

HHS Risk Adjustment Model

- Center for Consumer Information and Insurance Oversight.
- Centers for Medicare & Medicaid Services.
- Department of Health and Human Services.



CONTEXT

The contents of this presentation represent preliminary information with the purpose of soliciting stakeholder feedback. Draft policies for the risk adjustment program will be announced in the draft HHS notice of benefit and payment parameters, which will be subject to comment before finalized.

Agenda

- Introduction.
- Calibration data.
- Risk adjustment model.
- Variable selection.
- Potential adjustments to the model.

Risk Adjustment Goals

Overall goals:

- Mitigate the impacts of potential adverse selection.
- Stabilize premiums in the individual and small group markets.

Aim:

- Premiums reflect differences in benefits and plan efficiency, not health status of enrolled population.

Risk Adjustment Methodology

- Risk adjustment methodology is defined as:
 - Risk adjustment model.
 - Calculation of plan average actuarial risk.
 - Includes removing rating variation for age, geography, tobacco use, and family status.
 - Calculation of payments and charges.
 - Data collection approach.
 - Schedule for implementation.

Risk Adjustment Model

- Risk adjustment model means an actuarial tool used to predict health care costs based on the relative actuarial risk of enrollees in risk adjustment covered plans (45 CFR 153.20).
- HHS is developing a risk adjustment model for the nonelderly population to be used when HHS is operating risk adjustment on behalf of a State. States operating a risk adjustment program may choose to use this model or an HHS certified alternate risk adjustment methodology.

Risk Scores

- Individual risk scores
 - Each enrollee risk score is based on the individual's demographic and health status information.
 - A risk score is calculated as the sum of these demographic and health factors weighted by their estimated marginal contributions to total risk.
- Calculated relative to average expenditures:
- For example:
 - Average = \$1,000.
 - Female, 57 = \$500 = .5 risk factor.
 - Condition A = \$700 = .7 risk factor.
 - Risk Score = $0.5 + 0.7 = 1.2$.

Risk Model Calibration Data

- The primary source for risk adjustment model calibration is Thomson Reuters MarketScan® data.
 - Data from employers and health plans.
 - HIPAA de-identified.
- 2010 MarketScan® database.
 - Initial Sample Size: 49.2 million in 2009, 45.2 million in 2010.
 - Male (49%), Female (51%).
 - Ages 0 to 64.
 - Includes data from all 50 States and DC.

Sample Selection

- Preliminary modeling sample criteria.
 - Rx coverage required.
 - Mental health coverage required.
 - Claims paid on a capitated basis in 2010 excluded.
 - Minimum months of claims history data requirements still being explored.

Diagnosis Classification

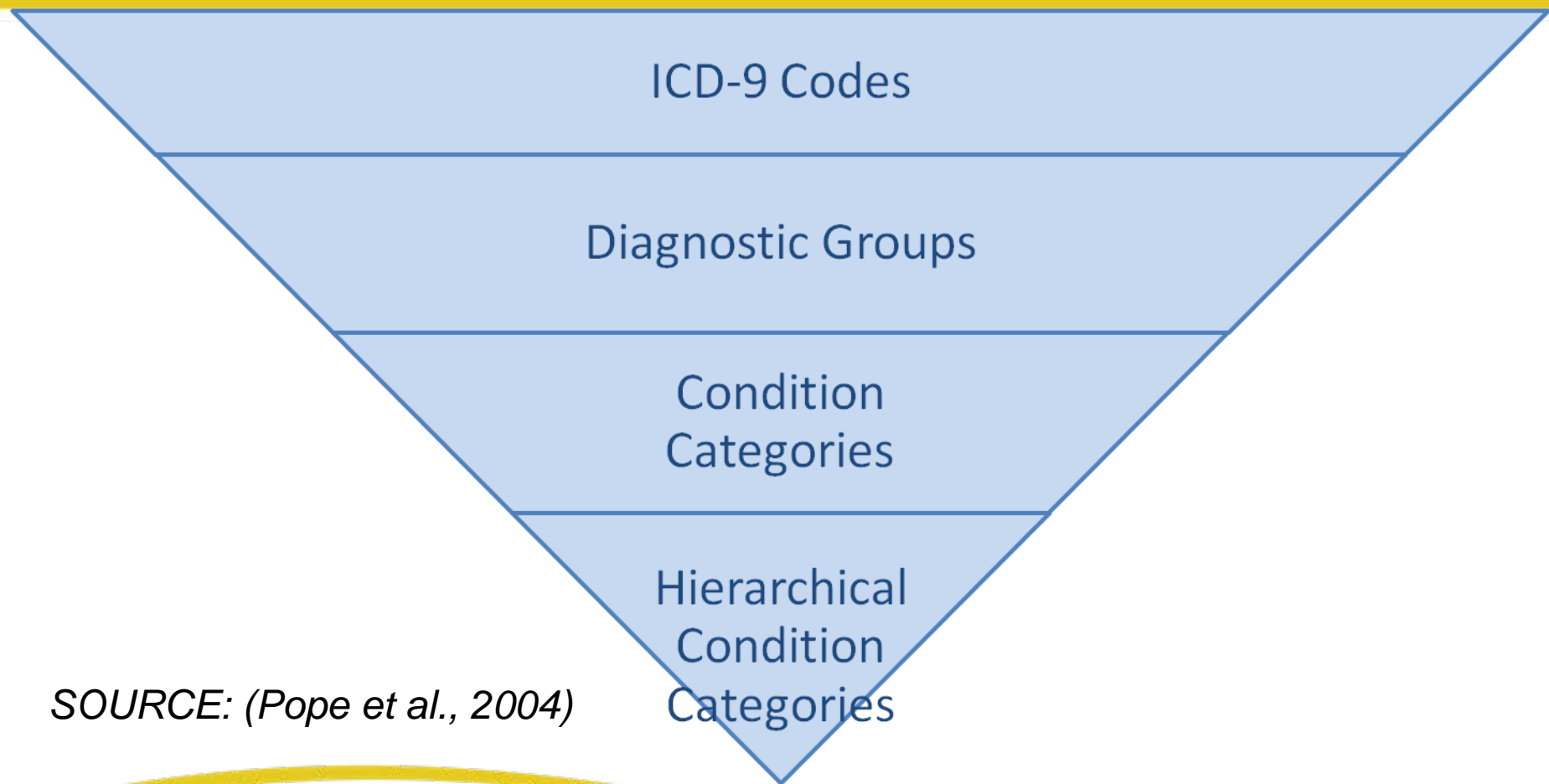
- HHS will use the Hierarchical Condition Category (HCC) classification system as a basis for the HHS risk adjustment model.
- HHS will review and refine the HCC classification system for private insurance populations where needed
 - Includes review of medical literature, empirical data analysis, and clinical review consultants.

Hierarchical Condition Categories

- The HCC classification system provides the diagnostic framework for developing a risk adjustment model to predict medical spending.
- HCC diagnostic classification system.
 - 1) Classifies each diagnosis into a diagnostic group (DxGroup).
 - 2) Each DxGroup is then coded into a Condition Category (CC).
 - 3) Hierarchies are imposed among related CCs (individual is only coded for the most severe manifestation among related diseases).

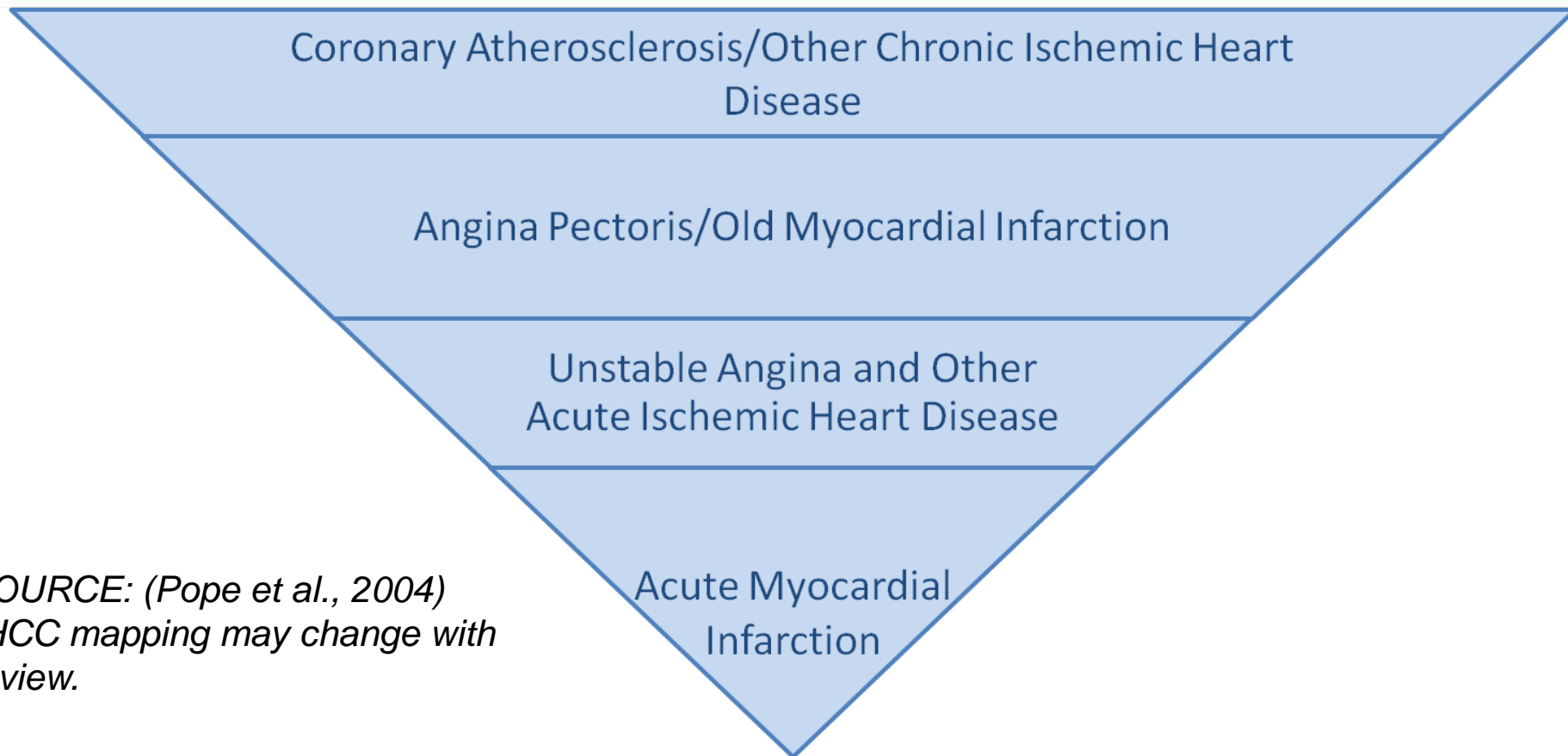
SOURCE: (Pope et al., 2004)

Hierarchical Condition Categories (cont'd)



SOURCE: (Pope et al., 2004)

HCCs: Coronary Artery Disease Hierarchy



*SOURCE: (Pope et al., 2004)
HCC mapping may change with review.

Concurrent Model

- HHS intends to use a concurrent model when operating risk adjustment.
 - A model that uses diagnoses in the current year to predict expenditures in the current year.
 - HHS will likely not be using Rx as a predictor in the initial model.

Variable Selection

- HHS will select a different set of HCCs for the Federal risk adjustment methodology than Medicare to reflect differences in population.
- HCCs may be excluded from the risk adjustment model if they are not empirically predictive of costs or their corresponding diagnoses are:
 - Vague/nonspecific (e.g., symptoms).
 - Discretionary in medical treatment or coding (e.g., osteoarthritis).
 - Not medically significant (e.g., muscle strain).

Risk Adjustment Occurs Across Metal Levels: Total Expenditure v. Plan Liability

- Risk adjustment occurs across metal levels. Plans in different metal levels will not only have different expenditures for the same condition, the range of the relative expenditures for low and high risk individuals will be farther apart in a bronze plan than in a platinum plan.
- There are multiple options to calibrate a risk adjustment model in light of differing metal levels.
 - Total expenditure: The risk adjustment weight is total expenditure and resulting risk score is multiplied by the plan AV.
 - A person would have the same risk score across metal levels
 - One model for all metal levels.
 - Plan liability: The risk adjustment weight is expenditures a plan would pay for each benefit tier.
 - A person's risk score would depend on their metal level.
 - Separate model for each metal level.

Total Expenditure v. Plan Liability (cont'd)

- HHS is considering the plan liability approach.
 - More accurately reflects plan liability for initial expenditures in light of differing deductibles.
 - More accurately reflects plan liability for people with higher versus lower expenditures across plan benefit tiers.
- HHS is also considering how to address costs for individuals with higher total expenditures.
 - Individuals with multiple conditions may produce different coefficients than predicted due to differences in plan liability.

Total Liability v. Plan Liability (Example)

- Assume a Bronze plan has a deductible of \$3,000, coinsurance of 20%, and out of pocket maximum of \$6,000.
- Assume a Platinum plan has a deductible of \$150, a coinsurance rate of 20% and a out of pocket maximum of \$1,500.

Total Expenditure v. Plan Liability (Example)

- Different plan designs will produce different liabilities for the same condition.

Condition	Total Expenditure	Bronze Plan Liability	Platinum Plan Liability
A	\$5,000	\$1,600	\$3,880
B	\$20,000	\$14,000	\$18,500

Additional Issues to be Addressed: Reinsurance

- Plans in the individual market that receive risk adjustment payments may also receive ACA transitional reinsurance payments for the same high risk enrollees. Adjusting for transitional reinsurance payments would address concerns that a plan could be compensated twice for the same high-risk individuals.
- HHS is inclined to propose not to adjust for transitional reinsurance payments given the temporary nature of the program.
- Adjusting would:
 - Reduce incentives for issuers to enroll high risk individuals.
 - Increase model complexity and may increase uncertainty.
 - Raise analytic issues to correctly calibrate a risk adjustment adjusted for reinsurance payments.
- Comments welcome.

Additional Issues to be Addressed: Cost Sharing Reductions

- Individuals who qualify for cost sharing reductions may have higher utilization patterns because cost sharing reductions lower the financial burden of medical care.
 - Adjusting for receipt of cost sharing reductions would adjust for differences in utilization among individuals in the individual market but not in SHOP exchange.
 - We are considering whether the HHS risk adjustment model should include receipt of cost sharing reductions as a factor in the model to account for the utilization.

Next Steps

- Content enclosed in these slides reflect proposed thinking.
- Comments are requested.