Accessing multiple tools for a single patient encounter is time consuming, impacts productivity, and compliance with evidence-based recommendations. The purpose of this project was to develop and evaluate a web-based interface for pre-operative tools in a pre-anesthesia setting to improve implementation of evidence-based care and compliance with evidence-based recommendations.

**Background**
- Clinicians utilize a variety of tools to stratify risk, classify disease severity, and individualize care.
- A web-based interface may decrease practice variability, improve documentation, and support collection of quality metrics.
- Point of care support impacts efficiency, productivity, and compliance with evidence-based recommendations.

**Purpose**
The purpose of this project was to develop and evaluate a web-based interface for perioperative tools in a pre-anesthesia setting.

**Method**
- **Design:** User Centered Design
- **Setting:** Pre-Anesthesia Department in a 900 bed Tertiary Hospital
- **Selection of clinical tools:** Literature review identified evidence-based perioperative clinical tools.
- **Data collection:**
  - Download of daily metrics
  - Observation of end users
  - Informal face-to-face interviews

**Results**
**Analysis:** Web-page views compared to ASA III-IV patient volume for the first month of go-live.

**Quantitative results:**
- PACE interface accessed 509 times in the first month.
- Six tools accessed a total of 85 times. STOP-bang the most frequently accessed tool.

**Qualitative feedback:**
- End-users report website was easily accessible and useful.
- The centralized location for clinical tools and guidelines reported to be most beneficial.

**Logic Model for a Web-based Perioperative Information System**

**Inputs**
- Departmental Information
- PACE staff, NPs, RNs, MAs
- IT/Web design staff
- PACE medical director
- Clinical tools and guidelines

**Outputs**
- Departmental needs assessment
- Service director recommendations
- IF input for web design
- IF/web support and design of website
- Clinical needs assessment
- PACE medical director feedback
- Identify clinical tools/guidelines
- Evaluate EB tools and guidelines

**Participation**
- Direct observation of PACE process
- End user feedback and recommendations
- PACE web site developed
- Select clinical tools/guidelines
- Evaluate EB tools and guidelines

**Outcomes**
- Identify/select resources
- Ease of access to clinical resources
- Utilization for patient assessment
- Concise clinical documentation
- Improved quality care and outcomes

**External Factors**
- Staff access to a variety clinical tools can impact efficiency
- Increase need for concise clinical documentation of disease severity

**Assumptions**
- Daily patient volume and patient acuity
- Time allotted to complete all components of NSQIP
- Staff departmental schedules and availability

**Embedded clinical tools:**
- NSQIP calculator
- STOP-Bang questionnaire
- CHADS2-VASC calculator
- GFR calculator
- MELD score calculator

**Additional website content:**
- Frequently used algorithms
- Department practice guidelines
- Applicable institutional guidelines
- Department directory and virtual tour
- Patient education material (video, print)
- Staff corner (in-services, call schedule)
- Links to affiliated departments

**Monthly metrics and user feedback will guide future iterations of the website**

**Application**
- A centralized platform provides point of care access to tools, supports EBP compliance, and ensures less variability in documentation.
- Clinical tool utilization identifies gaps in end-user knowledge to guide QI related to appropriate use of tools.
- Replication of this project in other clinical areas is warranted.

**Lessons Learned**
- Gaining buy-in from end-users and sustaining utilization is challenging and requires ongoing promotion.
- Assumptions regarding provider knowledge of EBP may be inaccurate.
- Partnership with IT is essential to implement process improvements to address efficiency and quality care.