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ARIZONA
HEALTH CARE COST CONTAINMENT SYSTEM
MEDICAID RISK ADJUSTMENT
WHITEPAPER

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AHCCCS MEDICAID RISK ADJUSTMENT

OVERVIEW

This whitepaper documents the risk adjustment approach to be implemented for the Arizona Medicaid program for the Contract Year Ending 2009 (CYE2009) rating period (October 2008 through September 2009). It should not be used for other purposes, including applying risk adjustment to other populations for which this methodology may not be appropriate. While the methodology presented in this document represents the methodology intended to be implemented for CYE2009, additional analysis is ongoing. Therefore, although there are no plans to amend, AHCCCS reserves the right to amend the methodology and this document to ensure that results are reasonable and the final rating approach for future contract periods is actuarially sound.

Risk adjustment of capitation payments modifies revenue to health plans based on the health status of their covered population relative to the average health status of the population. Since the Arizona Medicaid program is 100% managed care, the risk adjustment methodology will adjust payments among health plans and will be budget neutral to AHCCCS.

The Acute Care Services RFP for CYE2009 included the following language with respect to risk adjustment:

AHCCCS will be utilizing a national episodic/diagnostic risk adjustment model that will be applied to all Contractor specific capitation rates for all non-reconciled risk groups. Further methodology details will be shared with the Contractor prior to implementation.

Given anticipated membership changes that may be occurring due to the enhanced auto-assignment discussed in Section I Paragraph 9, Award of Contract, AHCCCS anticipates applying these risk factors by April 1, 2009 retroactively to the October 1, 2008, awarded capitation rates. For CYE 09, AHCCCS will apply approximately 80% of the capitation rate risk adjustment factor. Effective October 1, 2009, the full impact of the model will be applied.

The goals of risk adjustment in the context of the Arizona Medicaid program are as follows:

1. The model should move the program forward in terms of aligning payment with the relative health of members at each health plan.
2. The model and methodology should be accurate and unbiased.
3. The methodology should be as simple as possible while accomplishing these goals.
4. The administrative burden to develop and implement the methodology should be reasonable.
5. The results should be budget neutral to the program in total.

METHODOLOGY

The methodology used to develop the model, as well as the implementation approach, is documented below. Special considerations were made to risk adjust the TANF Under Age One risk group. The methodology for the TANF Under Age One risk group is provided in Appendix A.

Model / Vendor

AHCCCS has selected Symmetry's Episode Risk Groups (ERG) model. Episode Risk Groups (ERGs) is a risk assessment model developed by Symmetry Health Data Systems, a subsidiary of Ingenix, Inc. ERGs are based on the Episode Treatment Groups (ETGs) model, which groups medical services into episodes of care. The ERGs were developed and released in 2001. Those used in this analysis are based on Version 7.0 of the ETGs.

The ERG model assigns each member to one or more of the 167 ERGs based on diagnostic and procedural information available on medical and pharmacy claims. An ERG profile for each member is created by considering age, gender and the ERGs to which they have been assigned. A relative health status weight is associated with each age, gender and ERG category.

Type of Data

AHCCCS risk adjustment methodology uses diagnosis codes and procedural information from approved, adjudicated and paid medical data in addition to National Drug Codes (NDCs) from pharmacy data. Supplemental data is not included. This approach leverages strengths of pharmacy data while still allowing differentiation with the additional detail that diagnosis codes provide. The ERG model being used was developed consistent with this approach.

Symmetry provides updates to diagnosis codes and NDCs so that the mapping to ETGs and ERGs is as up to date as possible. AHCCCS will update the codes prior to each calibration and/or implementation of the model.

Time Periods for Data:

- Calibration for Preliminary Data
  - ERG /Age Gender Markers – May 2006 through April 2007
  - ETG – May 2004 through April 2007
  - Costs – June 2007 through May 2008
- Preliminary to health plans – June 2007 through May 2008 ("base" period), using October 1, 2008 enrollment ("projection" period)
- Calibration for Final Data
  - ETG /ERG /Age Gender Markers – October 2006 through September 2007
  - Costs – October 2007 through September 2008
- Final to health plans – October 2007 through September 2008 ("base" period), using October 2008 through March 2009 enrollment and 6 months using April 2009 enrollment ("projection" period)

Eligibility Groups

AHCCCS will risk adjust the prospective, non-reconciled risk groups (SSI with and without Medicare, TANF, and AHCCCS Care / Non-MED). The following rates will not have a claims based risk adjustment model applied:

1. Reconciled risk groups
2. Delivery supplemental rates
3. Option 1 & 2 transplant members
4. SOBRA Family Planning Rates

Model Calibration

The model was calibrated to the Arizona Medicaid population. The following costs will not be reflected in the condition or demographic weights in the calibrated model:

1. Prior Period Coverage (PPC)
2. Behavioral Health covered by Arizona Department of Health Services (ADHS)
3. Costs above reinsurance thresholds for which health plans were not at risk
4. Children's Rehabilitative Services
5. Maternity costs covered by the Delivery Supplement

The diagnoses on all claims are used for purposes of identifying conditions, but the costs not at risk were excluded for purposes of determining the risk weights. This process captures the additional complexity / cost for at risk conditions due to the presence of an underlying not at risk (i.e. behavioral) condition.

While health plans have several options with respect to reinsurance thresholds, different risk weights for each of those thresholds were not developed. Reinsurance recoveries were excluded similarly for all health plan data according to the reinsurance thresholds in place during the experience period. This approach was a necessary simplification.

Adjustments for pharmacy rebates were made to the data prior to calibrating the risk weights.

Risk weights were developed by age/gender category and for all of the 167 ERG condition categories. Three sets of risk weights were developed for the 167 ERG condition categories (TANF <1 was handled separately – see Appendix A): 1) TANF and Non-MED, 2) SSI without Medicare, and 3) SSI with Medicare. Only members with at least six months of experience in the base period and one month of experience in the projection period were used in the calibration. Each member's contribution to the regression model and therefore the risk weights, was weighted according to the number of months that member was enrolled during the prospective period.

As is typical with risk adjustment calculations, the average ERG factors were not equal to the average age/gender factors for various sub-groups. This does not create a problem for the SSI without Medicare and SSI with Medicare risk groups since separate risk weights were developed for each. However, since only one set of risk weights was calculated for all of the risk groups within TANF and Non-MED categories, a 'scaling factor' adjustment was required. The scaling factor adjustment ensures that the average ERG factor for members who are assigned an ERG factor is equal to the average age/gender factor for the same cohort by risk group (statewide, not by GSA). The scaling factors by TANF risk group and for Non-MED are shown at the bottom of Exhibit B.

Geographic Issues

Model weights were based on statewide data. Risk adjustments will take place at the Geographical Service Area (GSA) and risk group level. For GSA 10 (Pima and Santa Cruz), two separate risk adjustment calculations will take place: 1) for health plans awarded both Pima and Santa Cruz, and 2) for health plans awarded only Pima.

Individual Approach

Risk scores calculated during the experience period will follow the individual during the rating period. This approach is most accurate in terms of reflecting changes in enrollment between the experience and rating periods and movement of individuals between health plans.

Member Inclusion and Risk Factors for New Members / Short Duration

Only members with at least six months of enrollment during the experience period ('long' cohort) will be given a claims based risk adjustment factor (average ERG risk score). Members with less than six months of enrollment during the experience period ('short' cohort) will be given a risk factor that is equal to 50% of their pure age/gender factor plus 50% of an adjusted plan factor. The adjusted plan factor is calculated by taking the average ERG risk score of the long cohort and dividing by the pure age/gender factor of the long cohort (relative health factor) and then multiplying by the pure/age gender factor of the short cohort.

As an example (also see Exhibit A – TANF 1-13), consider a health plan that has a long cohort average ERG risk score of 0.3910, a long cohort pure age/gender factor of 0.4000, and a short cohort pure age/gender factor of 0.4004. Further, assume that enrollment is split with 82% for the long cohort and 18% for the short cohort. The relevant values would be as follows:

Risk Adjustment Factor for Long Cohort = 0.3910

Risk Adjustment Calculation for the Short Cohort
Relative Health Factor = 0.3910 / 0.4000 = 0.9775
Adjusted Plan Factor = 0.9775 x 0.4004 = 0.3913
Pure Age/Gender Factor = 0.4004
Risk Adjustment Factor = 50% x 0.3913 + 50% x 0.4004 = 0.3958

Total Average Risk Score for the Health Plan = 82% x 0.3910 + 18% x 0.3958 = 0.3919

Gaps in enrollment are ignored. Therefore, if a member was enrolled for four months, then disenrolled for two months and then reenrolled for five months, this member would be considered as having nine months of enrollment and thus would be assigned an ERG risk adjustment factor.

Phase-in

Per the RFP, 80% of the calculated adjustment will be applied. Therefore, if the risk adjustment factor for a particular health plan is 1.05 before phase-in, the risk adjustment factor after phase-in will be 1.04 = 1.05 x 80% + 1.00 x 20%.

Encounter Data Validation and Issues

AHCCCS regularly performs testing on encounters to identify any potential areas of concern. If AHCCCS identifies an area where encounters are not being submitted, AHCCCS contacts the health plan and works with the health plan to improve encounter submissions. AHCCCS monitors the encounters by reviewing encounter data by date of service and form type to identify potential issues. In addition, AHCCCS compares the health plan's encounter data to their financials by quarter and compares how the health plans look relative to one another. Additional testing was performed for the risk adjustment process which includes, but is not limited to, reviewing the average number of encounters per member per month, the average number of diagnosis codes per encounter by form type by health plan, the portion of a health plan's population that has zero encounters and the portion of the population scored. These results are then compared across the health plans.

Risk Adjustment for Pima Health Plan Members

Based on the encounter analysis mentioned above, data for Pima Health Plan was not considered accurate and complete for the experience period of October 1, 2007 through September 30, 2008. Thus Pima Health Plan base period data will not be used for risk adjustment. Therefore, members enrolled in Pima Health Plan during the experience period will receive a pure age/gender factor unless they have sufficient experience in another health plan. Analysis of Pima Health Plan data for the period October 1, 2006 through September 30, 2007 (determined to be the most recent accurate and complete data) supports this methodology.

Due to applying the age/gender factor to Pima Health Plan members (enrolled in Pima Health Plan during the experience period), the short cohort group's percentage factor applied to the age/gender will no longer be 50%. The more Pima members a plan has in the short cohort, the higher the percentage that will be applied to the age/gender of the short cohort members. For example, if 80% of a plan's short cohort members were enrolled in Pima Health Plan during the experience period, the short cohort will have 90% [(50% x 20%) + (100% x 80%) = 90%] applied to the age/gender and 10% [(50% x 20%) + (0% x 80%)] applied to the health status (i.e. plan factor). The long cohort will remain the same.

Data for all other health plans will be used for risk adjustment.

Reporting

AHCCCS will provide the following reports as part of the risk factor implementation. Each report represents a unique combination of health plan, risk group and GSA. Exhibits provided in this paper are only for the TANF 1-13 risk group and include mock data for illustration purposes only.

1. Exhibit A - Summary results showing the risk score adjustment.
2. Exhibit B – Detailed development of ERG risk scores for members who received a risk score.
3. Exhibit C – Age/Gender risk scores for all members.
4. Exhibit D – Risk adjusted capitation rate sheets.

Implementation

Risk adjustment factors will be applied retroactively to the October 1, 2008 contracted capitation rates less bid admin, bid risk contingency and premium tax. See Exhibit D for a sample of the rate sheet AHCCCS will provide to the health plans.

Exhibit A (TANF 1-13)
Summary Results
GSA X - MCO A

Ref	Description	MCO A	All MCOs	Source
A	Percentage of Members in the 'long' cohort [1]	82.00%	80.00%	Enrollment during Oct. 2008 to April 2009[2]
B	Average ERG Risk Score for the long cohort	0.4109	0.4023	See Exhibit B
C	Average Pure Age/Gender Factor for the long cohort	0.4034	0.4020	See Exhibit C
D	Relative Health Factor [3]	1.0184	1.0007	D = B / C
E	Percentage of Members in the 'short' cohort [4]	18.00%	20.00%	E = 100% - A
F	Average Pure Age/Gender Factor for the short cohort	0.4031	0.4013	See Exhibit C
G	Adjusted Plan Factor applied to the short cohort [5]	0.4105	0.4016	G = D X F
H	Risk Factor for the short cohort	0.4068	0.4014	H = 50% x F + 50% x G
I	Total Average Risk Score	0.4101	0.4021	I = B x A + E x H
J	Relative Risk Score	1.0200		$J = I_{MCO} / I_{All\ MCOs}$
K	Relative Risk Score with Phase In	1.0160		K = 80% x J + 20% x 1.00
L	Budget Neutrality Adjustment	0.9998		Separate calculation
M	Risk Score Adjustment to Cap Rate	1.0162		M = K / L

Notes

1) This represents those members who have at least 6 months of eligibility during the experience period ('long' cohort).
2) Enrollment used is October 2008 to March 2009 weighted at 50% and April 2009 enrollment weighted at 50%.
3) This represents the "pure" health factor of the long cohort without any demographic impact. This factor is used to calculate the risk factor for the short cohort (those with less than 6 moths of eligibility).
4) This represents those members who have less than 6 months of eligibility during the experience period ('short' cohort).
5) This represents the "plan factor" (ie risk score) for the short cohort. This takes into account the "pure" health status of the long cohort (assuming the short cohort's pure health status will look like the long), but using the short cohort demographics.

Exhibit B (TANF 1-13)
Detailed ERG Risk Scores for Members with Risk Score Assigned
GSA X - MCO A

Ref	Short Description	Risk Weight	MCO A		All MCOs Population	
			Frequency	Risk Contribution	Frequency	Risk Contribution
Demo1 [1]	TANF 1-6	0.2190	56.00%	0.1226	54.00%	0.1182
Demo2 [1]	TANF 7-13	0.1751	44.00%	0.0770	46.00%	0.0805
1.011	Lower cost inf dis	0.0326	10.17%	0.0033	9.56%	0.0031
1.021	Oth mod cost inf dis	0.2550	0.19%	0.0005	0.17%	0.0004
1.031	Non HIV maj inf dis I	0.8735	0.15%	0.0013	0.13%	0.0012
1.032	Non HIV maj inf dis II	0.7066	0.28%	0.0019	0.23%	0.0016
1.033	Non HIV maj inf dis III	2.3151	0.02%	0.0004	0.01%	0.0003
1.034	Non HIV maj inf dis w sig c/c	0.0000	0.00%	0.0000	0.00%	0.0000
1.041	AIDS/HIV	3.6603	0.01%	0.0002	0.01%	0.0004
1.042	AIDS/HIV w signif c/c	5.6554	0.00%	0.0000	0.00%	0.0000
2.011	Other low cost endocrinology	0.0905	2.04%	0.0018	2.04%	0.0018
2.021	Diabetes, wo signif c/c	0.5801	0.01%	0.0001	0.01%	0.0001
2.022	Diabetes, w signif c/c I	1.0108	0.03%	0.0003	0.04%	0.0004
2.023	Diabetes, w signif c/c II	2.2389	0.08%	0.0018	0.09%	0.0020
2.031	Hyperlipidemia, exc lipidoses	0.1009	0.29%	0.0003	0.28%	0.0003
2.041	Oth mod cost endocrinology	0.2860	0.71%	0.0020	0.71%	0.0020
2.051	Oth high cost endocrinology I	1.2217	0.00%	0.0001	0.00%	0.0001
2.052	Oth high cost endocrinology II	1.5253	0.07%	0.0011	0.07%	0.0010
2.053	Oth high cost endocrinology III	2.0007	0.01%	0.0003	0.02%	0.0004
2.061	Mal neo pancreas/pituitary/adrenal w am	8.6885	0.00%	0.0001	0.00%	0.0001
2.071	Mal neo thyroid & parathyroid w am	0.7545	0.00%	0.0000	0.00%	0.0000
3.011	Low cost hematology	0.1084	1.59%	0.0017	1.51%	0.0016
3.021	Oth mod cost hematology I	1.1197	0.00%	0.0000	0.00%	0.0000
3.022	Oth mod cost hematology II	1.0807	0.03%	0.0003	0.03%	0.0004
3.031	Neoplastic blood dis & Leukemia I	1.2527	0.01%	0.0002	0.01%	0.0002
3.032	Neoplastic blood dis & Leukemia II	5.7181	0.00%	0.0002	0.01%	0.0003
3.033	Neoplastic blood dis & Leukemia III	10.0536	0.00%	0.0003	0.00%	0.0002
3.034	Neoplastic blood dis & Leukemia IV	17.8181	0.01%	0.0017	0.01%	0.0017
3.041	Hemophilia	9.9299	0.01%	0.0008	0.01%	0.0010
3.051	Oth high cost hematology	4.0707	0.01%	0.0003	0.01%	0.0003
3.061	Sickle-cell anemia	0.6036	0.02%	0.0001	0.02%	0.0001
4.011	Low cost psychiatry	0.1367	2.84%	0.0039	3.09%	0.0042
4.021	Oth mod cost psychiatry	0.1460	0.48%	0.0007	0.46%	0.0007
4.031	Mood disorder, depress wo sig c/c	0.2891	0.08%	0.0002	0.10%	0.0003
4.032	Mood disorder, bipolar wo sig c/c	0.2825	0.08%	0.0002	0.09%	0.0002
4.033	Mood disorder, depress w sig c/c	0.3218	0.12%	0.0004	0.12%	0.0004
4.034	Mood disorder, bipolar w sig c/c	0.3641	0.06%	0.0002	0.05%	0.0002
4.041	Child psych disorders	0.0296	4.71%	0.0014	4.82%	0.0014
4.051	Psychotic & schizophrenic dis wo sig c/c	0.3159	0.04%	0.0001	0.03%	0.0001
4.052	Psychotic & schizophrenic dis w sig c/c	0.0568	0.02%	0.0000	0.01%	0.0000
5.011	Low cost substance abuse	0.2304	0.06%	0.0001	0.04%	0.0001
5.021	Mod/high cost substance abuse	0.5029	0.06%	0.0003	0.02%	0.0001
6.011	Oth low cost neurology	0.1884	0.94%	0.0018	0.87%	0.0016
6.021	Migraine wo signif c/c	0.3424	0.23%	0.0008	0.26%	0.0009
6.022	Migraine w signif c/c	1.0065	0.00%	0.0000	0.00%	0.0000
6.031	Oth mod cost neurology I	0.3992	0.36%	0.0014	0.37%	0.0015
6.032	Oth mod cost neurology II	0.5279	0.23%	0.0012	0.20%	0.0011
6.041	Oth high cost neurology I	0.7320	0.14%	0.0011	0.14%	0.0011
6.042	Oth high cost neurology II	1.4352	0.04%	0.0006	0.05%	0.0007
6.051	Epilepsy	1.1196	0.21%	0.0023	0.20%	0.0023
6.061	Multiple sclerosis & ALS	0.9186	0.00%	0.0000	0.01%	0.0001
6.071	Mal neo CNS wo metastases w am	2.2776	0.01%	0.0001	0.00%	0.0001
6.072	Mal neo CNS w metastases w am	12.3618	0.00%	0.0003	0.00%	0.0002
7.011	Oth low cost ophthalmology	0.0302	14.25%	0.0043	15.82%	0.0048
7.021	Mod cost ophthalmology	0.6229	0.11%	0.0007	0.11%	0.0007
7.031	Glaucoma	0.2132	0.10%	0.0002	0.08%	0.0002

Exhibit B (TANF 1-13)
Detailed ERG Risk Scores for Members with Risk Score Assigned
GSA X - MCO A

Ref	Short Description	Risk Weight	MCO A		All MCOs Population	
			Frequency	Risk Contribution	Frequency	Risk Contribution
7.041	Cataract	0.1849	0.05%	0.0001	0.04%	0.0001
7.051	Diabetic retinopathy	0.3634	0.00%	0.0000	0.00%	0.0000
7.061	Mal neo of the eye	0.3893	0.00%	0.0000	0.01%	0.0000
8.011	Oth low cost cardiology I	0.0604	1.06%	0.0006	1.00%	0.0006
8.012	Oth low cost cardiology II	0.3843	0.42%	0.0016	0.38%	0.0014
8.021	Oth mod cost cardiology I	0.3537	0.87%	0.0031	0.80%	0.0028
8.022	Oth mod cost cardiology II	0.9803	0.01%	0.0001	0.01%	0.0001
8.031	Oth high cost cardiology I	0.3118	0.04%	0.0001	0.04%	0.0001
8.041	Isch hrt dis, CHF, cardiomyopathy I	1.2743	0.00%	0.0001	0.01%	0.0001
8.042	Isch hrt dis, CHF, cardiomyopathy II	1.8964	0.00%	0.0000	0.00%	0.0000
8.043	Isch hrt dis, CHF, cardiomyopathy III	1.6225	0.01%	0.0002	0.01%	0.0002
8.044	Isch hrt dis, CHF, cardiomyopathy IV	2.4060	0.00%	0.0001	0.00%	0.0001
8.045	Isch hrt dis, CHF, cardiomyopathy V	1.6115	0.01%	0.0001	0.01%	0.0002
8.046	Isch hrt dis, CHF, cardiomyopathy VI	5.2042	0.01%	0.0005	0.00%	0.0002
8.051	Hypertension wo c/c	0.4493	0.08%	0.0004	0.08%	0.0003
8.052	Hypertension w c/c	1.0999	0.01%	0.0001	0.01%	0.0001
8.053	Hypertension w sig c/c	1.5237	0.01%	0.0001	0.01%	0.0001
8.061	Heart/Lung Transplant	27.6693	0.00%	0.0000	0.00%	0.0000
8.071	Pulmonary hrt dis	1.4835	0.02%	0.0002	0.01%	0.0002
9.011	Oth low cost ENT I	0.0522	53.02%	0.0277	50.83%	0.0266
9.012	Oth low cost ENT II	0.1104	8.75%	0.0097	8.42%	0.0093
9.021	Oth mod cost ENT	0.3278	1.00%	0.0033	0.92%	0.0030
9.031	Mal neo ENT I	3.0628	0.00%	0.0001	0.00%	0.0001
9.032	Mal neo ENT II	2.5629	0.00%	0.0000	0.00%	0.0000
10.011	Oth low cost pulmonology I	0.0765	3.73%	0.0029	3.53%	0.0027
10.012	Oth low cost pulmonology II	0.1822	1.30%	0.0024	1.19%	0.0022
10.021	Oth mod cost pulmonology	0.2865	1.01%	0.0029	0.91%	0.0026
10.031	Acute bronchitis	0.0960	7.01%	0.0067	6.69%	0.0064
10.041	Asthma COPD I	0.2239	4.85%	0.0109	4.67%	0.0105
10.042	Asthma COPD II	0.4006	4.30%	0.0172	4.05%	0.0162
10.043	Asthma COPD III	1.0698	0.33%	0.0036	0.30%	0.0032
10.044	Asthma COPD IV	3.0153	0.01%	0.0004	0.01%	0.0002
10.051	Mal pulmonary neo wo am wo sig c/c	3.2136	0.00%	0.0001	0.01%	0.0002
10.052	Mal pulmonary neo wo am w sig c/c	7.1875	0.00%	0.0000	0.00%	0.0000
10.053	Mal pulmonary neo w am	13.5639	0.00%	0.0000	0.00%	0.0000
10.061	Oth high cost pulmonology I	0.5364	0.25%	0.0014	0.21%	0.0011
10.062	Oth high cost pulmonology II	1.3220	0.11%	0.0015	0.09%	0.0012
11.011	Oth low cost gastro I	0.0878	13.31%	0.0117	12.86%	0.0113
11.012	Oth low cost gastro II	0.0596	0.13%	0.0001	0.14%	0.0001
11.013	Oth low cost gastro III	0.2818	3.52%	0.0099	3.23%	0.0091
11.021	Oth mod cost gastro I	0.9396	0.11%	0.0011	0.09%	0.0008
11.022	Oth mod cost gastro II	1.0091	0.20%	0.0021	0.23%	0.0023
11.031	Hernias	0.3099	0.41%	0.0013	0.36%	0.0011
11.041	Oth high cost gastro I	1.8931	0.02%	0.0003	0.02%	0.0004
11.042	Oth high cost gastro II	2.4677	0.00%	0.0001	0.00%	0.0001
11.051	Mal neo gastro I	1.1044	0.00%	0.0000	0.00%	0.0000
11.052	Mal neo gastro II	2.6506	0.00%	0.0000	0.00%	0.0000
11.053	Mal neo gastro III	10.8740	0.00%	0.0000	0.00%	0.0001
11.061	Appendicitis	0.0000	0.19%	0.0000	0.21%	0.0000
12.011	Oth low cost hepatology I	0.2216	0.10%	0.0002	0.11%	0.0002
12.012	Oth low cost hepatology II	0.7689	0.02%	0.0002	0.02%	0.0001
12.021	Oth mod cost hepatology I	0.2233	0.02%	0.0001	0.03%	0.0001
12.022	Oth mod cost hepatology II	0.6228	0.00%	0.0000	0.00%	0.0000
12.031	Oth high cost hepatology	1.6894	0.01%	0.0001	0.01%	0.0002
12.041	Liver transplant	6.5279	0.00%	0.0001	0.00%	0.0001
12.051	Mal neo hepatobiliary system	8.2657	0.00%	0.0000	0.00%	0.0000
13.011	Low cost nephrology	0.2731	0.10%	0.0003	0.09%	0.0003

Exhibit B (TANF 1-13)
Detailed ERG Risk Scores for Members with Risk Score Assigned
GSA X - MCO A

Ref	Short Description	Risk Weight	MCO A		All MCOs Population	
			Frequency	Risk Contribution	Frequency	Risk Contribution
13.021	Mod cost nephrology	0.5155	0.02%	0.0001	0.02%	0.0001
13.031	Kidney Transplant	2.8855	0.00%	0.0000	0.00%	0.0000
13.041	Chronic renal failure I	0.4293	0.01%	0.0000	0.01%	0.0000
13.042	Chronic renal failure II	1.3575	0.00%	0.0000	0.01%	0.0001
13.043	Chronic renal failure III	3.9645	0.00%	0.0001	0.00%	0.0001
13.051	Acute renal failure	1.1478	0.01%	0.0001	0.01%	0.0001
14.011	Low cost urology I	0.1035	6.04%	0.0063	5.72%	0.0059
14.012	Low cost urology II	0.3370	0.58%	0.0019	0.53%	0.0018
14.021	Mod cost urology	0.6019	0.35%	0.0021	0.34%	0.0021
14.031	Mal neo urology I	1.8931	0.00%	0.0000	0.00%	0.0000
14.032	Mal neo urology II	0.7258	0.00%	0.0000	0.00%	0.0000
14.033	Mal neo urology III	1.2276	0.00%	0.0000	0.00%	0.0000
14.034	Mal neo urology IV	3.1017	0.00%	0.0000	0.00%	0.0000
15.011	Normal pregnancy, delivery I	0.0459	0.00%	0.0000	0.00%	0.0000
15.012	Normal pregnancy, delivery II	0.2044	0.00%	0.0000	0.00%	0.0000
15.021	Normal pregnancy, non-delivery	1.9701	0.00%	0.0001	0.00%	0.0001
15.031	Oth mod cost obstetrics	0.6055	0.00%	0.0000	0.00%	0.0000
16.011	Oth low cost gynecology I	0.1046	1.15%	0.0012	1.06%	0.0011
16.012	Oth low cost gynecology II	0.2134	0.17%	0.0004	0.19%	0.0004
16.021	Oth mod cost gynecology I	0.3579	0.00%	0.0000	0.01%	0.0000
16.022	Oth mod cost gynecology II	0.4784	0.00%	0.0000	0.00%	0.0000
16.031	Mal neo brst/fem gen w am w sig c/c	10.2093	0.00%	0.0000	0.00%	0.0000
16.032	Mal neo brst/fem gen w am wo sig c/c I	4.9572	0.00%	0.0000	0.00%	0.0000
16.033	Mal neo brst/fem gen w am wo sig c/c II	4.2215	0.00%	0.0000	0.00%	0.0000
16.034	Mal neo brst/fem gen wo am w sig c/c	2.1296	0.00%	0.0001	0.00%	0.0001
16.035	Mal neo brst/fem gen wo am wo sig c/c I	0.2516	0.00%	0.0000	0.00%	0.0000
16.036	Mal neo brst/fem gen wo am wo sig c/c II	1.9851	0.00%	0.0000	0.00%	0.0000
17.011	Low cost dermatology I	0.0352	26.84%	0.0094	25.74%	0.0091
17.012	Low cost dermatology II	0.2772	1.40%	0.0039	1.26%	0.0035
17.021	Mod cost dermatology I	0.9439	0.05%	0.0005	0.06%	0.0005
17.022	Mod cost dermatology II	1.5126	0.00%	0.0000	0.00%	0.0000
17.031	High cost dermatology	6.9101	0.00%	0.0000	0.00%	0.0000
18.011	Oth low cost orthopedic I	0.1694	2.09%	0.0035	2.10%	0.0036
18.012	Oth low cost orthopedic II	0.1862	1.42%	0.0026	1.37%	0.0026
18.021	Orthopedic trauma, fract, disloc I	0.1976	2.96%	0.0059	3.09%	0.0061
18.022	Orthopedic trauma, fract, disloc II	0.3408	0.89%	0.0030	0.94%	0.0032
18.023	Orthopedic trauma, fract, disloc III	0.8200	0.10%	0.0008	0.12%	0.0009
18.024	Orthopedic trauma, fract, disloc IV	1.2259	0.01%	0.0002	0.01%	0.0002
18.031	Joint degen & major inflam I	0.4466	0.33%	0.0015	0.32%	0.0014
18.032	Joint degen & major inflam II	1.0710	0.03%	0.0004	0.03%	0.0003
18.033	Joint degen & major inflam III	1.7107	0.00%	0.0000	0.00%	0.0000
18.041	Oth high cost ortho I	0.8316	0.03%	0.0002	0.03%	0.0002
18.042	Oth high cost ortho II	1.3752	0.03%	0.0004	0.03%	0.0004
18.051	Adult rheumatoid arthritis	0.7165	0.00%	0.0000	0.00%	0.0000
18.061	Mal neo bone & connect tiss I	2.2959	0.00%	0.0001	0.01%	0.0001
18.062	Mal neo bone & connect tiss II	1.5992	0.00%	0.0000	0.00%	0.0000
19.011	Oth neonatal I	0.0398	2.56%	0.0010	2.48%	0.0010
19.012	Oth neonatal II	0.2030	3.17%	0.0064	2.92%	0.0059
19.021	High cost neonatal	1.4391	0.04%	0.0006	0.04%	0.0005
21.011	Late effects & complications	0.9779	0.22%	0.0022	0.20%	0.0019
21.021	Environmental trauma	0.0748	1.29%	0.0010	1.29%	0.0010
21.031	Poison & toxic effects of drugs I	0.1008	0.53%	0.0005	0.53%	0.0005
21.032	Poison & toxic effects of drugs II	0.1480	0.05%	0.0001	0.04%	0.0001
21.033	Poisoning & toxic effects of drugs III	0.6882	0.01%	0.0001	0.01%	0.0001
22.011	Isolated signs and symptoms	0.0629	5.49%	0.0035	5.52%	0.0035
RX.011	High cost pharmacy only	5.1798	0.00%	0.0002	0.00%	0.0001

Exhibit B (TANF 1-13)
Detailed ERG Risk Scores for Members with Risk Score Assigned
GSA X - MCO A

Ref	Short Description	Risk Weight	MCO A		All MCOs Population	
			Frequency	Risk Contribution	Frequency	Risk Contribution
Unadjusted				0.4291		0.4201
Scaling Factor [2]				1.0443		1.0443
Final Adjusted				0.4109		0.4023

Notes

1) Demographic factors represent the demographic factors to be used in the ERG risk score and are not the pure age/gender factors.

2) The scaling factor ensures that the average ERG factor for the 'Long' cohort is equal to the average demographic factor for the 'Long' cohort by risk group.

Exhibit C
Age/Gender Risk Scores for TANF 1-13
GSA X - MCO A

Ref	Short Description	Demo Weights	Short Cohort Frequency		Long Cohort Frequency	
			MCO A	All MCOs	MCO A	All MCOs
Demo1	TANF 1-6	0.4350	55.50%	53.00%	56.00%	54.00%
Demo2	TANF 7-13	0.3633	44.50%	47.00%	44.00%	46.00%
Total			**0.4031**	**0.4013**	**0.4034**	**0.4020**

Exhibit D
MCO A GSA X
Prospective Risk Groups to be Adjusted

PMPMs	TANF & KC<1 M&F	TANF & KC 1-13 M&F	TANF & KC & HIFA 14-44 F	TANF & KC & HIFA 14 - 44 M	TANF & HIFA 45+ M&F	SSI w/Medicare	SSI w/o Medicare	NonMED
10-01-08 Capitation Rate[1]	**$400.00**	**$100.00**	**$200.00**	**$100.00**	**$400.00**	**$150.00**	**$700.00**	**$500.00**
Less Bid Risk Contingency	($8.00)	($2.00)	($4.00)	($2.00)	($8.00)	($3.00)	($14.00)	($10.00)
Less Bid Admin	($32.00)	($8.00)	($16.00)	($8.00)	($32.00)	($12.00)	($56.00)	($40.00)
Less Premium Tax	($8.00)	($2.00)	($4.00)	($2.00)	($8.00)	($3.00)	($14.00)	($10.00)
Cap Rate to be Risk Adjusted (a)	$352.00	$88.00	$176.00	$88.00	$352.00	$132.00	$616.00	$440.00
Risk Adjustment Factor (b)	1.0078	1.0162	0.9884	1.0284	1.0234	1.0134	1.0090	0.9974
Risk Adjusted Capitation Rate (a * b)	$354.75	$89.42	$173.96	$90.50	$360.24	$133.77	$621.54	$438.86
Plus Bid Risk Contingency	$8.00	$2.00	$4.00	$2.00	$8.00	$3.00	$14.00	$10.00
Plus Bid Admin	$32.00	$8.00	$16.00	$8.00	$32.00	$12.00	$56.00	$40.00
Plus Premium Tax	$8.06	$2.03	$3.96	$2.05	$8.17	$3.04	$14.11	$9.98
Risk Adjusted Capitation Rate	**$402.81**	**$101.45**	**$197.92**	**$102.55**	**$408.40**	**$151.80**	**$705.66**	**$498.83**

Comments

1) Contracted Rate for CYE09 prior to risk adjustment.

Exhibit D
MCO A GSA X
Prospective Risk Groups to be Adjusted

PMPMs	TANF & KC <1 M&F	TANF & KC 1-13 M&F	TANF & KC & HIFA 14 - 44 F	TANF & KC & HIFA 14 - 44 M	TANF & HIFA 45+ M&F	SSI w/ Medicare	SSI w/o Medicare	NonMED
05-01-09 Capitation Rate [1]	**$395.00**	**$95.00**	**$195.00**	**$95.00**	**$395.00**	**$145.00**	**$695.00**	**$495.00**
Less Bid Risk Contingency	($8.00)	($2.00)	($4.00)	($2.00)	($8.00)	($3.00)	($14.00)	($10.00)
Less Bid Admin	($32.00)	($8.00)	($16.00)	($8.00)	($32.00)	($12.00)	($56.00)	($40.00)
Less Premium Tax	($7.90)	($1.90)	($3.90)	($1.90)	($7.90)	($2.90)	($13.90)	($9.90)
Cap Rate to be Risk Adjusted (a)	$347.10	$83.10	$171.10	$83.10	$347.10	$127.10	$611.10	$435.10
Risk Adjustment Factor (b)	1.0078	1.0162	0.9884	1.0284	1.0234	1.0134	1.0090	0.9974
Risk Adjusted Capitation Rate (a * b)	$349.82	$84.44	$169.12	$85.46	$355.22	$128.80	$616.60	$433.97
Plus Bid Risk Contingency	$8.00	$2.00	$4.00	$2.00	$8.00	$3.00	$14.00	$10.00
Plus Bid Admin	$32.00	$8.00	$16.00	$8.00	$32.00	$12.00	$56.00	$40.00
Plus Premium Tax	$7.96	$1.93	$3.86	$1.95	$8.07	$2.93	$14.01	$9.88
Risk Adjusted Capitation Rate	**$397.77**	**$96.37**	**$192.97**	**$97.41**	**$403.29**	**$146.74**	**$700.61**	**$493.85**

Comments

1) Contracted Rate for CYE09 prior to risk adjustment, but after the physician fee schedule adjustment

APPENDIX A
Risk Adjustment for TANF Under Age One Year

Overview

Risk adjustment for TANF under age one (newborns) is necessarily different than risk adjustment for other risk groups. Instead of an individual approach where risk adjustment factors follow individual members, an aggregate, concurrent approach will be used. This approach assumes that historic relationships in newborn risk will continue into the future. While the specific newborns in any health plan will change from the experience period to the rating period, this approach assumes that health plans attract newborns with a consistent health status mix. Therefore, the goal of the TANF under age one risk adjustment methodology is to estimate differences in health status during the experience period.

Exhibits A and B show sample TANF Under Age One risk adjustment calculations. Exhibit C shows the risk markers used to differentiate risk and their respective diagnosis codes.

Model Development

Based on Arizona data for the newborn Medicaid populations, we identified a series of conditions that resulted in material variations among newborns due to the frequency, cost and nature of those conditions. We identified 11 general risk marker categories to differentiate the health and therefore risk of newborns (see Exhibit C).

Data used to identify the 11 risk markers was provided by AHCCCS and represented all claims data incurred between October 2006 and September 2008 for infants born from October 2006 through September 2007. We limited the analysis to the newborns that were enrolled and at risk to a health plan at the time of birth during this 12-month time period and therefore excluded those enrolled with PPC. In order to obtain a significant experience period for each newborn while also making sure to include major conditions, we only included newborns enrolled in the experience period for at least the first three months of life by any combination of health plans, or who died while enrolled in the program. These criteria resulted in a risk score calibration cohort of approximately 43,600 newborns.

Claims incurred within the first 12 months of life were analyzed for the newborns meeting these criteria. All claims were trended to the same point in time at an annualized rate of 5%. Members were identified as having a particular risk marker if any of the member's claims within the experience period contained the corresponding diagnosis codes in any of the diagnosis fields.

APPENDIX A
Risk Adjustment for TANF Under Age One Year

Calibration of weights for the 11 selected newborn risk markers was based on a concurrent, rather than prospective, methodology. Reinsurance recoveries were excluded from the risk weight calibration. Claims were also reduced for average pharmacy rebates.

The resulting weights for the 11 newborn risk markers are displayed in the Newborn Exhibit B.

Implementation

The TANF Under Age One risk adjustment methodology assigns a risk score to each health plan during the rating period based on diagnosis codes and the membership cohort enrolled at each health plan during the experience period.

Members with sufficient experience are identified during the experience period (October 2007 through September 2008). Sufficient experience is defined as being born in the period, with at least three months of enrollment if deceased or disenrolled during the period. Members with sufficient experience are assigned a risk score. An average risk score across all members who are assigned a risk score is developed.

The calculation of the average risk score for newborns who meet the enrollment criteria differs for health plans that are new to a GSA versus existing health plans. This methodology also affects risk scores for existing health plans in GSAs where new plans are entering (all but GSA 12).

The average GSA risk score calculated using all prior health plans' experience is the risk score assigned to health plans new to a GSA. The average GSA risk score is then recalculated using the actual risk scores for existing plans, the risk score assigned to the new plans (described above) and updated enrollment weights by health plan based on October 2008 through March 2009 enrollment and 6 months using April 2009 enrollment. This updated GSA average is used to calculate the relative risk scores for new and existing health plans for newborns that meet the enrollment criteria. This approach recognizes the uncertainty associated with new health plans entering a GSA, and lessens the impact of risk adjustment accordingly.

APPENDIX A
Risk Adjustment for TANF Under Age One Year

The following table shows a simple example of the risk score calculation for members meeting the enrollment criteria where MCO C is replacing MCO A:

MCO	Historic Enrollment Weight	Risk Score	Oct/Nov 2008 Enrollment Weight	Risk Score	Relative Risk Adjustment
MCO A	50.0%	1.0500	0.0%		
MCO B	50.0%	0.9500	60.0%	0.9500	0.9794
MCO C	0.0%		40.0%	1.0000	1.0309
Total	100.0%	1.0000	100.0%	0.9700	1.0000

MCO C receives the average GSA risk score of 1.000 in this simplified example. After this assignment and applying updated enrollment weights, the recalculated GSA average is 0.97. Finally, initial risk scores are divided by 0.97 to calculate relative risk adjustment factors.

Newborns not meeting the enrollment criteria described above are assigned 50% of the average relative risk adjustment for those meeting the eligibility criteria and 50% of a 1.00 factor. For example, if the average relative risk factor for members meeting the enrollment criteria is 1.05 (relative to GSA average), then the risk factor for members not meeting the enrollment criteria would be 1.025. Each health plan's risk score for newborns within a GSA will be calculated as the weighted average of the risk scores for newborns who met the above eligibility criteria during the experience period and those who did not.

Consistent with risk adjustment for other risk groups, the final risk adjustment factor is adjusted for 80% phase-in and budget neutrality.

Because both health plans in GSA 6 will be new to that area effective October 2008, both health plans will receive 1.000 risk scores for all TANF members less than one year of age.

GSA 10 will be treated as one GSA rather than as two separate GSAs (i.e. for health plans awarded Pima and Santa Cruz, versus those awarded Pima only).

AHCCCS will provide the following reports as part of the risk factor implementation (examples included as Exhibits). Each report represents a unique combination of health plan, risk group and GSA.

1. Exhibit A - Summary results showing the risk score adjustment at the health plan and GSA level.
2. Exhibit B – Detailed development of risk scores for members who received a risk score.

Exhibit A
Summary Results TANF <1
GSA X

Ref	Description	MCO A	All MCOs	Source
A	Percentage of Members w/ Risk Score [1]	40.00%	38.00%	% enrolled at birth and at least 3 months
B	Average Risk Score [2]	1.0643	1.0536	See Exhibit B
C	Updated avg. w/ new plan(s) at GSA avg. and updated mix [3]		1.0500	Separate Calculation
D	Relative Risk Score	1.0136		D = B / C
E	Percentage of Members w/out Risk Score	60.00%		E = 100% - A
F	Risk Score for Members w/out Risk Score [4]	1.0068		F = D x 50% + 1.00 x 50%
G	Total Average Risk Score	1.0095		G = A x D + E x F
H	Relative Risk Score with Phase In	1.0076		H = 80% x G + 20% x 1.00
I	Budget Neutrality Adjustment	0.9998		Separate calculation
J	Risk Score Adjustment to Cap Rate	1.0078		J = H / I

Notes

1) This represents newborns who were enrolled at birth and remain enrolled for at least 3 months during the experience period. GSA average for new plans.
2) For existing plans, enrollment used is October 2007 - September 2008. Health plans new to a GSA are assigned the prior average GSA risk score.
3) Health plans new to a GSA in CYE 2009 are assigned the prior average GSA risk score. This, coupled with enrollment changes, causes the updated GSA average risk score to change.
4) The population that does not meet the enrollment criteria receives a risk score that is 50% of the risk score for the cohort meeting the criteria plus 50% of a 1.000 factor

Exhibit B
Detailed Risk Scores for Members with Risk Score Assigned TANF <1
GSA X

Ref.	Short Description	Risk Weight	MCO A		All MCOs Population	
			Frequency	Risk Contribution	Frequency	Risk Contribution
Base	Base	0.4957	100.00%	0.4957	100.00%	0.4957
Risk 1	Weight is less than 1500 grams	4.0974	1.66%	0.0680	1.50%	0.0613
Risk 2	Weight is 1500 - 2499 grams	0.8272	4.59%	0.0379	4.29%	0.0355
Risk 3	Septicemia	1.4090	4.64%	0.0654	4.48%	0.0631
Risk 4	29-32 Completed Weeks of Gestation	2.3161	1.56%	0.0360	1.54%	0.0357
Risk 5	Less than 29 Completed Weeks of Gestation	7.7844	0.52%	0.0403	0.56%	0.0437
Risk 6	Respiratory Distress Syndrome and other Respiratory	1.3457	8.91%	0.1199	8.72%	0.1173
Risk 7	Device Implants	14.1494	0.30%	0.0430	0.27%	0.0388
Risk 8	Subdural or Subarachnoid Hemorrhage	2.6589	0.14%	0.0038	0.19%	0.0050
Risk 9	Cardiac Congenital Disorders	1.7919	5.55%	0.0995	5.58%	0.0999
Risk 10	Central Nervous System Congenital Disorders	2.4815	1.19%	0.0295	1.14%	0.0282
Risk 11	Congenital Anomalies of Intestines & Abdomen	5.8738	0.43%	0.0254	0.50%	0.0295
Grand Total				**1.0643**		**1.0536**

Appendix A
Risk Adjustment for TANF Under Age One Year

Exhibit C TANF < Risk Marker Diagnosis Codes			
Risk Group (See Exhibit B)	Risk Marker Description	Diagnosis Code	ICD9 Description
1	Weight is less than 1500 grams	764.94	FETAL GROWTH RETARDATION, UNSPECIFIED, 1,000-1,249 GRAMS
1	Weight is less than 1500 grams	765.13	OTHER PRETERM INFANTS, 750-999 GRAMS
1	Weight is less than 1500 grams	765.05	EXTREME IMMATURITY, 1,250-1,499 GRAMS
1	Weight is less than 1500 grams	765.11	OTHER PRETERM INFANTS, LESS THAN 500 GRAMS
1	Weight is less than 1500 grams	765.14	OTHER PRETERM INFANTS, 1,000-1,249 GRAMS
1	Weight is less than 1500 grams	764.93	FETAL GROWTH RETARDATION, UNSPECIFIED, 750-999 GRAMS
1	Weight is less than 1500 grams	765.02	EXTREME IMMATURITY, 500-749 GRAMS
1	Weight is less than 1500 grams	765.15	OTHER PRETERM INFANTS, 1,250-1,499 GRAMS
1	Weight is less than 1500 grams	765.03	EXTREME IMMATURITY, 750-999 GRAMS
1	Weight is less than 1500 grams	765.12	OTHER PRETERM INFANTS, 500-749 GRAMS
1	Weight is less than 1500 grams	764.04	"LIGHT-FOR-DATES" WITHOUT MENTION OF FETAL MALNUTRITION, 1,000- 1,249 GRAMS
1	Weight is less than 1500 grams	764.95	FETAL GROWTH RETARDATION, UNSPECIFIED, 1,250-1,499 GRAMS
1	Weight is less than 1500 grams	764.05	"LIGHT-FOR-DATES" WITHOUT MENTION OF FETAL MALNUTRITION, 1,250- 1,499 GRAMS
1	Weight is less than 1500 grams	765.01	EXTREME IMMATURITY, LESS THAN 500 GRAMS
1	Weight is less than 1500 grams	765.04	EXTREME IMMATURITY, 1,000-1,249 GRAMS
2	Weight is 1500 - 2499 grams	765.16	OTHER PRETERM INFANTS, 1,500-1,749 GRAMS
2	Weight is 1500 - 2499 grams	765.17	OTHER PRETERM INFANTS, 1,750-1,999 GRAMS
2	Weight is 1500 - 2499 grams	764.06	"LIGHT-FOR-DATES" WITHOUT MENTION OF FETAL MALNUTRITION, 1,500- 1,749
2	Weight is 1500 - 2499 grams	764.96	FETAL GROWTH RETARDATION, UNSPECIFIED, 1,500-1,749 GRAMS
2	Weight is 1500 - 2499 grams	765.18	OTHER PRETERM INFANTS, 2,000-2,499 GRAMS
2	Weight is 1500 - 2499 grams	764.98	FETAL GROWTH RETARDATION, UNSPECIFIED, 2,000-2,499 GRAMS
2	Weight is 1500 - 2499 grams	764.97	FETAL GROWTH RETARDATION, UNSPECIFIED, 1,750-1,999 GRAMS
2	Weight is 1500 - 2499 grams	V 2135	LOW BIRTH WEIGHT STATUS, 2000-2500 GRAMS
2	Weight is 1500 - 2499 grams	V 2134	LOW BIRTH WEIGHT STATUS, 1500-1999 GRAMS
2	Weight is 1500 - 2499 grams	765.07	EXTREME IMMATURITY, 1,750-1,999 GRAMS
2	Weight is 1500 - 2499 grams	764.27	FETAL MALNUTRITION WITHOUT MENTION OF "LIGHT-FOR-DATES", 1,750- 1,999 GRAMS
2	Weight is 1500 - 2499 grams	765.06	EXTREME IMMATURITY, 1,500-1,749 GRAMS
2	Weight is 1500 - 2499 grams	764.07	"LIGHT-FOR-DATES" WITHOUT MENTION OF FETAL MALNUTRITION, 1,750- 1,999 GRAMS
2	Weight is 1500 - 2499 grams	765.08	EXTREME IMMATURITY, 2,000-2,499 GRAMS
2	Weight is 1500 - 2499 grams	764.28	FETAL MALNUTRITION WITHOUT MENTION OF "LIGHT-FOR-DATES", 2,000- 2,499 GRAMS
2	Weight is 1500 - 2499 grams	764.17	"LIGHT-FOR-DATES" WITH SIGNS OF FETAL MALNUTRITION, 1,750 1,999 GRAMS
3	Septicemia	038.40	SEPTICEMIA DUE TO GRAM-NEGATIVE ORGANISM, UNSPECIFIED
3	Septicemia	038.0	STREPTOCOCCAL SEPTICEMIA
3	Septicemia	038.42	SEPTICEMIA DUE TO ESCHERICHIA COLI +E. COLI+
3	Septicemia	038.41	SEPTICEMIA DUE TO HEMOPHILUS INFLUENZAE +H. INFLUENZAE+
3	Septicemia	771.81	SEPTICEMIA +SEPSIS+ OF NEWBORN
3	Septicemia	038.49	OTHER SEPTICEMIA DUE TO GRAM-NEGATIVE ORGANISMS
3	Septicemia	038.11	METHICILLIN SUSCEPTIBLE STAPHYLOCOCCUS AUREUS SEPTICEMIA

Appendix A
Risk Adjustment for TANF Under Age One Year

Exhibit C TANF < Risk Marker Diagnosis Codes			
Risk Group (See Exhibit B)	Risk Marker Description	Diagnosis Code	ICD9 Description
3	Septicemia	038.9	UNSPECIFIED SEPTICEMIA
3	Septicemia	038.2	PNEUMOCOCCAL SEPTICEMIA
3	Septicemia	038.8	OTHER SPECIFIED SEPTICEMIAS
3	Septicemia	038.44	SEPTICEMIA DUE TO SERRATIA
3	Septicemia	038.10	STAPHYLOCOCCAL SEPTICEMIA, UNSPECIFIED
4	29-32 Completed Weeks of Gestation	765.25	29-30 COMPLETED WEEKS OF GESTATION
4	29-32 Completed Weeks of Gestation	765.26	31-32 COMPLETED WEEKS OF GESTATION
5	Less than 29 Completed Weeks of Gestation	765.23	25-26 COMPLETED WEEKS OF GESTATION
5	Less than 29 Completed Weeks of Gestation	765.22	24 COMPLETED WEEKS OF GESTATION
5	Less than 29 Completed Weeks of Gestation	765.24	27-28 COMPLETED WEEKS OF GESTATION
5	Less than 29 Completed Weeks of Gestation	765.21	LESS THAN 24 COMPLETED WEEKS OF GESTATION
6	Respiratory Distress Syndrome and other Respiratory Issues/Aspiration	770.12	MECONIUM ASPIRATION WITH RESPIRATORY SYMPTOMS
6	Respiratory Distress Syndrome and other Respiratory Issues/Aspiration	770.14	ASPIRATION OF CLEAR AMNIOTIC FLUID WITH RESPIRATORY SYMPTOMS
6	Respiratory Distress Syndrome and other Respiratory Issues/Aspiration	770.86	ASPIRATION OF POSTNATAL STOMACH CONTENTS WITH RESPIRATORY SYMPTOMS
6	Respiratory Distress Syndrome and other Respiratory Issues/Aspiration	770.84	RESPIRATORY FAILURE OF NEWBORN
6	Respiratory Distress Syndrome and other Respiratory Issues/Aspiration	770.89	OTHER RESPIRATORY PROBLEMS AFTER BIRTH
6	Respiratory Distress Syndrome and other Respiratory Issues/Aspiration	769	RESPIRATORY DISTRESS SYNDROME IN NEWBORN
6	Respiratory Distress Syndrome and other Respiratory Issues/Aspiration	770.18	OTHER FETAL AND NEWBORN ASPIRATION WITH RESPIRATORY SYMPTOMS
6	Respiratory Distress Syndrome and other Respiratory Issues/Aspiration	770.81	PRIMARY APNEA OF NEWBORN
6	Respiratory Distress Syndrome and other Respiratory Issues/Aspiration	770.82	OTHER APNEA OF NEWBORN
6	Respiratory Distress Syndrome and other Respiratory Issues/Aspiration	770.83	CYANOTIC ATTACKS OF NEWBORN
6	Respiratory Distress Syndrome and other Respiratory Issues/Aspiration	770.88	HYPOXEMIA OF NEWBORN
6	Respiratory Distress Syndrome and other Respiratory Issues/Aspiration	770.11	MECONIUM ASPIRATION WITHOUT RESPIRATORY SYMPTOMS
6	Respiratory Distress Syndrome and other Respiratory Issues/Aspiration	770.10	FETAL AND NEWBORN ASPIRATION, UNSPECIFIED
6	Respiratory Distress Syndrome and other Respiratory Issues/Aspiration	770.87	RESPIRATORY ARREST OF NEWBORN
6	Respiratory Distress Syndrome and other Respiratory Issues/Aspiration	770.15	ASPIRATION OF BLOOD WITHOUT RESPIRATORY SYMPTOMS
7	Device Implants	996.63	INFECTION AND INFLAMMATORY REACTION DUE TO NERVOUS SYSTEM DEVICE, IMPLANT, AND G
7	Device Implants	996.62	INFECTION AND INFLAMMATORY REACTION DUE TO OTHER VASCULAR DEVICE, IMPLANT, AND G
7	Device Implants	996.75	OTHER COMPLICATIONS DUE TO NERVOUS SYSTEM DEVICE, IMPLANT, AND GRAFT
7	Device Implants	996.74	OTHER COMPLICATIONS DUE TO OTHER VASCULAR DEVICE, IMPLANT, AND GRAFT
7	Device Implants	996.79	OTHER COMPLICATIONS DUE TO OTHER INTERNAL PROSTHETIC DEVICE, IMPLANT, AND GRAFT
7	Device Implants	996.69	INFECTION AND INFLAMMATORY REACTION DUE TO OTHER INTERNAL PROSTHETICDEVICE, IMPL
7	Device Implants	996.39	MECHANICAL COMPLICATION OF OTHER GENITOURINARY DEVICE, IMPLANT, AND GRAFT
7	Device Implants	996.49	OTHER MECHANICAL COMPLICATION OF OTHER INTERNAL ORTHOPEDIC DEVICE, IMPLANT, AND
7	Device Implants	996.67	INFECTION AND INFLAMMATORY REACTION DUE TO OTHER INTERNAL ORTHOPEDIC DEVICE, IMP
7	Device Implants	996.59	MECHANICAL COMPLICATION DUE TO OTHER IMPLANT AND INTERNAL DEVICE, NOT ELSEWHERE
7	Device Implants	996.72	OTHER COMPLICATIONS DUE TO OTHER CARDIAC DEVICE, IMPLANT, AND GRAFT
7	Device Implants	996.30	MECHANICAL COMPLICATION OF UNSPECIFIED GENITOURINARY DEVICE,

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Exhibit C TANF < Risk Marker Diagnosis Codes			
Risk Group (See Exhibit B)	Risk Marker Description	Diagnosis Code	ICD9 Description
7	Device Implants	996.31	MECHANICAL COMPLICATION DUE TO URETHRAL +INDWELLING+ CATHETER
7	Device Implants	996.00	MECHANICAL COMPLICATION OF UNSPECIFIED CARDIAC DEVICE, IMPLANT, AND GRAFT
8	Subdural or Subarachnoid Hemorrhage	852.26	SUBDURAL HEMORRHAGE FOLLOWING INJURY, WITHOUT MENTION OF
8	Subdural or Subarachnoid Hemorrhage	800.26	CLOSED FRACTURE OF VAULT OF SKULL WITH SUBARACHNOID, SUBDURAL,
8	Subdural or Subarachnoid Hemorrhage	800.21	CLOSED FRACTURE OF VAULT OF SKULL WITH SUBARACHNOID, SUBDURAL,
8	Subdural or Subarachnoid Hemorrhage	852.01	SUBARACHNOID HEMORRHAGE FOLLOWING INJURY, WITHOUT MENTION
8	Subdural or Subarachnoid Hemorrhage	852.00	SUBARACHNOID HEMORRHAGE FOLLOWING INJURY, WITHOUT MENTION
8	Subdural or Subarachnoid Hemorrhage	852.20	SUBDURAL HEMORRHAGE FOLLOWING INJURY, WITHOUT MENTION OF
8	Subdural or Subarachnoid Hemorrhage	852.21	SUBDURAL HEMORRHAGE FOLLOWING INJURY, WITHOUT MENTION OF
8	Subdural or Subarachnoid Hemorrhage	800.20	CLOSED FRACTURE OF VAULT OF SKULL WITH SUBARACHNOID, SUBDURAL,
8	Subdural or Subarachnoid Hemorrhage	852.30	SUBDURAL HEMORRHAGE FOLLOWING INJURY, WITH OPEN INTRACRANIAL
8	Subdural or Subarachnoid Hemorrhage	801.21	CLOSED FRACTURE OF BASE OF SKULL WITH SUBARACHNOID, SUBDURAL,
8	Subdural or Subarachnoid Hemorrhage	852.29	SUBDURAL HEMORRHAGE FOLLOWING INJURY, WITHOUT MENTION OF
8	Subdural or Subarachnoid Hemorrhage	801.26	CLOSED FRACTURE OF BASE OF SKULL WITH SUBARACHNOID, SUBDURAL,
8	Subdural or Subarachnoid Hemorrhage	801.20	CLOSED FRACTURE OF BASE OF SKULL WITH SUBARACHNOID, SUBDURAL,
9	Cardiac Congenital Disorders	779.81	NEONATAL BRADYCARDIA
9	Cardiac Congenital Disorders	779.82	NEONATAL TACHYCARDIA
9	Cardiac Congenital Disorders	747.41	TOTAL ANOMALOUS PULMONARY VENOUS CONNECTION
9	Cardiac Congenital Disorders	745.19	OTHER TRANSPOSITION OF GREAT VESSELS
9	Cardiac Congenital Disorders	746.7	HYPOPLASTIC LEFT HEART SYNDROME
9	Cardiac Congenital Disorders	746.82	COR TRIATRIATUM
9	Cardiac Congenital Disorders	746.2	EBSTEIN'S ANOMALY
9	Cardiac Congenital Disorders	745.69	OTHER ENDOCARDIAL CUSHION DEFECTS
9	Cardiac Congenital Disorders	745.0	COMMON TRUNCUS
9	Cardiac Congenital Disorders	745.2	TETRALOGY OF FALLOT
9	Cardiac Congenital Disorders	747.11	INTERRUPTION OF AORTIC ARCH
9	Cardiac Congenital Disorders	746.85	CORONARY ARTERY ANOMALY, CONGENITAL
9	Cardiac Congenital Disorders	747.10	COARCTATION OF AORTA (PREDUCTAL) (POSTDUCTAL)
9	Cardiac Congenital Disorders	745.11	DOUBLE OUTLET RIGHT VENTRICLE
9	Cardiac Congenital Disorders	745.10	COMPLETE TRANSPOSITION OF GREAT VESSELS
9	Cardiac Congenital Disorders	747.83	PERSISTENT FETAL CIRCULATION
9	Cardiac Congenital Disorders	746.84	OBSTRUCTIVE ANOMALIES OF HEART, CONGENITAL, NOT ELSEWHERE CLASSIFIED
9	Cardiac Congenital Disorders	746.3	CONGENITAL STENOSIS OF AORTIC VALVE
9	Cardiac Congenital Disorders	746.5	CONGENITAL MITRAL STENOSIS
9	Cardiac Congenital Disorders	746.00	CONGENITAL PULMONARY VALVE ANOMALY, UNSPECIFIED
9	Cardiac Congenital Disorders	746.86	CONGENITAL HEART BLOCK
9	Cardiac Congenital Disorders	746.02	STENOSIS OF PULMONARY VALVE, CONGENITAL
9	Cardiac Congenital Disorders	746.6	CONGENITAL MITRAL INSUFFICIENCY

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Exhibit C TANF < Risk Marker Diagnosis Codes			
Risk Group (See Exhibit B)	Risk Marker Description	Diagnosis Code	ICD9 Description
9	Cardiac Congenital Disorders	745.3	COMMON VENTRICLE
9	Cardiac Congenital Disorders	747.42	PARTIAL ANOMALOUS PULMONARY VENOUS CONNECTION
9	Cardiac Congenital Disorders	746.01	ATRESIA OF PULMONARY VALVE, CONGENITAL
9	Cardiac Congenital Disorders	427.0	PAROXYSMAL SUPRAVENTRICULAR TACHYCARDIA
9	Cardiac Congenital Disorders	747.40	ANOMALY OF GREAT VEINS, CONGENITAL, UNSPECIFIED
9	Cardiac Congenital Disorders	746.1	TRICUSPID ATRESIA AND STENOSIS, CONGENITAL
9	Cardiac Congenital Disorders	426.7	ANOMALOUS ATRIOVENTRICULAR EXCITATION
9	Cardiac Congenital Disorders	745.4	VENTRICULAR SEPTAL DEFECT
9	Cardiac Congenital Disorders	747.21	CONGENITAL ANOMALIES OF AORTIC ARCH
9	Cardiac Congenital Disorders	746.89	OTHER SPECIFIED CONGENITAL ANOMALIES OF HEART
9	Cardiac Congenital Disorders	747.49	OTHER ANOMALIES OF GREAT VEINS
9	Cardiac Congenital Disorders	746.9	UNSPECIFIED CONGENITAL ANOMALY OF HEART
9	Cardiac Congenital Disorders	747.3	ANOMALIES OF PULMONARY ARTERY, CONGENITAL
9	Cardiac Congenital Disorders	746.87	MALPOSITION OF HEART AND CARDIAC APEX
9	Cardiac Congenital Disorders	745.60	ENDOCARDIAL CUSHION DEFECT, UNSPECIFIED TYPE
9	Cardiac Congenital Disorders	426.9	CONDUCTION DISORDER, UNSPECIFIED
9	Cardiac Congenital Disorders	747.0	PATENT DUCTUS ARTERIOSUS
9	Cardiac Congenital Disorders	746.4	CONGENITAL INSUFFICIENCY OF AORTIC VALVE
9	Cardiac Congenital Disorders	747.22	CONGENITAL ATRESIA AND STENOSIS OF AORTA
9	Cardiac Congenital Disorders	458.9	HYPOTENSION, UNSPECIFIED
9	Cardiac Congenital Disorders	746.83	INFUNDIBULAR PULMONIC STENOSIS, CONGENITAL
9	Cardiac Congenital Disorders	745.5	OSTIUM SECUNDUM TYPE ATRIAL SEPTAL DEFECT
9	Cardiac Congenital Disorders	747.29	OTHER CONGENITAL ANOMALIES OF AORTA
9	Cardiac Congenital Disorders	429.4	FUNCTIONAL DISTURBANCES FOLLOWING CARDIAC SURGERY
9	Cardiac Congenital Disorders	745.12	CORRECTED TRANSPOSITION OF GREAT VESSELS
9	Cardiac Congenital Disorders	425.3	ENDOCARDIAL FIBROELASTOSIS
9	Cardiac Congenital Disorders	745.8	OTHER BULBUS CORDIS ANOMALIES AND ANOMALIES OF CARDIAC SEPTAL
9	Cardiac Congenital Disorders	426.89	OTHER SPECIFIED CONDUCTION DISORDERS
9	Cardiac Congenital Disorders	429.3	CARDIOMEGALY
9	Cardiac Congenital Disorders	425.1	HYPERTROPHIC OBSTRUCTIVE CARDIOMYOPATHY
9	Cardiac Congenital Disorders	747.5	ABSENCE OR HYPOPLASIA OF UMBILICAL ARTERY
9	Cardiac Congenital Disorders	746.09	OTHER CONGENITAL ANOMALIES OF PULMONARY VALVE
9	Cardiac Congenital Disorders	746.81	SUBAORTIC STENOSIS, CONGENITAL
9	Cardiac Congenital Disorders	747.89	OTHER SPECIFIED CONGENITAL ANOMALIES OF CIRCULATORY SYSTEM
10	Central Nervous System Congenital Disorders	747.81	ANOMALIES OF CEREBROVASCULAR SYSTEM, CONGENITAL
10	Central Nervous System Congenital Disorders	741.03	SPINA BIFIDA WITH HYDROCEPHALUS, LUMBAR REGION
10	Central Nervous System Congenital Disorders	741.93	SPINA BIFIDA, WITHOUT MENTION OF HYDROCEPHALUS, LUMBAR REGION
10	Central Nervous System Congenital Disorders	742.4	OTHER SPECIFIED CONGENITAL ANOMALIES OF BRAIN

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Exhibit C TANF < Risk Marker Diagnosis Codes			
Risk Group (See Exhibit B)	Risk Marker Description	Diagnosis Code	ICD9 Description
10	Central Nervous System Congenital Disorders	741.00	SPINA BIFIDA WITH HYDROCEPHALUS, UNSPECIFIED REGION
10	Central Nervous System Congenital Disorders	742.3	CONGENITAL HYDROCEPHALUS
10	Central Nervous System Congenital Disorders	742.0	ENCEPHALOCELE
10	Central Nervous System Congenital Disorders	742.2	CONGENITAL REDUCTION DEFORMITIES OF BRAIN
10	Central Nervous System Congenital Disorders	741.90	SPINA BIFIDA, WITHOUT MENTION OF HYDROCEPHALUS, UNSPECIFIED REGION
10	Central Nervous System Congenital Disorders	742.59	OTHER SPECIFIED CONGENITAL ANOMALIES OF SPINAL
10	Central Nervous System Congenital Disorders	348.0	CEREBRAL CYSTS
10	Central Nervous System Congenital Disorders	741.02	SPINA BIFIDA WITH HYDROCEPHALUS, DORSAL +THORACIC+ REGION
10	Central Nervous System Congenital Disorders	348.39	OTHER ENCEPHALOPATHY
10	Central Nervous System Congenital Disorders	333.1	ESSENTIAL AND OTHER SPECIFIED FORMS OF TREMOR
10	Central Nervous System Congenital Disorders	348.30	ENCEPHALOPATHY, UNSPECIFIED
10	Central Nervous System Congenital Disorders	348.5	CEREBRAL EDEMA
10	Central Nervous System Congenital Disorders	759.5	TUBEROUS SCLEROSIS
10	Central Nervous System Congenital Disorders	348.1	ANOXIC BRAIN DAMAGE
10	Central Nervous System Congenital Disorders	742.1	MICROCEPHALUS
10	Central Nervous System Congenital Disorders	228.02	HEMANGIOMA OF INTRACRANIAL STRUCTURES
10	Central Nervous System Congenital Disorders	348.4	COMPRESSION OF BRAIN
10	Central Nervous System Congenital Disorders	742.51	DIASTEMATOMYELIA
10	Central Nervous System Congenital Disorders	742.9	UNSPECIFIED CONGENITAL ANOMALY OF BRAIN, SPINA
10	Central Nervous System Congenital Disorders	741.92	SPINA BIFIDA, WITHOUT MENTION OF HYDROCEPHALUS, DORSAL (THORACIC) REGION
10	Central Nervous System Congenital Disorders	740.0	ANENCEPHALUS
10	Central Nervous System Congenital Disorders	742.8	OTHER SPECIFIED CONGENITAL ANOMALIES OF NERVOU
11	Congenital Anomalies of Intestines & Abdomen	756.70	CONGENITAL ANOMALY OF ABDOMINAL WALL, UNSPECIFIED
11	Congenital Anomalies of Intestines & Abdomen	756.79	OTHER CONGENITAL ANOMALIES OF ABDOMINAL WALL
11	Congenital Anomalies of Intestines & Abdomen	751.1	ATRESIA AND STENOSIS OF SMALL INTESTINE, CONGENITAL
11	Congenital Anomalies of Intestines & Abdomen	751.3	HIRSCHSPRUNG'S DISEASE AND OTHER CONGENITAL FUNCTIONAL
11	Congenital Anomalies of Intestines & Abdomen	756.71	PRUNE BELLY SYNDROME
11	Congenital Anomalies of Intestines & Abdomen	751.5	OTHER CONGENITAL ANOMALIES OF INTESTINE
11	Congenital Anomalies of Intestines & Abdomen	751.2	ATRESIA AND STENOSIS OF LARGE INTESTINE, RECTUM, AND ANAL CANAL, CONGENITAL
11	Congenital Anomalies of Intestines & Abdomen	751.4	ANOMALIES OF INTESTINAL FIXATION, CONGENITAL
11	Congenital Anomalies of Intestines & Abdomen	751.0	MECKEL'S DIVERTICULUM
11	Congenital Anomalies of Intestines & Abdomen	759.6	OTHER CONGENITAL HAMARTOSES, NOT ELSEWHERE CLASSIFIED
11	Congenital Anomalies of Intestines & Abdomen	751.9	UNSPECIFIED CONGENITAL ANOMALY OF DIGESTIVE SYSTEM
11	Congenital Anomalies of Intestines & Abdomen	751.8	OTHER SPECIFIED CONGENITAL ANOMALIES OF DIGESTIVE SYSTEM
11	Congenital Anomalies of Intestines & Abdomen	759.3	SITUS INVERSUS