

2016 HHS risk adjuster coefficient updates

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The U.S. Department of Health and Human Services (HHS) has finalized an update to the risk adjustment model coefficients that will be used to determine the payment transfer amounts for the 2016 Patient Protection and Affordable Care Act (ACA) market. The updated model coefficients are intended to reflect more current treatment and cost patterns than the current coefficients in place for 2014 and 2015. While the impact of these updates will depend on each carrier's mix of enrollees, a few consistent themes are apparent when comparing the updated coefficients with the current coefficients. Our review of the updated model indicates that carriers that enroll a disproportionate share relative to the market of sicker or higher-risk individuals—or, specifically, individuals with one or more hierarchical condition categories (HCCs)—are likely to receive higher risk transfer payments under the updated model than under the current model. Conversely, carriers that enroll a disproportionate share of healthier individuals—or, more specifically, individuals with no HCCs—are likely to receive lower transfer payments or will have to pay higher amounts to other carriers under the risk adjustment program.

BACKGROUND

Risk adjustment is a foundational tool in the new ACA individual and small employer group markets. Under perfect risk adjustment, insurance carriers would theoretically be indifferent to the “risk” associated with the members they enroll. For the program to be successful, however, it is vital that the ACA risk adjustment mechanism reflect actual cost differences between individuals as accurately as possible, both to protect insurance carriers that enroll a disproportionate share of higher-risk members and to reduce any incentive for insurance carriers to attempt to “game” the system and target a certain population to generate more revenue with lower associated medical costs.

One key reason that risk adjusters can fail to predict current medical claims costs accurately is that they are (of necessity) calibrated on past data. Given the sometimes rapid changes in healthcare costs that are due to new technology, prescription drugs, and other trends, models should be regularly recalibrated using the most recent available data in order to increase their predictive power. To that end, HHS has finalized¹ an update of the risk adjustment model coefficients that are used in the ACA-market payment transfer calculations for 2016 to reflect more current treatment and cost patterns.

The update relies on data from 2011 to 2013 from the Truven Health Analytics MarketScan® Commercial Claims and Encounters database.

The current coefficients are based on data from 2010 only, so the update utilizes more current data and shifts from a single year of cost data to multiple years. HHS has indicated that using multiple years of data should promote market stability and reduce volatility in the coefficients. Note that these updates affect the risk score coefficients only—the basic structure of the risk adjustment model and payment transfer methodology are unchanged as part of this update.

HHS had earlier proposed updated coefficients for the 2016 benefit year relying on data from 2010 through 2012. In the proposed rule², HHS also sought comment on whether the updated coefficients should be used for transfers for the 2015 benefit year as well as for the 2016 benefit year. While HHS did update the coefficients to reflect more recent data in the final rule, it decided to continue to use the current model for the 2015 benefit year because issuers had already set their premium rates under the assumption that the 2014 model would be used for risk transfers for the 2015 benefit year.

OVERVIEW OF CHANGES

Risk adjustment in the ACA individual and small group markets is based on the HHS-HCC risk adjustment model, which is designed to estimate relative cost levels between enrollees using demographic information as well as hierarchical condition categories (HCCs) assigned to each person based on medical diagnosis codes.³ Each HCC and demographic grouping (for example, age 25-29 male, age 40-44 female, etc.) is assigned a different coefficient in the risk adjustment model that reflects the relative expected claims costs associated with each category.

We reviewed the coefficients assigned to each demographic group and HCC in both the current and updated models. While the risk score coefficients vary significantly by HCC and metallic tier level, this paper highlights a few general observations when comparing the coefficients between the two models. The table in Figure 1 shows the average risk score changes between the current and updated coefficients.

1 Patient Protection and Affordable Care Act; HHS Notice of Benefit and Payment Parameters for 2016; Final Rule. Retrieved February 23, 2015, from <https://www.federalregister.gov/articles/2015/02/27/2015-03751/patient-protection-and-affordable-care-act-hhs-notice-of-benefit-and-payment-parameters-for-2016>.
2 *Federal Register* (November 26, 2014). Patient Protection and Affordable Care Act; HHS Notice of Benefit and Payment Parameters for 2016; Proposed Rule. Retrieved February 23, 2015, from <http://www.GPO.gov/fdsys/pkg/FR-2014-11-26/pdf/2014-27858.pdf>.
3 For more information, see Kautter, J., Pope, G. C., Ingber, M., et al. (2014). The HHS-HCC risk adjustment model for individual and small group markets under the Affordable Care Act. *Medicare & Medicaid Research Review: Volume 4, Number 3*.

FIGURE 1: AVERAGE CHANGES IN RISK SCORE COEFFICIENTS 2016 VS. 2014 MODELS

MODEL AND COMPONENT		RANGE OF AVERAGE RAW RISK SCORE CHANGES	→	RANGE OF AVERAGE NORMALIZED RISK SCORE CHANGES
ADULT MODEL				
AVERAGE DEMOGRAPHIC COMPONENT	▼	-13% to -5%		▼ -11% to -3%
AVERAGE HCC COMPONENT	▲	+1% to +2%		▲ +2% to +4%
TOTAL	▼	-3% to 0%		— -1% to +1%
CHILD MODEL				
AVERAGE DEMOGRAPHIC COMPONENT	▼	-26% to -8%		▼ -25% to -7%
AVERAGE HCC COMPONENT	▲	+6% to +7%		▲ +7% to +9%
TOTAL	—	-1% to +4%		▲ +1% to +6%
INFANT MODEL				
	▲	0% to +4%		▲ +1% to +5%
COMPOSITE TOTAL				
	▼	-2% to 0%		— 0%

* Ranges indicate variation in coefficient changes between metal levels.

Average scores based on commercial population demographic and HCC profile using 2011 MarketScan data.

The raw risk score changes in Figure 1 show that risk scores will likely decrease on an absolute level under the updated model. While the absolute values may decrease, the risk adjustment payment transfer mechanism is not based on absolute values but rather on each carrier’s relative risk scores compared to the market-wide average. Hence, the normalized risk score changes shown in the rightmost column of Figure 1, which quantify only relative coefficient changes, are more relevant when determining the actual impact of the coefficient updates on payment transfers. The following observations highlight several potential implications of the normalized risk score coefficient changes:

- Risk scores for enrollees without HCCs will generally decrease relative to the *average* while risk scores for members with HCCs will generally increase relative to the *average*. While risk scores for enrollees without HCCs were already significantly lower than those for members with them, this gap will likely become even wider under the updated coefficients.

The reason for this change is that the demographic risk score coefficients under the updated model decreased across virtually all adult and child age bands and metallic tier levels. Conversely, coefficients for the diagnosis-based HCCs increased on average, or at least decreased less than the demographic coefficients. This means that insurance carriers that enroll a higher percentage of *healthy* enrollees relative to the overall market (as indicated by an absence of HCCs) can expect to be adversely affected by the updated model update, at least in terms of relative risk scores and potential risk transfer amounts. Conversely, insurance carriers that enroll a higher proportion of members with one or more HCCs

can expect to have a higher relative risk score under the updated model and may see an increase in their risk transfer amounts.

This change in the risk adjustment model coefficients is potentially interesting because prior findings⁴ indicated that the current coefficients may have undercompensated insurance carriers for enrollees with no HCCs versus those with one or more HCCs relative to these members’ true estimated costs. If this is true, the updated coefficients could exacerbate this finding. However, we have not replicated the results of this prior study using the new coefficients, so we are not certain what bias, if any, exists under the updated model. Only time and actual claims data will determine the true impact given the many other forces influencing costs and risk scores in the 2014, 2015, and 2016 marketplaces.

- The change in the relative risk scores between members with and without HCCs is more pronounced in the coefficients for children than for adults. Hence, the potential impact described above will likely be even greater on insurance carriers that enroll a higher proportion of children when compared to the market as a whole.
- Infant risk score coefficients increased on a relative basis when compared to the coefficients applied to adults and children. Insurance carriers that cover a higher percentage of infants compared to their competitors may see higher risk scores and potentially higher risk transfer amounts in 2016. However, because infants typically represent a small portion of the overall market, this impact may be less noticeable than the other previously described changes.

4 Siegel, J. & Petroske, J. (December 2013). When Adverse Selection Isn’t: Which Members Are Likely to Be Profitable (or not) in Markets Regulated by the ACA. Milliman Healthcare Reform Briefing Paper. Retrieved February 12, 2015, from <http://us.milliman.com/uploadedFiles/insight/2013/adverse-selection-aca.pdf>.

HCC COEFFICIENT CHANGES

While we estimate that the HCC coefficients in the updated model are, in general, increasing when compared to the current model, or at least decreasing less than the demographic components, the actual coefficient changes vary widely by HCC. The coefficients for most HCCs changed by $\pm 5\%$ for adults, but some coefficients changed by $\pm 50\%$ or more. The charts in Figure 2 illustrate the range of HCC coefficient changes from the current to the updated models for adults and children enrolled in a silver plan. The range

of coefficient changes is similar across the other metallic tier levels. Note that the coefficients for children in general had percentage changes of larger magnitude than the coefficients for adults.

The magnitude of the changes in some of the coefficients illustrates the volatility in the risk adjustment parameters. HHS has stated that one of the goals of using three years of data instead of one to calculate the coefficients in the future is increased stability in the coefficients in future updates.

FIGURE 2: CHANGES IN SILVER HCC COEFFICIENTS

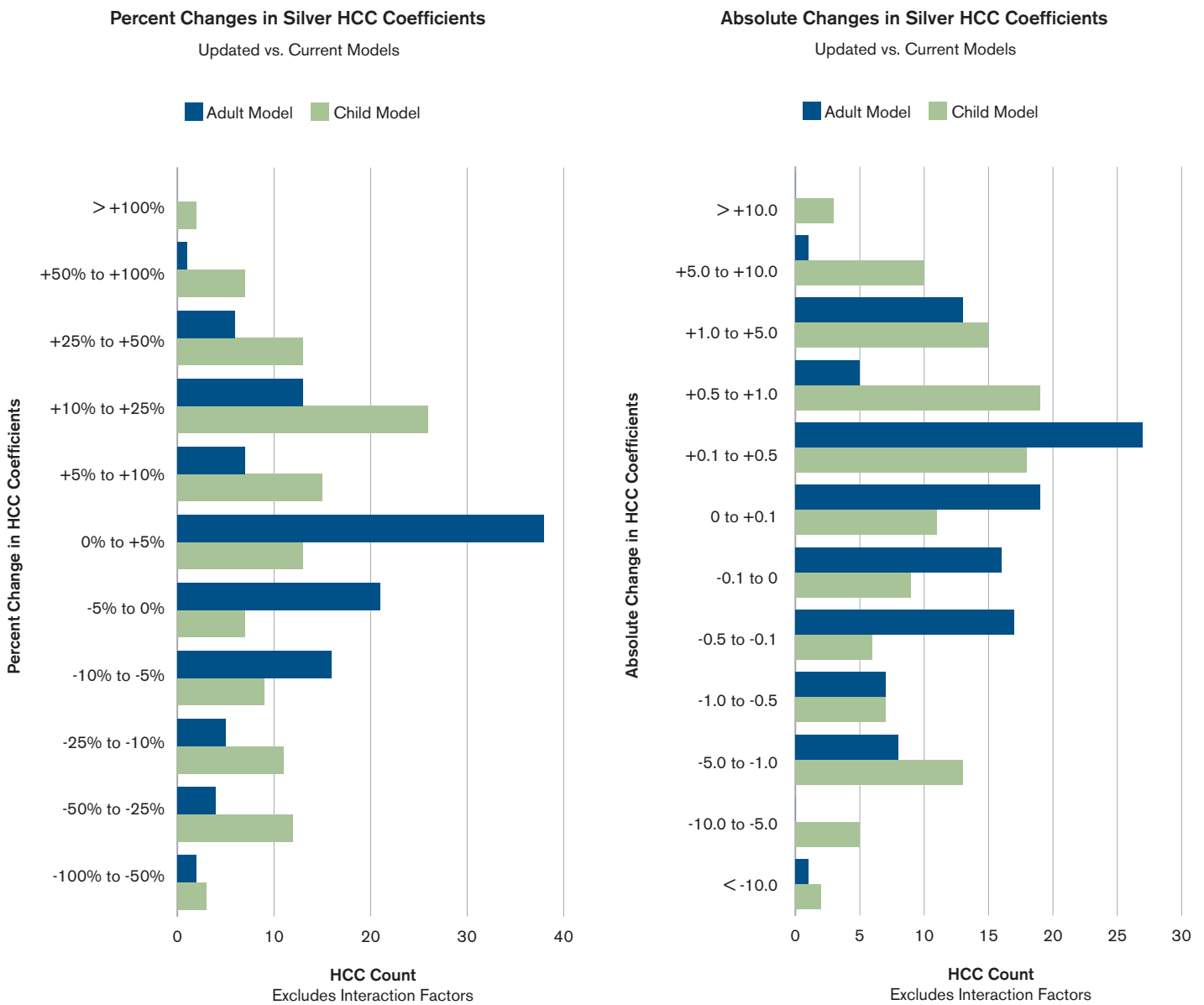
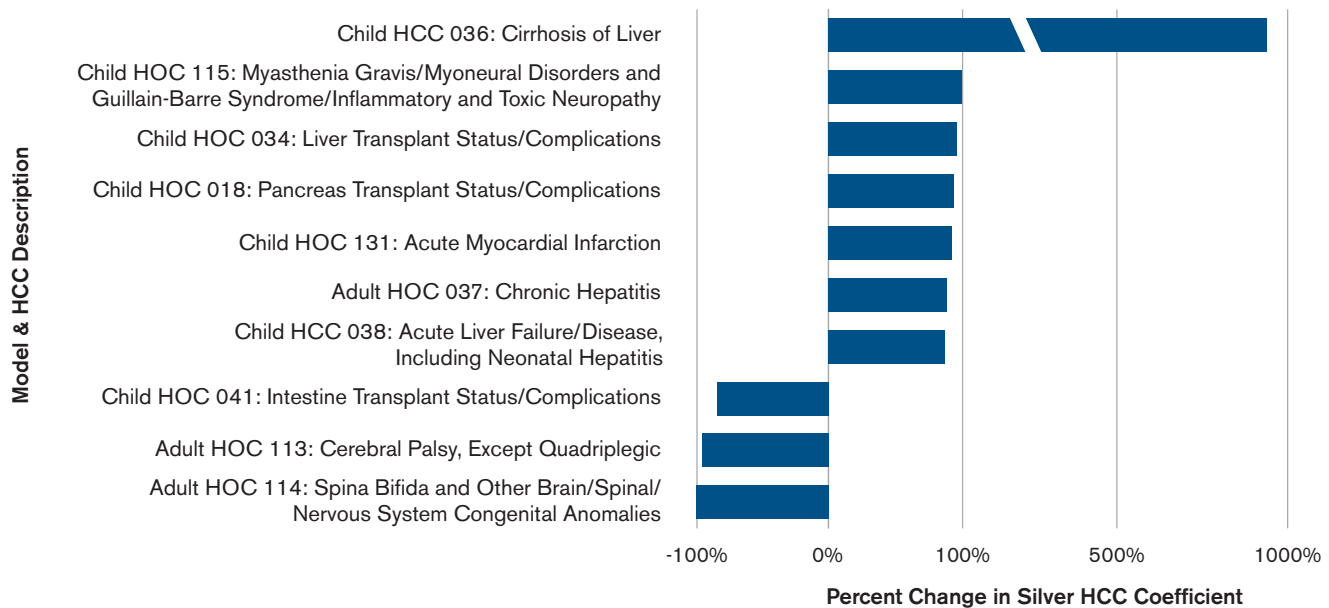


FIGURE 3: TOP 10 SILVER HCC COEFFICIENT EFFECTS



The chart in Figure 3 illustrates which HCCs are changing the most from the current to the updated models. It displays the percentage change in the coefficients for members enrolled in a silver plan for the 10 HCCs that have the largest absolute percentage change from the current model to the updated model.

The change in the coefficient for children for cirrhosis of the liver has the largest percentage change from the current to the updated model, with the coefficient for silver plans increasing from 0.920 under the current model to 9.868 under the updated model. In the current model, the coefficients for children for cirrhosis of the liver implied cost levels that were very similar to chronic hepatitis. The updated model would apparently indicate that the average cost of treating cirrhosis of the liver in children is eight to 11 times higher than treating chronic hepatitis, depending on which metallic tier level the child is enrolled. Again, the HHS proposal to move to using multiple years of data to develop these coefficients starting in 2016, as opposed to using a single year of data as was done for the current model, would hopefully reduce the magnitude of coefficient changes in future updates.

HHS discussed the rationale for the changes to the child transplant factors in the preamble to the final rule:

We constrained the six transplant status HCC coefficients (other than kidney) in the child model. The sample sizes of transplants are smaller in the child than the adult model. The levels and changes in the child transplant relative coefficients appeared to be dominated by random instability and therefore, we believe the accuracy of the model will be improved by constraining these coefficients. We intend to monitor the child transplant relative coefficients, and adjust them if needed in future recalibrations.⁵

Because the impact of the updated change in coefficients varies so significantly by HCC, it is important for insurance carriers to review the potential impact on their own populations. If an insurance carrier has a disproportionate share of enrollees with the conditions that have the largest change in coefficients, then the update will have a more significant impact on them compared with other insurance carriers and could have a significant impact on their ultimate risk transfer payments.

WHAT ARE THE IMPLICATIONS OF THIS UPDATE?

While the implications will vary by insurance carrier, the following bullets highlight some key areas that carriers should be reviewing to determine how the updated model will impact them.

- Insurance carriers with a disproportionate share of enrollees with HCCs that have the largest changes in coefficients will likely be impacted more, because of these updates, than carriers with a more “average” mix of enrollees.
- For those HCCs where an insurance carrier currently has an average share of the total market enrollment, the update will have relatively little effect on their risk adjustment transfers because all carriers’ risk scores will increase or decrease similarly and the relative status of the carrier will not be impacted. Similarly, carriers with a dominant market share will also find the effect dampened, as their scores will necessarily be similar to the market average. These effects are due to the budget-neutral nature of the program.
- Insurance carriers will likely observe lower risk scores and an increase in risk adjustment payables (or a decrease in risk adjustment receivables) for members with no HCCs. They are generally the healthier individuals in the market. Conversely, insurance carriers will likely observe an increase in risk adjustment receivables (or a

5 Op cit., page 49.

decrease in risk adjustment payables) for individuals with one or more HCCs. These changes will be even more pronounced for insurance carriers that enroll a higher-than-average proportion of children.

As mentioned previously, the current coefficients may have already undercompensated insurance carriers for members with no HCCs and overcompensated carriers for members with one or more HCCs relative to these members' true estimated costs. The updated coefficients may exacerbate this relationship.

- Because of the increasing gap between risk scores for members with no HCCs and members with one or more HCCs, the financial impact on carriers of under-coding or missing valid diagnoses, which could result in not capturing all appropriate HCCs, would be greater. The model change reinforces that accurate and complete diagnosis information must be captured in each member's medical claims record and submitted to HHS each year in order for carriers to be financially successful.
- Insurance carriers should focus on the absolute revenue implications of the updated coefficients to identify potential problem areas. For example, the HCC coefficient for adult chronic hepatitis under the updated model is 80% higher than the coefficient under the current model for a member enrolled in a silver plan. Hepatitis is a condition of particular concern for insurance carriers given the introduction of costly medications such as Sovaldi and Harvoni. The updated silver adult HCC coefficient now results in approximately \$4,000 to \$6,000⁶ in annual risk adjustment revenue for each member identified with this condition. This pales in comparison with the cost of a typical course of Sovaldi treatment, which could cost over \$80,000. However, bear in mind that not all hepatitis patients will receive these types of high-cost treatment and thus the average cost of caring for a hepatitis patient will be diluted depending on how heavily these treatments are utilized.

Furthermore, competing hepatitis drugs have recently become available,⁷ which could allow insurance carriers to negotiate lower prices (or higher rebates), although the cost for a course of treatment still seems likely to exceed the revenue after risk transfers with the updated coefficients. In addition, it will be several years before the cost of these new therapies are fully reflected in the data used to calibrate the model (and it is unclear whether savings due to higher rebates will ever be reflected).

While hepatitis is a particularly high-profile example, this sort of issue can arise for any condition where new therapies are changing relative treatment costs.

WHAT SHOULD CARRIERS DO?

As highlighted throughout this paper, the update in the model coefficients results in higher relative risk scores for people with HCCs and lower relative risk scores for people without HCCs. As we see newer treatments enter the market and the cost of treatments continues to increase, this shift may continue. Carriers need to understand the potential impact of these changes on their existing populations and determine if the risk score changes for each population will be favorable or unfavorable relative to the "average" in the market. In addition, insurance carriers should continue (or potentially even increase) their focus on the following areas to ensure they have the highest chance of financial success:

- Complete and accurate diagnosis submission to ensure their risk scores reflect as accurately as possible the actual "health status" of their populations by capturing all of the conditions that their enrollees have.
- Improving healthcare management efficiency. Because risk score coefficients are calculated using normative data sets, insurance carriers are in effect getting paid for the "average" cost of managing each HCC. To the extent that an insurance carrier can manage the cost of a member with certain diseases to a level below the average assumed cost reflected by the risk adjuster model coefficients, they can generate reasonable financial results through the risk adjustment program.

CONCLUSIONS

The ACA market will continue to expand and evolve in the coming years, and changes such as updates to the risk score model coefficients should be expected. Insurance carriers that have the ability to understand and evaluate their claims data and understand the opportunities presented by these changes (or to minimize the risks) are the ones that will succeed and, ultimately, thrive in this new environment.

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6 Actual risk adjustment revenue will differ by state, market, metallic tier level, and geographic area.

7 Humer, C. (January 22, 2015). Express Scripts' Miller says hepatitis C price war to save billions. Reuters. Retrieved January 24, 2015, from <http://www.reuters.com/article/2015/01/22/us-express-scr-hepatitisc-idUSKBN0KV26X20150122>.

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