Version 14.0 Pre-Release Announcement

(International Customers)

As the Johns Hopkins ACG® System continues to evolve to meet the ever-changing needs of population health, we're excited to announce the pending release of Version 14.0. This update ensures that your risk stratification and predictive modeling remain **accurate and aligned with the latest health care trends**.

- Key enhancements in Version 14.0 include:
  - **Model recalibration** (impacts U.S. customers and those who have not undergone local recalibration of models)
  - The addition of a new **Non-Negative Concurrent Risk** (regression-based) model
  - Changes for two ACGs to RUB and PNG assignments
  - New Drug Classes
  - Observation export **for easier analysis and reporting**
  - We have also reviewed and updated several of our markers, resulting in **new and updated categories** in several areas (e.g., Social Need Markers, High Caution Medication Marker Category, Major Procedure).

Please Note: Support for Versions Prior to Version 13.0

With the release of Version 14.0, support for Version 12.0 will be discontinued. We encourage any clients still using Version 12.0 to transition to Version 13.0 or higher for continued support and updates. The 2025T2 mapping file will be the last update to Version 12.0.

Capability Enhancements

Recalibration of Models

Model recalibration was conducted to ensure that output scores remain accurate and aligned with the most current data, maintaining both precision and reliability. This process involved updating model coefficients and weights based on new data, enhancing accuracy and performance.

Health care systems continuously evolve, with shifts in population demographics, disease prevalence, treatment approaches, health care costs, utilization patterns and data recording standards. These changes impact health data, making recalibration essential to prevent model accuracy from degrading over time.

Beyond updating existing parameters, recalibration provided an opportunity for a comprehensive review of all model variables, ensuring their continued relevance. Additionally, new modeling methods were tested and validated to further refine performance and adaptability.

The Probability Injury Hospitalization — one of five hospitalization prospective models in previous versions — has been removed from Version 14.0. There has been limited evidence of its application and a lack of significant use cases.

Non-Negative Concurrent Risk (Regression-based)

A Non-Negative Least Squares Regression was used to develop the concurrent risk model, ensuring that all risk scores remained positive. This approach produced validation results comparable to Ordinary Least Squares (OLS) but with key advantages: it eliminated negative risk scores and reduced the number of patients receiving a score of zero.

Traditional OLS can generate both positive and negative coefficients, meaning some predictor variables may indicate a reduction in the average cost. In cases where the sum of negative coefficients outweighed the positive ones, a patient's overall risk score could become negative. Historically, this issue was addressed by manually setting negative scores to zero.

By using Non-Negative Least Squares Regression, which requires all coefficients to be positive, the model ensures that risk estimation remains strictly additive and always produces scores of zero or higher — improving consistency and interpretability.

Changes to RUB and PNG Assignments

During the recalibration process, new concurrent ACG weights were provided. Our Center for Population Health Information Technology (CPHIT) team — part of the Johns Hopkins Bloomberg School of Public Health — consolidated new RUB assignments and compared them to current assignments. After consideration of downstream implications for PNG assignments, two ACGs were changed to have new RUB and PNG Assignments.

ACG Description	Old RUB	New RUB	Old PNG	New PNG
0800 Chronic Medical, Unstable	3 (moderate)	4 (high)	Multi-Morbidity, Low Complexity	Multi-Morbidity, Medium Complexity
2800 Acute Minor and Likely to Recur	3 (moderate)	2 (low)	Multi-Morbidity, Low Complexity	Low Need Child/Adult

New Drug Classes

We have added the following drug classes to our Rx class mapping:

- We have added '**SGLT Inhibitors**' for the conditions of Congestive Heart Failure and Diabetes. SGLT Inhibitors may treat Congestive Heart Failure and Diabetes.
- The drug class '**ARNi**'(angiotensin receptor/neprilysin inhibitor) was added for the condition Congestive Heart Failure.
- We created '**Miscellaneous Cardiovascular Agents**' drug class for the condition Congestive Heart Failure.
- Two new drug classes — '**GLP1 Agonist**' and '**DPP4 Inhibitors**' — were created for the condition Diabetes.
- The new drug classes '**Bisphosphonates**' and '**Miscellaneous Bone Resorption Inhibitors**' were created for the condition Osteoporosis.

New Social Need Markers

We have added six new Social Need Markers to the existing markers:

- **ECO_FoodIns** — Food insecurity
- **ECO_Utility** — Difficulty with utilities due to economic reasons
- **HCS_Transpt** — Transportation issues or insecurity
- **PHY_Env** — Quality of the environment
- **PHY_Homeless** — Absence of primary residence
- **SOC_Injury** — Bodily injuries resulting from non-specific source

New Observation Export

Version 14.0 adds a new **Observation Export feature**, which simplifies access to key outputs for analysis and reporting, making it easier to extract valuable insights. Users can now identify individual **observation stay episodes** with greater clarity.

The report includes essential details such as **patient information, observation stay start and end dates, total observation days, identification of transitions to inpatient care, and provider details**. This enhanced output streamlines data analysis, enabling more precise tracking and reporting of observation stays.

Frequently Asked Questions

Will there be any changes to the input files?

No. There will be no changes to any input file formatting.

How will the Patient ACG and Results output file and other output files change?

There will not be any changes to the Patient ACG and Results output file. The only change is the addition of a new output export for Observations Stays. This is an optional export.

How will the automated processes need to be updated?

Updates needed will depend on what kind of internal automated process has been established.

- For processes relating to creating/formatting input files, no changes would be needed.
- For processes relating to exporting the main Patient ACG and Results output, no changes should be needed as there are no new columns or deleted columns.
- If adding the new Observation Export to any automated processes where other output files are exported, changes will be required.
- If processes analyze content changes in the export files, some changes may be required to accommodate for new values added to existing output columns.

How much could the risk scores change? What is the impact of the recalibration?

The ACG System team conducted a simple analysis to examine shifts among risk levels for total cost, focusing on the top 2%, 5%, and 10% of the population, comparing results from Version 13.0 to Version 14.0. Overall, between 16.8% and 19.7% of patients in these high-risk groups moved to a lower-risk category. For example, if a list of the top 2% of highest total cost patients using the Version 13.0 model was created, 82.6% remained in this group in Version 14.0, while 17.4% moved to a different risk category.

This change is likely due to updates in the data used to recalibrate the models for Version 14. The new version incorporated a reference population with standardized costs, while Version 13.0 relied on data with non-standardized costs.

These updates underscore our commitment to providing **cutting-edge, actionable analytics** that drive better operational, financial and clinical outcomes — all through a **seamless upgrade with minimal effort on your part**. Get ready to unlock new insights and efficiencies with these enhancements. **Stay tuned for release details and more about how to make the most of the ACG System's powerful capabilities.**

Have a question? Please contact us at acginfo@jh.edu, submit a service ticket, or contact your account manager.