Improving Utah State University's Healthcare Plan

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IMPROVING UTAH STATE UNIVERSITY'S HEALTHCARE PLAN

by

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HONORS IN UNIVERSITY STUDIES
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Background

Utah State University provides health insurance for 10,400 people (3,500 contracts). Employees of the university who qualify for this insurance have the option to pick one of 2 plans, Blue or White. Utah State essentially self-insures these plans, and Blue Cross Blue Shield administers them. This means that the university has a reserve set up to pay the medical claims of all of the people covered by these plans and bears most of the risk associated with providing this insurance. Some of the risk is transferred from the university to the covered individuals through deductibles, coinsurance, and copayments. The rest of the risk not born by the university is covered through reinsurance.

Utah State is reinsured on an individual basis and an aggregate claims basis. For individuals in 2006, the university is reinsured for claims greater than $400,000 in one year, and for aggregate claims, they are reinsured at 125 percent of expected total claims. The aggregate claims reinsurance currently costs the university about $50,000 per year in premiums. For the period July 1, 2005 to June 30, 2006 expected total claims amount to $31,000,000 for medical, pharmacy, and dental. Ninety-five percent of this expected cost is covered by money provided by the state. The other five percent is paid by the employees through premiums, deductibles, coinsurance, and copayments. Utah State University has been self-insured for eight years, and employees have been paying premiums for four years. Before employees started paying premiums the state covered the entire cost of the health insurance. Premiums are based on wage and demographics. The premium amounts per month for the plan year 2005 to 2006 for employee coverage only are illustrated in the following table.
<table>
<thead>
<tr>
<th>Annual Salary</th>
<th>Blue Plan</th>
<th>White Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than $22,000</td>
<td>$10.57</td>
<td>$3.14</td>
</tr>
<tr>
<td>$22,001 - $34,000</td>
<td>$14.09</td>
<td>$4.19</td>
</tr>
<tr>
<td>$34,001 - $52,000</td>
<td>$20.12</td>
<td>$5.87</td>
</tr>
<tr>
<td>Greater than $52,000</td>
<td>$26.16</td>
<td>$7.83</td>
</tr>
</tbody>
</table>

The basic set-up for the Blue and White plans is determined by the university. The maximum lifetime benefit for an individual for both plans is two million dollars. The White plan has deductibles of $250 per individual and $500 per family, while the Blue plan has deductibles of $150 per individual and $450 per family. These will rise in 2006-2007. Many copayments for the Blue plan are less than those of the White plan. Some examples are: for hospital admittance the copayment is $125 for the White plan and $100 for the Blue plan, emergency room visits are $75 with White and $50 with Blue, to visit a physician it is $25 with White and $20 with Blue. For many costs the White plan has roughly a 70% coinsurance. Coinsurance for the Blue plan is approximately 80%. In short, the Blue plan costs a covered individual less than the White plan in deductibles, copayments, and coinsurance.

The university is currently not well structured to manage this insurance. Since Utah State is self-insured, the university makes all the decisions on plan design and premiums. However, Utah State doesn’t have anyone experienced or trained in this field to help make the decisions. A limited amount of advice is offered by Blue Cross Blue Shield and a consultant from HUB International, but ultimately the decisions concerning all aspects of the university health plan rest on the shoulders of the president of the university. Over the past few years committees have been set up in order to aid the president in these decisions, but these committees have had no
continuity from year to year because they are often dissolved and restructured. Also as stated earlier, no one on these committees has appropriate training or experience in health insurance design and maintenance.

With health care costs rising so dramatically and with no trained person to make sound recommendations, the university could be faced with a short term health insurance crisis. For instance if health care costs increase ten percent in the next year, less than the actual projected increase, and the state increases its contribution by 5% then the employee contribution will increase 2.05 times what it is this year. In other words for every percent below 10% the state increases its contribution, the employee contribution increases 19% above 10%. So if the state increased its contribution by 9% the employee increase would be 29%. Under this situation health insurance could easily become dramatically more expensive for the employees of Utah State in a year or two.

The state is in fact unable to raise its contribution on a long term basis equal to the rise in health care costs, so employees of the university have already begun to see these dramatic increases. Last year employees were given approximately a 2% increase in salary, but this resulted in almost no increase in take home pay because of the increase of health care premiums. This year the legislature offered the university a 3.5% salary increase for Utah State employees instead of the originally planned 2.5% increase in exchange for smaller increases in its medical funding. This was an effort on the part of the legislature to unload some of its share in the increases in health care costs on to the employees of the university. The university was offered this exchange because it will save the state money in the long run as health care costs continue to rise more rapidly than virtually any other sector of the economy.
By using the extra salary increase as bait the legislature got the university to take the offer, and as a result the state will increase its funding for the university’s health plan by only 6.5% instead of the originally planned 10.4%. Consequences of this action are going to result in some combination of increased premiums for employees and reduction of benefits. If benefits are not reduced the premium increases will be dramatic, as illustrated above. The exact combination of reduction in benefits and premium increases is yet to be announced.

**Modeling Claims**

For my honors senior project Dr. Coray and I attempted to model the university’s health care claims to see if we could get a picture of what was likely to come for this health insurance system. We wrote 10 to 15 health insurers in Utah and around the nation requesting information concerning how they modeled health care claims. We only received one response with little information about how they modeled their claims. We continued in our efforts to construct a model.

At first we tried to model the claims separately by the different types of claims. Claims were split into four groups: inpatient hospital, outpatient hospital, professional, and other. The inpatient and outpatient hospital claims are visits to the hospital. For inpatient the claimant stays at least one night at the hospital, and outpatient is when there is no overnight stay. The group of claims labeled professional is office visits to a doctor. Other claims are medical claims that don’t fit into any of the above groups; they include things such as ambulance transports and lab tests. To find a model for each of these groups we looked at claims history for the groups from 2001 to 2005. We looked at the claims in total, number of claims, and by cost per person to see which one would be easiest to model. We also performed linear regressions on the data.
After studying the claims and the regression models we realized that we would not be able to effectively model the claims this way because medical procedures do not stay in the same group from one year to the next. For example, a certain procedure might be an inpatient hospital claim in 2002, but the same procedure could be an outpatient claim in 2005 due to advances in medicine and technology. Included are graphs of the professional claims. They are graphed by total claims amount, cost per claim and number of claims. In all three graphs there is an increase from 2002 to 2003, a decrease from 2003 to 2004, and another increase from 2004 to 2005.

We also looked at modeling the claims in total without separating them into groups. There was so much variation in these numbers, however, that we could not fit a satisfactory model. Included are graphs of the claims for the past four years. As illustrated in the graph total claims increased from 2002 to 2003, decreased from 2003 to 2004, and then dramatically increased from 2004 to 2005. Cost per claim stayed about the same from 2002 to 2004 but dramatically increased in 2005. The total number of claims for the past four years was also quite erratic.

**Recommendations**

In order to avoid this looming crisis Utah State University needs to take some action to more effectively manage its healthcare plan. By taking action the university can be more prepared for the future and more able to provide for the needs of its employees. Two areas in which the university could make improvements are the administration of the plan and the advising on the plan.

Presently, the university spends close to $1,500,000 to have Blue Cross Blue Shield administer its healthcare. A benefit of this is that the university gets the discounts Blue Cross has already negotiated with doctors. If the university were to become self-administered however, it
would most likely be able to negotiate the same discounts with doctors because of its dominant role in Cache Valley. So becoming self-administered could potentially save the university a great deal of money. More research on this option needs to be conducted to determine if Utah State could actually save money through self-administration.

The university needs someone with experience that can give well-informed advice concerning the university’s health plan. The size of this plan warrants a full-time in-house advisor or a direct consultant. This advisor should meet all of the certifications and requirements of the Society of Actuaries to give this kind of advice. Some one who meets these qualifications will have the experience and training necessary to be able to effectively design and manage a health care plan for the university’s employees. Some one with this training will be able to guide the university to make smart decisions concerning its health plan. This person will also be able to help Utah State prepare for the future.

Unfortunately, neither of the previously mentioned solutions will help the university avoid the crisis of ever-increasing health care costs. This problem can only be solved on a national level because of its universal impact and size. However, the university should consider enacting these suggestions so that the increasing costs don’t impact Utah State more significantly than absolutely necessary.
Total Claims

Total Claims

Number of Claims

Total Cost per Claim

- Actual
- Linear Regression
Outpatient Claims

Outpatient Total

Year
2002 2003 2004 2005 2006

Outpatient
$3,000,000 $3,250,000 $3,500,000 $3,750,000 $4,000,000 $4,250,000

Number of Outpatient Claims

Year
2002 2003 2004 2005 2006

Outpatient
3,200 3,500 3,800 3,100 3,400 3,700

Cost Per Claim Outpatient

Year
2002 2003 2004 2005 2006

Outpatient
800 900 1,000 1,100 1,200 1,300

Legend:
- Actual
- Linear Regression
Professional Claims

**Professional Total**

- Year 2002: $4,800,000
- Year 2003: $5,600,000
- Year 2004: $6,000,000
- Year 2005: $6,200,000
- Year 2006: $6,000,000

**Number of Professional Claims**

- Year 2002: 112,000
- Year 2003: 110,000
- Year 2004: 108,000
- Year 2005: 106,000
- Year 2006: 104,000

**Cost Per Claim Professional**

- Year 2002: $47.50
- Year 2003: $47.50
- Year 2004: $50.00
- Year 2005: $52.50
- Year 2006: $55.00

- Actual
- Linear Regression
Other Medical Total

- 2002: $3,400,000
- 2003: $3,250,000
- 2004: $3,100,000
- 2005: $2,800,000
- 2006: $2,700,000

Number of Other Medical Claims

- 2002: 82,000
- 2003: 80,000
- 2004: 78,000
- 2005: 74,000
- 2006: 70,000

Cost Per Claim Other Medical

- 2002: $45.00
- 2003: $40.00
- 2004: $35.00
- 2005: $40.00
- 2006: $45.00

Graphs show the trends from 2002 to 2006 for Other Medical Total, Number of Other Medical Claims, and Cost Per Claim Other Medical.