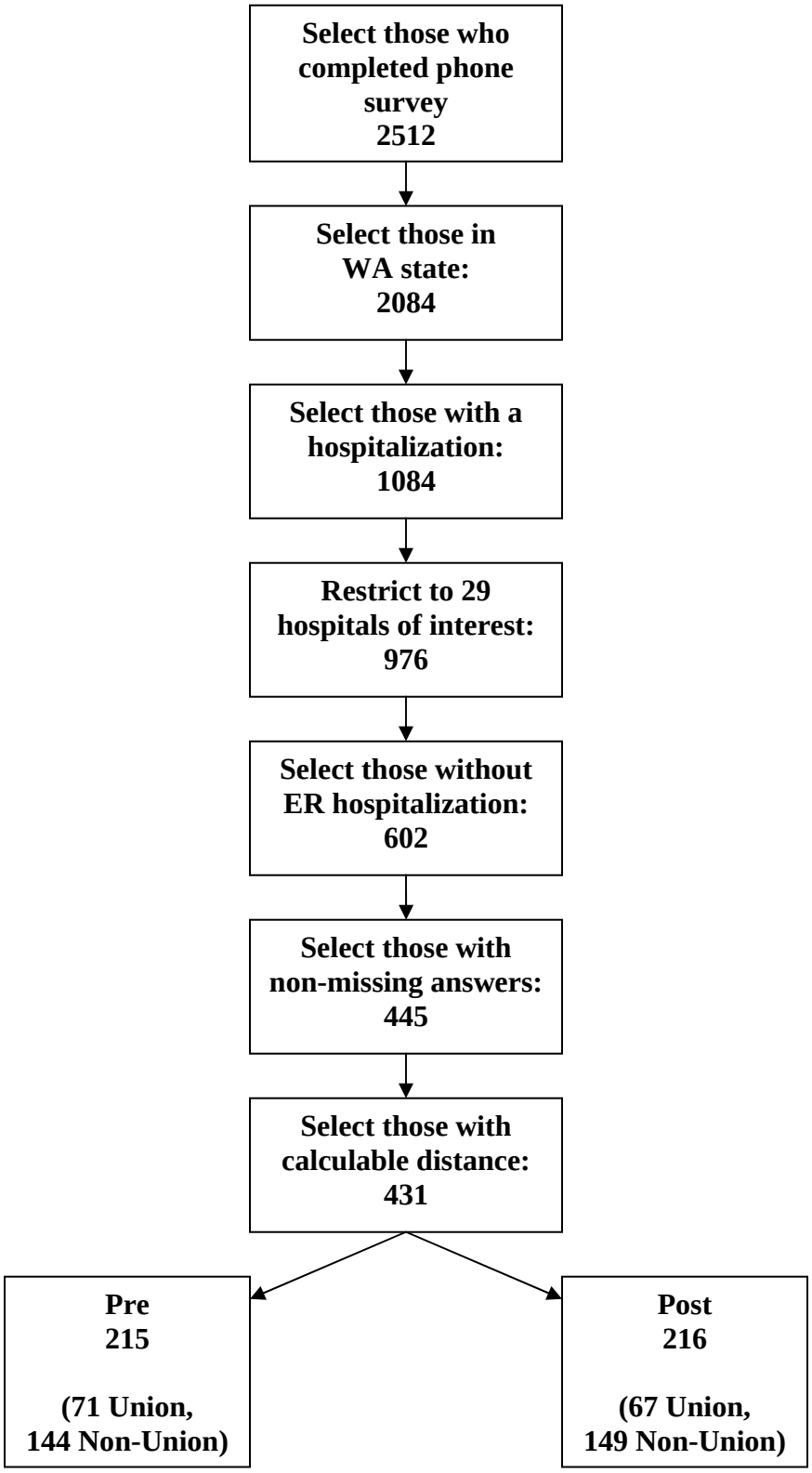

Table 1: Traditional Medical Plan (TMP) Benefits Summary

	Before 7/1/2004		After 7/1/2004	
	Non-Union Salaried Employees	**Union Hourly Employees**	**Non-Union Salaried Employees**	**Union Hourly Employees**
Deductible (Individual/Family)	$200 / $600	$200 / $600	$200 / $600	$200 / $600
Hospital Coinsurance	0%	0%	0%	5% with option for 0% if 'safe' hospital is used
Annual Out-of-Pocket Maximum (Individual/Family)	$5,000 / $15,000	$2,000 / $4,000	$5,000 / $15,000	$2,000 / $4,000

Table 2: Sampling Distribution (Pre and Post HSI Implementation Survey)

	Received from Regence (Pre/Post)	**Sample Drawn (Pre/Post)**	**Completed Interviews (Pre/Post)**
1. Non-hospitalized, Union	35,490 / 29,883	749 / 829	296 / 305
2. Non-hospitalized, Non-Union	23,369 / 21,391	747 / 680	284 / 305
3. Hospitalized, Union	1,180 / 1,558	925 / 1,008	377 / 401
4. Hospitalized, Non-Union	654 / 929	654 / 624	275 / 269

Table 3: Comparison of Hospitalized Respondents and Non-Respondents

	Hospitalized Pre (N=1579)			Hospitalized Post (N=1632)		
	Respondents (N=652)	**Non-Respondents (N=927)**	**p-value**	**Respondents (N=670)**	**Non-Respondents (N=962)**	**p-value**
Age	52.54	51.62	0.0542	53.71	51.80	<.0001
Family Size	2.34	2.23	0.1010	2.21	2.19	0.7880
Gender (1=Female)	0.62	0.58	0.1121	0.58	0.57	0.7990
Union Status	0.58	0.59	0.6077	0.60	0.63	0.1845
Relationship Type (1=Employee or 0=Spouse)	0.64	0.69	0.0298	0.66	0.66	0.7295
State (1=WA, 0=KS)	0.83	0.82	0.5972	0.80	0.83	0.1490
Early Retiree	0.32	0.29	0.1389	0.38	0.31	0.0041
Bad phone numbers	0.00	0.46	<.0001	0.00	0.51	<.0001

Table 4: Descriptive Statistics for Hospitalized Patients (N=431)

Variable	Mean	Std Dev
Distance	17.306	16.334
Cardiac Diagnosis	0.086	0.280
Oncology Diagnosis	0.019	0.135
OB Gyn Diagnosis	0.116	0.321
Physician's recommendation (q16)	8.864	1.957
Hospital in health plan network (q17)	8.542	2.483
Family or friend's recommendation (q18)	5.722	3.068
Travel time or distance to hospital (q19)	5.795	2.955
Specialty medical services offered (q20)	7.939	2.579
Amenities offered by hospital (q21)	6.575	2.706
Own prior experience (q22)	7.276	3.031
Quality ratings (q23)	6.345	3.036
Expected out-of-pocket costs (q24)	6.957	2.991
Hospital's overall reputation (q25)	8.265	1.996
Your decision vs. physician (q26)	7.104	3.034
Trauma Center at Hospital	0.464	0.499
Transplant at Hospital	0.223	0.417
Public Hospital	0.336	0.473
For-Profit Hospital	0.037	0.189
Teaching Hospital	0.070	0.255
Hospital Cardiac Services	0.735	0.442
Hospital Oncology Services	0.768	0.423
Hospital Obstetrics Services	0.840	0.367
Age	51.318	9.611
Gender (0=Male, 1=Female)	0.640	0.480
Union status (1=Union)	0.320	0.467
Survey (0=Pre, 1=Post)	0.501	0.501
Years on Boeing Health Benefits	20.979	11.428

Table 5: Descriptive Statistics for Choice Set Hospitals (N=29)

Variable	Mean	Std Dev
Trauma Center at Hospital	0.517	0.509
Transplant at Hospital	0.172	0.384
Public Hospital	0.345	0.484
For-Profit Hospital	0.103	0.310
Teaching Hospital	0.069	0.258
Hospital Cardiac Services	0.552	0.506
Hospital Oncology Services	0.655	0.484
Hospital Obstetrics Services	0.724	0.455
Quality Ranking	0.517	0.785
Specialty medical services offered	0.069	0.258

Table 6: Conditional Logit Model Results

Covariate		Base Model		Parsimonious Specification	
Distance [miles]		-0.091***	*(0.028)*	-0.089***	*(0.021)*
Distance *	Union	-0.012	*(0.011)*	-0.013	*(0.011)*
	Union * Post	0.022	*(0.016)*	0.025	*(0.015)*
	Post	-0.008	*(0.012)*	-0.009	*(0.012)*
	Average of Physician's recommendation, Family or friend's recommendation, Hospital's overall reputation			0.006**	*(0.003)*
	Physician's recommendation (q16)	0.000	*(0.002)*		
	Hospital in health plan network (q17)	0.002	*(0.002)*		
	Family or friend's recommendation (q18)	0.004**	*(0.001)*		
	Travel time or distance to hospital (q19)	-0.008***	*(0.001)*	-0.008***	*(0.001)*
	Specialty medical services offered (q20)	0.004**	*(0.002)*	0.004**	*(0.002)*
	Amenities offered by hospital (q21)	-0.001	*(0.002)*	-0.001	*(0.002)*
	Own prior experience (q22)	-0.001	*(0.001)*		
	Quality ratings (q23)	0.001	*(0.001)*	0.001	*(0.001)*
	Expected out-of-pocket costs (q24)	0.000	*(0.001)*	0.000	*(0.001)*
	Hospital's overall reputation (q25)	0.000	*(0.002)*		
	Your decision vs. physician (q26)	0.001	*(0.001)*		
Cardiac Diagnosis * Cardiac Hospital Services		1.276***	*(0.470)*	1.257***	*(0.469)*
Oncology Diagnosis * Oncology Hospital Services		1.330	*(1.073)*	1.304	*(1.073)*
OBGYN Diagnosis * OB Hospital Services		0.555	*(0.394)*	0.561	*(0.394)*
Trauma Center at Hospital		-0.064	*(0.103)*	-0.062	*(0.103)*
Transplant at Hospital		0.147	*(0.131)*	0.149	*(0.131)*
Public Hospital		0.298	*(0.290)*	0.279	*(0.290)*
For-Profit Hospital		-1.159***	*(0.264)*	-1.167***	*(0.264)*
Teaching Hospital		-3.990***	*(1.323)*	-3.974***	*(1.323)*
Cardiac Diagnosis * Cardiac Quality		-0.220	*(0.549)*	-0.189	*(0.546)*
Specialty medical services offered (q20) * Teaching		0.396***	*(0.142)*	0.395***	*(0.142)*
Amenities offered by hospital (q21) * Public		-0.022	*(0.040)*	-0.020	*(0.040)*
Quality ratings (q23) * Quality Ranking		-0.020*	*(0.011)*	-0.020*	*(0.011)*
Pseudo R-squared		0.1825		0.1804	

Number of people = 431; Number of observations = 12,499

Appendix: Description of Boeing's Hospital Safety Incentive from Regence Website

Your Hospital Safety Incentive

HOW IT WORKS

The Traditional Medical Plan (TMP) has a network hospital benefit of 95%. However, if you choose a network hospital that meets certain patient safety standards, your hospital benefit will be 100%.

This brochure describes how the hospital safety incentive works.

PATIENT SAFETY STANDARDS SAVE LIVES

Patient safety doesn't seem like something you'd need to worry about in a high-tech country like ours. But even in the United States, up to 98,000 deaths each year result from preventable medical mistakes[1]. To help reduce that number, The Leapfrog Group, a nonprofit organization focused on preventing medical mistakes, has identified safety standards aimed at reducing medical errors, improving the quality of patient care and ultimately, saving lives.

THE THREE SAFETY STANDARDS

Evidenced-based hospital referral (EHR). Extensive experience in performing specific complex procedures and treating particular conditions resulting in better outcomes for patients.

Reason: More than 100 studies in top medical journals show that, for certain procedures, patients get better results at hospitals that perform a higher volume of those procedures.

Computerized physician order entry (CPOE). Using a computerized prescription system that alerts physicians to drug interactions and helps eliminate confusion over paper prescriptions increases the accuracy of your prescriptions.

Reason: With computerized prescriptions, doctors enter orders into an electronic system, rather than writing out a prescription slip. The hospital's system then automatically checks the prescription against the patient's information and alerts the doctor to any potential problems.

ICU physician staffing (IPS). Intensive care units (ICUs) are staffed with specialists who focus on the care of critically ill and injured patients.

Reason: Every year many patients who die in ICUs would have had a better chance to live if their care had been managed at least eight hours a day by "intensivists" – physicians with special training in critical care.

Regence BlueShield

www.wa.regence.com/boeing

CHOOSE SAFETY TO LOWER YOUR COSTS

When you choose a network hospital that meets these safety standards, the charges billed by the hospital will be covered at 100% after the deductible instead of the usual 95%. Here is how the 100% hospital safety incentive applies:

If you are admitted for any of these procedures:

- abdominal aortic aneurysm,
- coronary artery bypass graft,
- esophagectomy,
- high-risk delivery (expected birth weight less than1,500 grams, gestational age less than 32 weeks or prenatal diagnosis of major congenital anomaly),
- pancreatic resection or
- percutaneous coronary intervention,

the network hospital must meet the EHR standard for experience in the procedure you are having in order for you to qualify for the 100% safety incentive. The list of eligible hospitals is on our Web site, www.wa.regence.com/boeing/ traditional.

If you are admitted (as an inpatient or outpatient) for any other medically necessary reason (except mental health or substance abuse), the network hospital must meet both the CPOE and IPS standards to qualify for the 100% safety incentive. The list of eligible hospitals is on our Web site, www.wa.regence.com/boeing/traditional.

BE SURE OF YOUR HOSPITAL CHOICE BEFORE YOU SEEK CARE

To see the hospitals that currently meet the patient safety standards, visit our Web site (www.wa.regence.com/boeing/traditional) or call Member Services at the phone number on the back of your ID card. New hospitals are added monthly as they meet the patient safety standards.

FREQUENTLY ASKED QUESTIONS

Q. Does the TMP 100% hospital safety incentive apply to hospital services only?

A. Yes. The 100% hospital safety incentive applies to any service billed by a network hospital that meets the safety standards – including any physician or emergency room service that is on the hospital bill. Any network services not billed by the hospital will be covered at the 95% benefit level.

Q. Will my outpatient visit be covered at 100% if I use a network hospital that meets the patient safety standards?

A. Yes. Outpatient visits will be covered at 100% if you use a network hospital that meets the patient safety standards and the services are billed by the hospital.

Q. If I'm admitted in an emergency to a network hospital that doesn't meet the standards, will I be covered at 95% or 100%?

A. 95%. You'll have 100% coverage only when the hospital is a TMP network hospital that meets the patient safety standards that apply to your primary diagnosis. The same is true if you are traveling and for covered students away at school.

Q. My obstetrician doesn't practice at a network hospital that meets patient safety standards. Will my care be covered at 100%?

A. No. To be covered at 100%, your care must be in a network hospital that meets patient safety standards. If your obstetrician believes your delivery may be high-risk, you will need to use a hospital that meets patient safety standards for EHR, with experience in high-risk deliveries, to have 100% coverage. If the delivery is not considered high-risk, you will need to use a network hospital that meets both the CPOE and ICU physician staffing to receive the 100% safety incentive.

Regence BlueShield

Q. What if the network hospital meets the patient safety standards for my condition after I'm hospitalized?

A. The network hospital's status on the day of your admission determines the coverage level. For 100% coverage – instead of 95% coverage – find out in advance. Visit our Web site, www.wa.regence.com/boeing, or call Member Services at the phone number on the back of your ID card for the current list of hospitals that meet the patient safety standards.

Q. My doctor isn't affiliated with a network hospital that meets the patient safety standards. What can I do to get 100% coverage?

A. TMP participants need to use a network hospital that meets patient safety standards to have 100% coverage. If your physician doesn't admit you to one of these hospitals, you will not receive 100% coverage.

Q. My hospital isn't on the current list of hospitals that meet patient safety standards. What can I do?

A. Your physician can be an important advocate in encouraging your hospital to meet the patient safety standards. Discuss your feelings about the importance of patient safety and ask your doctor to support the hospital's efforts to meet these standards. You might also write a letter to the hospital's chief executive officer or chairman of the board.

[1] "To Err is Human: Building a Safer Health System," Committee on Quality of Health Care in America, Institute of Medicine, 1999.