PRAPARE

Protocol for Responding to and Assessing Patients' Assets, Risks, and Experiences

Incorporating Social Determinants of Health Data into Risk Stratification Models to Address Health Inequities:

The PRAPARE Risk Stratification Model

Fact Sheet Contributors & Reviewers: The National PRAPARE Team at NACHC and AAPCHO, Samantha Haraguchi, Todd Gilmer

INTRODUCTION

Recently, organizations across the country have begun to employ various risk stratification methods in order to target complex patients that could benefit from resource intensive services that may not be widely available across a given setting. However, recent research has shown that current risk stratification models are significantly flawed, primarily because they rely on clinical and utilization data to predict patient risk. But research has shown that clinical, claims, and utilization data only account for 10% of patient health outcomes. Thus, the major issue with these current models is that they fail to take into account the numerous variables that contribute to patient health. Most glaringly, these models fail to incorporate social determinants of health, which have repeatedly been shown to drastically impact both patient health and the cost of health care.

In order to address the need for a risk stratification method that incorporates SDOH data, AAPCHO, NACHC, OPCA and stakeholders collaborated to develop a risk stratification model that incorporates PRAPARE, a nationally-recognized and standardized patient risk assessment protocol built into the EHR that is designed to engage patients in assessing and addressing their social determinants of health. This model incorporates clinical, mental health/substance abuse, SDOH, demographic, and utilization data to generate a comprehensive patient risk score that can be used on a patient, health center, and community/state/national policy level. The PRAPARE team also developed a local model to be used in conjunction with the national PRAPARE model. The local model would allow health centers to vary the threshold scores for the "high risk" patient group based on interventions available in the health care setting and resources available in the community. Overall, the local model would enable health centers to modify the PRAPARE risk stratification model to make it most effective for the communities they serve.

DEVELOPMENT OF THE PRAPARE RISK STRATIFICATION MODEL

To develop the PRAPARE Risk Stratification model, the PRAPARE team hosted a PRAPARE Risk Stratification Learning Collaborative (LC). The LC included nine community health center stakeholders, with representatives from eight states, who had been using PRAPARE data as part of their existing risk stratification method. The goal of the LC was to highlight the voice of the community within the design to ensure it is applicable for those who best understand the needs of underserved patients. Before creating our model, we worked with our LC participants to discern important foundational principles to be upheld in the creation of the RS model and principles to guide the implementation of the model into clinic use. These principles are outlined in Table 1.

Table 1: Stakeholder-Vetted Foundational and Implementation Principles of the PRAPARE Risk Stratification Model
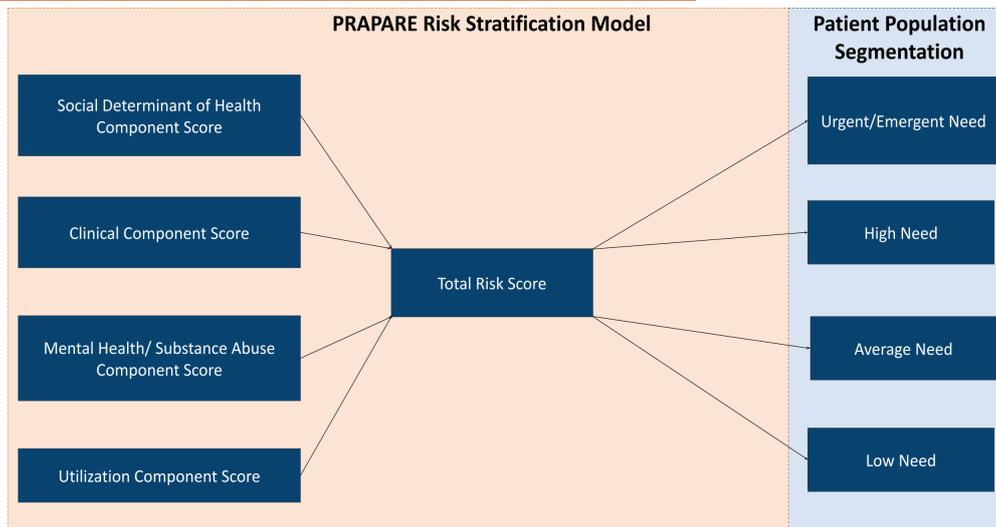
Foundational Principles

- Model should be automated and require minimal work for the clinic
- Model should incorporate multiple data sources into risk score calculation (SDOH, behavioral, clinical, utilization data)
- Data sources should be reliable and standardized (e.g., UDS and ICD 10 codes) across all health organizations to allow for national standardization and comparison
- Model should use metrics that accurately predict patient risk, rather than metrics that are easier to obtain
- Metrics should apply to all patients regardless of race, gender, sexuality, etc. to prevent algorithmic bias
- Model must be built with clinician and care team input
- Model must allow for clinician modification of patient risk levels based on available resources and staff
- Model must be flexible and allow for modification over time based on clinic and community resources

Implementation Principles

- Model should be used to inform, but not replace clinical judgment
- Clinics should use hybrid approach, integrating risk stratification score with clinical judgment
- Clinics must continuously evaluate risk model to ensure effectiveness with a goal of preventing future risk outcomes
- Model should be integrated into an easy-to-use workflow
- Model should feature a low-tech implementation option for clinics with less capacity
- Model should use a point system where lower scores represent lower risk
  - Each data component should receive a standard score
- Clinics should be able to view both the overall risk score and each component's score to better understand patient needs
- Model should use standard deviations to define risk tiers to account for risk scores relative to all other patients in the population

Figure 1: Components of the PRAPARE Risk Stratification Model

PRAPARE Risk Stratification Model

Patient Population Segmentation

- Social Determinant of Health Component Score
- Clinical Component Score
- Mental Health/ Substance Abuse Component Score
- Utilization Component Score

Total Risk Score

- Urgent/Emergent Need
- High Need
- Average Need
- Low Need

Use Cases and Benefits:

With national standardization of a risk algorithm across clinics and stratification based on population characteristics, the national model can be used for benchmarking and standardization of patient risk across all participating health centers. In addition, the national model could serve as guidance for health organizations to begin implementation of risk stratification to improve care management for their complex patients. Using local model guidance, each health organization has the option to customize the national algorithm to more accurately reflect the resources available in their health center setting or community. Benefits of using the PRAPARE Risk Stratification Model are further detailed in Table 2 below.

Table 2: Stakeholder Perspectives of the Benefits of Using the PRAPARE Risk Stratification Model

Benefits of Using the National PRAPARE Risk Stratification Model

Improvement of Care Management and Interventions

- Prioritize and address care management needs that can ensure high-quality and timely care for patients in different risk tiers
- Better design interventions offered based on level of patient risk
- Accurately assign limited staff/resources for the highest risk patients
- Inform effective use of health care resources based on interventions for specific risk tiers

Standardization and Systematic Approach

- Use of a universal framework with national aggregated data that will allow effective knowledge sharing & communication
- Encourages use of uniform metrics and common methods/source of collecting the data
- Utilizes a standard algorithm to compare across health organizations nationally
- Uses a systematic approach to gather necessary data to increase confidence in interventions by key stakeholders

Demonstration of Patient Complexity

- Illustrates the complexity of patients' biopsychosocial conditions
- Provides a systematic way to identify patients who need extra attention from the care team
- Integrates comprehensive data to explore intervention target needs for the most complex patients

Information of Value-based Care and Cost Savings

- Prepare health centers nationally for value-based payments
- Decrease total cost of care and improve outcomes for patients by focusing efforts on highest utilizers
- Develop low-touch interventions to meet the needs of those patients identified as low-risk tier patients
- Advance value-based care through cross-sector collaboration to improve health outcomes

Qualification for PCMH and Quality Incentives

- Facilitates health organizations' qualification for patient-centered medical home and quality award incentives

Information of Payment and Policy

- Opportunity to work with Medicaid regarding most successful strategies to reduce health care costs and improve health
- Inform risk adjustment of social factors that will be key to payment and delivery reform
- Inform the development of more effective and improved care team and care coordination models for payment sustainability
- Provide standardized data for payors to inform risk and resource allocation to support care coordination at the health organization level

Next Steps & Future Plans:

With the stakeholder-vetted national risk stratification model, we plan to collaborate within a larger multi-state collaborative to develop a PRAPARE national analysis strategy that will enable us to better understand SDOH national data trends and evaluate the validity, clinical utility, and impact of the SDOH risk stratification to inform chronic disease risk assessment and detection, treatment and decision-making, as well as outcomes resulting in better management of complex patients. We will also continue to collaborate with stakeholders to develop protocols and resources with further detail to help guide health organizations nationally.

Overall, the study will inform the development of national standardized electronic reporting of SDOH and identify optimal risk prediction models that can be used for engaging in organizational, statewide, and national transformation efforts to provide higher quality care to complex patients. Through this effort, we also seek to build capacity for health organizations and states nationally to effectively report and use standardized SDOH and social intervention data to identify the most impactful SDOH risk factors for use in their delivery system transformation efforts in their communities, regions, states, and beyond.