

Implementation of a Multi-Level, Systematic Review Process: Decreasing Complication Rates & Improving Patient Outcomes

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RELEVANCE & SIGNIFICANCE

- The Pay for Performance Program (P4P) in Maryland puts hospital inpatient revenue at risk or reward based on metrics to incentivize higher quality of care
 - Maryland Hospital Acquired Complications (MHAC)
 - Patient Safety Indicators (PSIs)
- In 2021, University of Maryland Medical Center (UMMC) saw poor performance in MHAC & PSI programs, financial penalty in Maryland programs, and a lack of engagement in complication review and mitigation
- MHAC & PSI Reduction work was identified as a Quality Assurance and Performance Improvement (QAPI) priority at UMMC
- Innovative and efficient strategies to address these conditions are vital to drive high patient quality of care.

PURPOSE

- Ensure accuracy of coding for the clinical picture
- Identify deviations from standard practice
- Identify quality of care and patient safety concerns
- Create and sustain a multi-disciplinary review process
- Determine how to prevent future patient complications

STRATEGY & IMPLEMENTATION

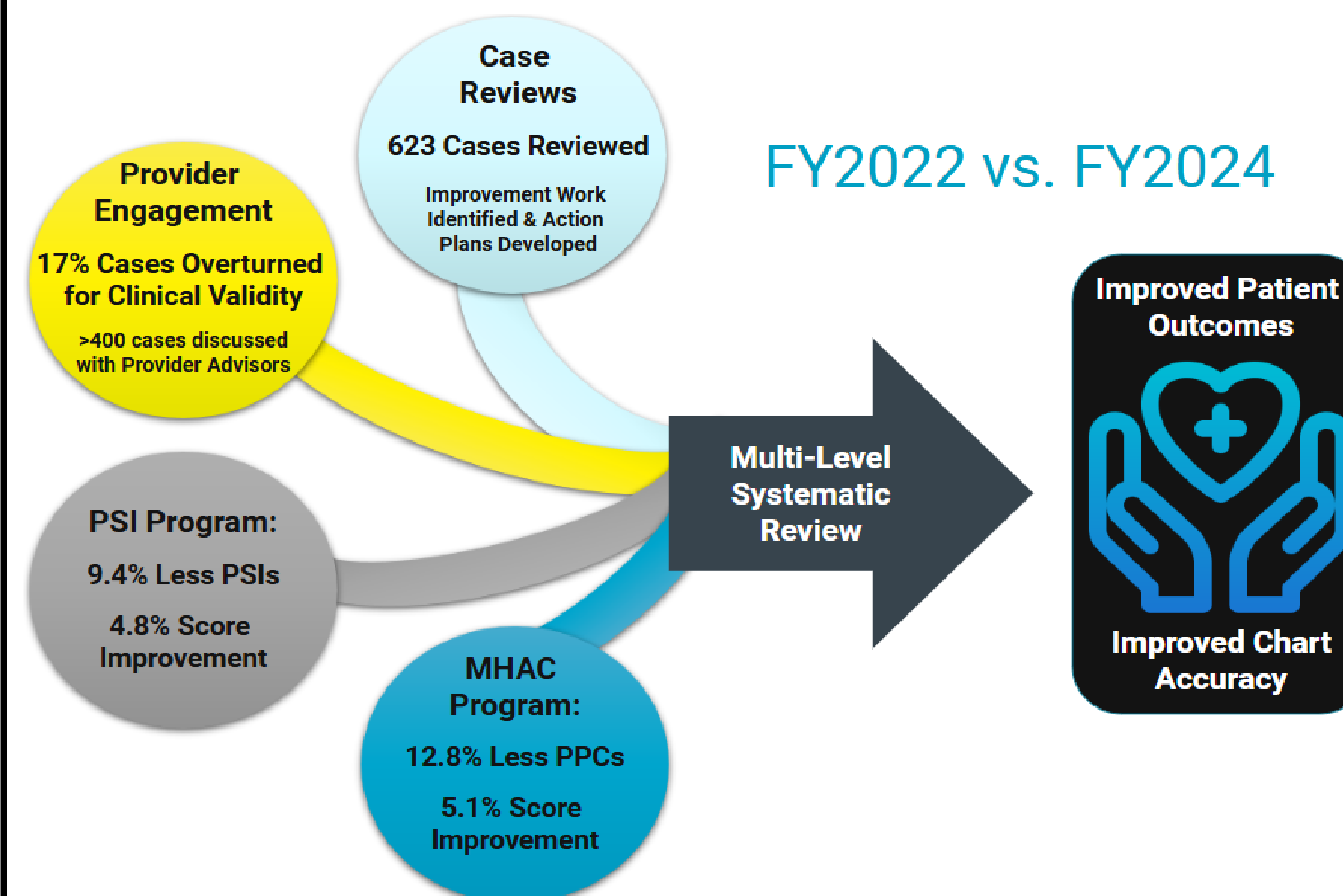
- Using the DMAIC Model, the review process was redesigned to ensure it was comprehensive, interdisciplinary, and efficient



- Included the development of a comprehensive database of case details & findings, contributing factors and safety concerns for use in action-planning
- Used an automated platform, to build all levels of the review into one central location, to include automations directly to physicians and stakeholders for analysis
- Cases are reviewed for coding and documentation accuracy, validity and deviations from standard practice
- Continued evaluation and improvement to promote efficiency and effectiveness

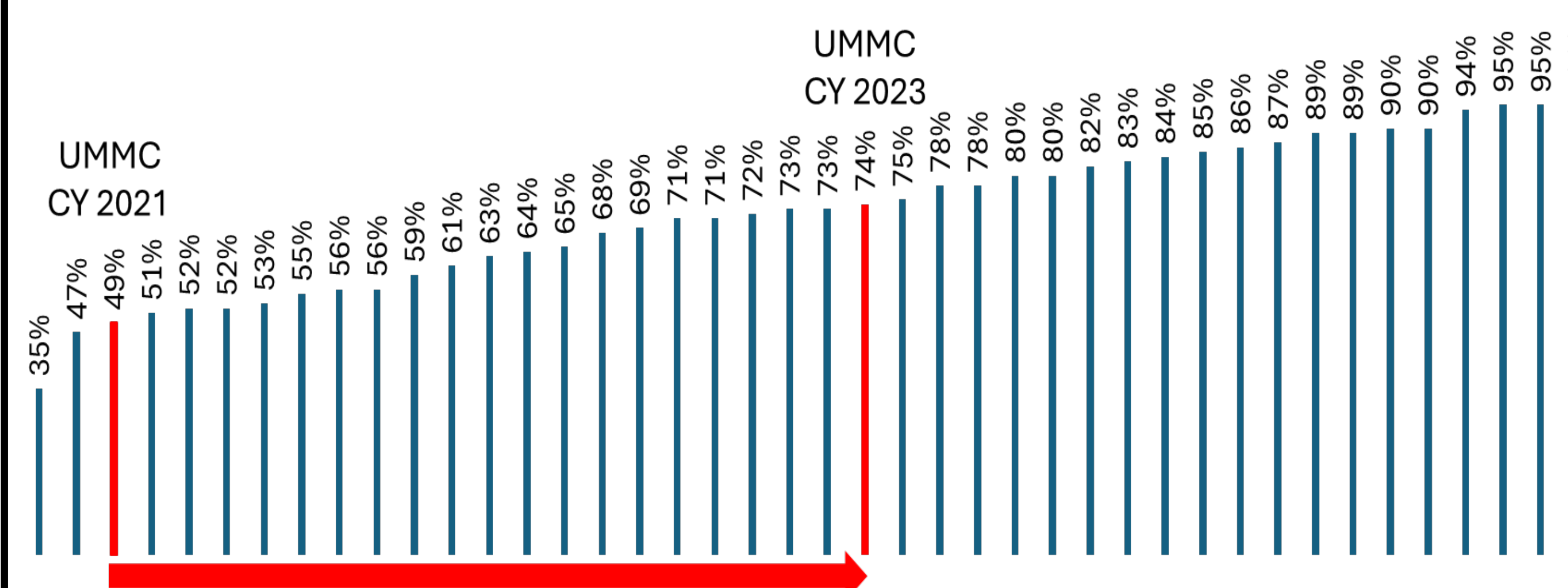
EVALUATION & OUTCOMES

- On a monthly basis, CDI Specialists review an average of 200 cases, with more than 40 cases going through the secondary, multi-disciplinary review.
- Since May 2022, 450 physician reviews have been submitted, with completion compliance averaging 80%.



- A positive, unintended outcome has been increased engagement across the hospital. Providers have become proactive in trying to understand, address and prevent hospital acquired conditions.

MARYLAND HOSPITAL MHAC SCORE COMPARISON



51% improvement in Calendar Year MHAC Score

IMPLICATIONS FOR PRACTICE

- Education of Providers, Nursing & Executives
- Improved transparency in case volume and validity
- Improved providing understanding of complications, impact of clinical documentation, need for accurate query response and overall engagement
- Earlier identification of trends in declining performance
- Easier extraction of data points to drive QI work
- More efficiency in ability to stand up data-driven, rapid improvement work to address areas of opportunity

NEXT STEPS

- Agility in adapting to changes in P4P model
- Development of TASQ (Team Approach to Quality & Safety) Workgroups for rapid improvement work
- Addressing discrepancies in lexicon between coding and clinical language

REFERENCES

- Martin-Delgado, J., Martinez-Garcia, A., Aranz, J. M., Valencia-Martin, J. L., & Mira, J. J. (2020) How Much of Root Cause Analysis Translates into Improved Patient Safety: A Systematic Review. *Medical Principles and Practice*, 29(6), 524-531. <https://doi.org/10.1159/000508677>
- Singh, G., Patel, R. H., & Boster, J. (2023). Root Cause Analysis and Medical Error Prevention. *StatPearls* [Internet]. Treasure Island (FL): StatPearls Publishing; 2024 Jan-. PMID: 34033400. Retrieved from [Root Cause Analysis and Medical Error Prevention - PubMed \(nih.gov\)](https://pubmed.ncbi.nlm.nih.gov/400508677/) (2/16/2024).
- Charles, R., Hood, B., Derosier, J. M., Gosbee, J.W., Li, Y., Caird, M. S., Biermann, J., & Hake, M. E. (2016). How to perform a root cause analysis for workup and future prevention of medical errors: a review. *Patient Safety in Surgery*, 10(20). Retrieved from <https://doi.org/10.1186/s13037-016-0107-8>.
- Maryland Health Services Cost Review Commission (2021). Maryland hospital acquitted conditions (MHAC) program final recommendations for rate year 2024. Retrieved from <https://hscrc.maryland.gov/> (2/16/2024).
- Center for Performance Sciences (2004). Designing a pay for performance methodology for Maryland hospitals. Maryland Hospital Association. Retrieved from <https://hscrc.maryland.gov/> (2/16/2024).
- Agency for Healthcare Research and Quality (2023). Patient Safety Indicator 90 (PSI 90): Patient Safety and Adverse Events Composite. US Department of Health and Human Services. Retrieved from https://qualityindicators.ahrq.gov/Modules/PSI_TechSpec_ICD10_v2023.aspx (2/16/2024).
- Chassin, M. R. (2018). Zero harm: An achievable goal. *Healthcare Executive*, 33(2), 70-73. Retrieved from [jcrinc.com](https://www.jcrinc.com/) (2/16/2024).
- University of Maryland Medical Center. (2023). Facts. UMMC. Retrieved from [ummc-factsheet-2023.pdf \(umms.org\)](https://www.ummc.org/factsheet-2023.pdf) (2/16/2024).

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