[Applicant's Name, Role] ISP Application mm/dd/yyyy

Project Lead/Key Contact

- *John Hipps*
- *hippsj@ad.unc.edu*
- 608-628-3958

Why are you interested in the Improvement Scholars Program?

From Concept Proposal

Problem Statement: What is the problem you are looking to solve?

From Concept Proposal

Importance Statement: Why is this project important?

From Concept Proposal

Project Scope

In Scope

Specific Patient Population

Active pediatric oncology and bone marrow transplant (BMT) patients receiving chemotherapy or transplant-related therapy in the outpatient setting, including:

- Patients aged 2–18 years: proxy-SSPedi completed by parent/caregiver (ages 2–18); self-report SSPedi completed by patient (ages 8–18).
- Patients older than 18 years are actively treated on pediatric oncology or BMT protocols and managed within our program. This depends upon specific diseases or on patients' resources/maturity. We will use the same survey in this population, though older than the validated patient population.
- English-speaking patients and families (pilot phase only).

How Many Patients Are in the Population?

The active outpatient pediatric oncology and BMT population is estimated to be 256 patients. Depending upon their chemotherapy protocol they could be seen weekly or on a monthly basis.

- Anticipated eligible visit volume based on:
  Average weekly outpatient clinic visits
  Number of patients actively receiving chemotherapy

Setting(s)

- Outpatient clinic: SSPedi completed at scheduled clinic visits; in-person onboarding conducted by designated staff at treatment initiation.
- Home / remote: Families complete SSPedi remotely via Epic MyChart on a defined schedule between clinic visits, enabling ongoing symptom monitoring outside direct clinical encounters.

Out of Scope

- Inpatient and hospital-admitted patients (distinct workflows and staffing; future phase).
- Emergency Department visits
- Patients not enrolled in MyChart (unless workflow adaptation is developed later)

- Patients on surveillance or off active therapy (different symptom profile and monitoring cadence).
- Patients receiving palliative or end-of-life care (distinct goals of care requiring tailored implementation).
- Non-oncology pediatric patients (SSPedi validated for oncology/BMT populations only).
- Non-English speaking families (language validation and translation resources to be assessed; planned for Phase 2).
- Full development of care pathways across all 15 SSPedi symptom domains (initial high-priority pathways in Phase 1; comprehensive development in Phase 2).
- Research, publication, or formal outcomes analysis (QI initiative only; separate IRB review required for future research use).

Measures: (Process, Balancing, Structure)

Please describe the anticipated outcome measure(s), 2-3 process measures, and one balancing measure. Please do not include more than 5 measures total.

Measure Name	Measure Type	Measure Calculation	Measure Exclusion	Data Source	Baseline	Goal	Collection Frequency
SSPedi onboarding rate	Process	# patients successfully onboarded to SSPedi via MyChart ÷ # eligible patients initiating treatment	Patients who declined participation; non-English speaking families (Phase 1)	Epic enrollment report	0% (no current program)	≥80%	Monthly
SSPedi questionnaire completion rate	Process	# SSPedi questionnaires completed ÷ # scheduled questionnaires × 100	Questionnaires cancelled due to patient hospitalization or end of treatment	Epic questionnaire completion report	0% (no current program)	≥70%	Monthly
Staff satisfaction and workflow burden	Balancing	Mean score on structured Likert survey (1–5) assessing perceived workflow impact, role clarity, and satisfaction with SSPedi system	Staff with <1 month exposure to SSPedi workflow	Staff survey administered at pilot midpoint and end	TBD — pre-implementation survey	No significant increase in burden; improved role clarity vs. baseline	Twice (midpoint and end of pilot)
Unplanned ED visits, acute care visits to clinic and hospital admissions	Outcome	Number of unplanned ED visits and inpatient admissions per patient per month among pilot cohort	Planned admissions; palliative/EOL patients	Epic visit and billing data	TBD at project initiation (12-month lookback)	Reduction vs. pre-implementation baseline	Monthly

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Root Cause Analysis

- *What do you think are the underlying causes of the problem?*
- *Why do you think the problem is happening?*

Underlying Causes of the Problem

- No standardized PRO tool in use. There is currently no validated, systematic mechanism for capturing patient-reported symptoms in our outpatient oncology clinic. Symptom assessment is entirely clinician-directed and occurs only at the point of a clinic encounter, with no structured capture between visits.
- Unclear role responsibility for symptom follow-up. Our clinic operates with a distributed care team of nurses (care partners), APPs, and physicians across multiple disease groups. When patients or families report concerns, it is not consistently defined who is responsible for reviewing that information, contacting the family, and escalating care — creating gaps in response and variability in patient experience.
- Time constraints in clinic visits. Outpatient oncology appointments are high-acuity and time-pressured. Clinicians must prioritize treatment decisions, toxicity review, and urgent concerns, leaving limited time for comprehensive symptom inquiry. Symptoms that patients might report on a structured PRO tool are frequently not surfaced in a brief clinical encounter.
- No care pathways to guide symptom response. Even when symptoms are identified, there are no standardized, evidence-based care pathways that direct families or clinicians on how to manage specific symptoms. The response to reported distress is therefore variable and provider-dependent, limiting consistency and equity of supportive care.
- EHR documentation burden. Current Epic workflows are not configured to facilitate routine PRO collection or to surface symptom data to the care team in a usable, actionable format. Absent an integrated solution, adding PRO screening would increase rather than streamline clinical documentation burden.
- Symptom data are not consistently documented in a structured, visible format within the electronic health record. When symptoms are recorded in free-text notes, they are difficult for the broader care team to identify, track over time, or act upon in a systematic way. This limits team-based responses and longitudinal monitoring.
- There is limited integration of quality improvement principles into routine clinical operations within the division. While clinical research is well established, improvement work has historically been ad hoc, with limited shared methodology, measurement strategies, or accountability structures to support consistent practice change

Why the Problem Is Happening

The root causes above reflect a system-level gap rather than individual failure. PRO-based symptom screening has not been embedded into our clinical infrastructure, care team roles have not been designed around a systematic symptom response workflow, and the EHR has not been configured to support this function. The result is a care delivery system that identifies symptoms reactively and inconsistently, rather than proactively and at scale. The evidence base and technology to address this gap now exist; what is required is deliberate implementation with the support of QI methodology.

Ideas for Improvement

- *What ideas do you have for changes that will result in improvement?*

Ideas for Improvement

1. Standardize Symptom Identification

- Implement routine patient-reported symptom screening using the SSPedi tool for eligible pediatric oncology clinic visits.
- Embed SSPedi as a structured Epic questionnaire linked to oncology encounters to ensure consistent use across providers.
- Define standardized timing for completion (e.g., pre-visit via MyChart or upon clinic arrival).

2. Improve Symptom Visibility and Communication

- Configure Epic views (e.g., Storyboard, flowsheets) to display SSPedi results prominently for the care team.
- Highlight moderate to severe symptoms to support rapid clinical prioritization.
- Encourage use of SmartPhrases or structured documentation to reference SSPedi results in clinical notes.

3. Ensure Reliable Clinical Response

- Develop standardized symptom-based care pathways (e.g., pain, nausea, fatigue) linked to SSPedi severity thresholds.
- Establish clear expectations for clinical acknowledgment and documentation of SSPedi-identified symptoms.
- Pilot decision support tools (e.g., Best Practice Advisories or in-basket routing) to prompt timely response when severe symptoms are reported.

4. Integrate into Clinic Workflow

- Incorporate SSPedi review into nursing intake and provider pre-visit planning.
- Clarify team roles (e.g., nursing review, provider intervention, psychosocial referral).
- Align SSPedi completion with existing clinic check-in processes to minimize burden.

5. Support Patients and Families

- Provide brief education to families explaining the purpose of SSPedi and how responses are used in care.
- Develop a structured onboarding workflow for new families:
    - Staff-guided first SSPedi completion during clinic visit tobuild familiarity and confidence with the tool before independent remote completion begins
    - Standardized onboarding script
    - Brief written or visual instructions
- Add SSPedi onboarding to clinic intake checklist
- Assign clear responsibility for onboarding (e.g., RN, MA, coordinator)
- Engage a patient and family advisor. Involve a parent or former patient in reviewing onboarding materials, care pathway language, and the MyChart user experience to ensure the intervention is accessible and acceptable from the patient and family perspective.
- Adjust screening frequency based on patient acuity and visit type to reduce survey fatigue.

6. Build Measurement and Feedback Loops

- Create Epic reports or dashboards to track SSPedi completion, symptom severity, and response rates.
- Share performance data with the care team to reinforce engagement and identify improvement opportunities.
- Use data to iteratively refine workflows and care pathways through PDSA cycles.

7. Strengthen QI Culture and Sustainability

- Use this project as a foundational QI initiative within the Pediatric Oncology Division.
- Engage multidisciplinary stakeholders (providers, nursing, pharmacy, psychosocial services, informatics).
- Use PDSA cycles for iterative refinement. Structure the pilot as a series of Plan-Do-Study-Act cycles, beginning with a small test of change (e.g., a single disease group or limited enrollment window) and expanding based on real-world learning. This approach allows rapid identification and correction of workflow problems before full-scale rollout.
- Leverage mentorship from the UNC Improvement Scholars Program to build local QI expertise.
- Develop a plan for spread to additional clinics or symptom domains over time.

Risks and Opportunities

- *What factors do you anticipate will foster improvement?*
- *What are the major challenges you anticipate?*

Factors That Will Foster Improvement (Opportunities)

- Strong evidence base. Two randomized controlled trials and a published Epic integration framework provide a clear blueprint for implementation, reducing uncertainty and strengthening the case for institutional investment.
- Existing Epic infrastructure. Our institution already uses Epic, and the 2026 Yan et al. publication provides a validated technical roadmap for SSPedi integration within this system.
- Alignment with institutional priorities. Systematic PRO collection, patient experience improvement, and reduction of unplanned utilization are consistent with UNC Health and IHQI strategic priorities.
- Phased rollout design. Starting with a defined pilot limits initial complexity, allows learning before scale, and protects staff and families from implementation burden during early testing.
- The multidisciplinary nature of pediatric oncology care presents an opportunity to embed symptom management across roles. Nursing, providers, pharmacy, and psychosocial services can each contribute to symptom response pathways, supporting team-based care and shared accountability

Major Challenges and Risks

- Family onboarding burden. Achieving consistent onboarding for every new patient requires dedicated staff time at a high-acuity point in the care pathway. Competing clinical demands may make this difficult to sustain without explicit staffing support.
- Limited clinical staffing. We are currently working with smaller staffing than the adult oncology program that addressed a similar concern.
- Alert fatigue and inbox management. Routing SSPedi results to provider inboxes risks creating notification overload if thresholds and routing rules are not carefully calibrated, potentially undermining response adherence.

- Care team role clarity and buy-in. Defining and gaining agreement on the symptom response responsibility matrix across nursing, APP, and physician groups will require deliberate engagement and may surface existing tensions around role boundaries.
- Epic build complexity and IT resourcing. Configuring SSPedi within Epic requires dedicated analyst time that competes with other institutional IT priorities. Delays in build completion directly delay pilot launch.
- Sustaining completion rates over time. Initial onboarding enthusiasm may wane as treatment progresses. Ongoing family engagement strategies will be needed to maintain completion rates beyond the first few weeks.

Risk Mitigation Strategies

- Pilot SSPedi in a limited clinic setting before broader rollout
- Engage frontline staff early in workflow design
- Develop and test symptom response pathways concurrently with screening
- Monitor balancing measures closely and adjust frequency or processes as needed
- Use mentorship and QI coaching to support sustained engagement

Stakeholders and Project Team Members

- *Who are the key stakeholders in your system and processes?*
- *Who are the key project team leaders to design and implement change?*

Name	Role
Stephanie Duncan and Laura Kelsey	*Sponsor(s)*
John Hipps MD	*Team Lead*
Kate Westmoreland MD – PRO expertise Mike Kappelman MD – PRO expertise Ethan Basch MD, William Wood MD and Linnea Van Pelt RN – PRO experts adult oncology Kristy Miller – Epic Support	*Subject Matter Expert*
Nurse coordinator – Brittany Cicala RN and Brooke Simpkin RN	
Nurse practitioner – Jodi O'Connor APP	
Andrew Smitherman MD and Stephanie Risgaard RN	Clinic Leads

Impact on the Quintuple Aim

- *Improved health*
- *Enhanced patient experience*
- *Enhanced clinician and staff experience*
- *Health equity*
- *Reduced costs*

Improved Health

Systematic PRO-based symptom screening using SSPedi is expected to reduce total symptom burden among active pediatric oncology and BMT patients. By detecting symptoms earlier and enabling timely clinical response,

this initiative aims to decrease unplanned emergency department visits and hospital admissions — two markers of undertreated symptom burden — and to improve overall physical wellbeing during cancer treatment.

Enhanced Patient Experience

Patients and families will have a structured, validated mechanism to communicate their symptom experience to the care team between clinic visits, reducing the burden of trying to convey distress within time-limited appointments. This may also increase patient self-advocacy and health education in the adolescent and young adult patients. Standardized care pathways will ensure families receive consistent, actionable guidance when symptoms are reported, improving their confidence in the care they receive and reducing anxiety associated with uncertainty about when and how to seek help.

Enhanced Clinician and Staff Experience

A clearly defined role-responsibility matrix will reduce the ambiguity and informal negotiation that currently surrounds symptom follow-up in our distributed care team. Clinicians will have structured, real-time access to patient-reported symptom data within Epic, enabling more efficient and proactive clinical decision-making. Staff satisfaction will be monitored as a balancing measure throughout the pilot to ensure workflow changes do not increase burden. Framing any workflow breakdowns within a Just Culture framework will support a blame-free environment for identifying and addressing system gaps.

Health Equity

This initiative addresses equity on two dimensions. First, by standardizing symptom screening and clinical response across all eligible patients regardless of which provider they see on a given day, we reduce the variability in supportive care that currently exists based on individual clinician practice. Second, we explicitly acknowledge that limiting the pilot to English-speaking families creates an equity gap for our non-English speaking patients — a gap we are committed to closing. Phase 2 will prioritize assessment of SSPedi language validation, translation of onboarding materials, and inclusion of non-English speaking families to ensure that the benefits of systematic symptom screening are equitably distributed across our entire patient population.

Reduced Costs

Unplanned emergency department visits and hospital admissions represent significant costs to patients, families, and the health system. By improving early symptom detection and enabling timely outpatient intervention, this initiative has the potential to reduce preventable high-acuity utilization. Standardized care pathways will also promote appropriate use of clinic and triage resources, directing families to the right level of care at the right time rather than defaulting to the ED for manageable symptoms.

Sustainment Plan

- *What ideas do you have for sustaining the improvement?*
- *How do you see the work you start with IHQI's support continuing?*

- Epic integration as infrastructure. By embedding SSPedi directly within Epic's MyChart and clinical inbox systems, symptom screening becomes part of the standard clinical workflow rather than a separate, add-on process. This structural integration is the most durable sustainment mechanism available.
- Onboarding protocol as standard of care. Formalizing the family onboarding process within our new patient intake workflow ensures that every eligible patient receives onboarding as a routine part of treatment initiation, not as a project-specific activity.
- Role-responsibility matrix embedded in orientation. Incorporating the symptom response workflow into nursing, APP, and physician onboarding and orientation materials ensures continuity through staff turnover.

- Care pathways housed in Epic. Symptom-specific care pathways will be accessible to both patients (via MyChart) and clinicians (via Epic order sets or smart phrases), ensuring they remain in active use beyond the pilot period.
- Ongoing measurement and visual management. Monthly review of completion rates, response adherence, and symptom burden trends — displayed on a visual management board in the clinic — will maintain team focus and enable early identification of performance degradation.

Continuation Beyond IHQI Support

We envision the Improvement Scholars Program engagement as the foundation for a phased, multi-year program of improvement in pediatric oncology supportive care. Phase 1, supported by IHQI, will establish the infrastructure, workflow, and measurement system for SSPedi implementation. Phase 2 will expand to the full patient population, including non-English speaking families, and complete development of care pathways across all 15 SSPedi symptom domains. Phase 3 will leverage the symptom data collected to evaluate outcomes, identify persistent gaps, and develop disease-specific supportive care protocols. The QI skills, relationships, and institutional credibility built during the Improvement Scholars Program will be essential to sustaining this trajectory.

Ultimately, the goal is to transition this work from an IHQI-supported project to a core component of divisional operations, with quality improvement embedded into clinical culture and supported by internal leadership, data infrastructure, and continuous learning.

Carolina Quality Tools

How will Carolina Quality tools (Just Culture, SAFE reporting, TeamSTEPPS, huddles, and visual management boards) be used to support the work? Although use of these tools is not required, applications including them will be strengthened.

The following UNC Carolina Quality tools will be used to support this initiative:

- **Huddles.** Huddles. Regular brief team huddles will be used during the pilot phase to review SSPedi completion rate data, discuss workflow barriers, and coordinate symptom response responsibilities across nursing, APP, and physician team members. Huddles will be structured around the visual management board data (see below) and held on a cadence to be determined during pre-launch planning.

- **Visual Management Boards.** Visual Management Boards. A visual management board will be maintained in the clinic to display key process and outcome measures in real time, including SSPedi completion rates, response workflow adherence, and unplanned ED/acute care visit trends. Making performance data visible to the entire care team reinforces accountability, enables rapid identification of declining metrics, and supports a culture of continuous improvement.

- **Just Culture.** Just Culture. The symptom response workflow will be designed and monitored through a Just Culture lens. When elevated SSPedi scores are not followed up within the defined timeframe, the team will investigate using a systems-thinking approach to identify whether the failure reflects a process gap, a training gap, or an environmental barrier — rather than attributing it to individual error.

This framing will be explicit in team communications and will support psychological safety for staff to raise workflow concerns.

- **TeamSTEPPS.** TeamSTEPPS. Structured TeamSTEPPS communication principles will be applied to the symptom escalation pathway. Specifically, SBAR (Situation-Background-Assessment-Recommendation) format will be used when care team members communicate about patients with high SSPedi scores, ensuring that critical symptom information is transferred clearly and completely across role boundaries and care transitions.

- **SAFE Reporting.** SAFE Reporting. Staff will be encouraged to submit SAFE reports when workflow breakdowns related to SSPedi implementation are identified — for example, if an elevated symptom score is not routed to the correct provider, or if a family cannot complete SSPedi due to a technical barrier that is not resolved. SAFE reporting data will be reviewed at team huddles and used to drive iterative workflow improvement during the pilot phase.

References

- Sponsor letters – acknowledgement of support for this project

1. Yan AP, Saso E, Shannon J, Laird H, Ramdeo A, Deliva R, Baron S, Cardiff B, Rosenfield D, Graham A, Ramnani M, Syed Z, Connolly D, Starr A, Patel P, Dupuis LL, Sung L. Integrating Symptom Screening in Pediatrics Into the Epic Electronic Health Record: Development and Acceptability for Pediatric Cancer Patients. *JCO Clin Cancer Inform.* 2026 Feb;10:e2500257. doi: 10.1200/CCI-25-00257. PMID: 41678774.

2. Sung L, et al. Symptom Screening in Pediatrics Tool (SSPedi): development and validation. *Br J Cancer.* 2014;111(6):1120–1127.

3. Sung L, et al. Randomized controlled trial of the Symptom Screening in Pediatrics Tool (SSPedi) in children with cancer. *J Clin Oncol. 2023. [Multicenter RCT demonstrating symptom score improvement with SSPedi.]*

March 10, 2026

IHQI Improvement Scholars Program Selection Committee

UNC Health

Chapel Hill, NC

Dear Members of the IHQI Improvement Scholars Program Selection Committee,

I am pleased to offer my full support for the Pediatric Oncology and Bone Marrow Transplant team's proposal to implement routine patient-reported outcome (PRO) symptom screening using the SSPedi tool within Epic. This initiative addresses a critical gap in our current care model, as we lack a standardized and reliable method for capturing patient-reported symptoms for the more than 200 children actively receiving therapy in our program.

SSPedi is a validated, evidence-based instrument shown to reduce symptom burden in pediatric oncology populations, and recent work has demonstrated successful integration within Epic. These factors make this project both feasible and timely for UNC. By deploying SSPedi through MyChart and establishing a structured symptom-response workflow, the team aims to strengthen supportive care, enhance patient and family experience, and reduce unplanned healthcare utilization.

The team has thoughtfully identified two areas where institutional support may be required: Epic analyst time for build and configuration, and nurse coordinator support to ensure consistent onboarding and follow-up. I am committed to working closely with the team to assess these needs and advocate for the resources necessary for successful implementation.

This initiative aligns closely with Cancer Service Line priorities and positions UNC as a leader in patient-centered oncology innovation. I strongly endorse this proposal and its submission to the IHQI Improvement Scholars Program.

Sincerely,

Stephanie Duncan

Associate Vice President, Cancer Services

UNC Cancer Service Line