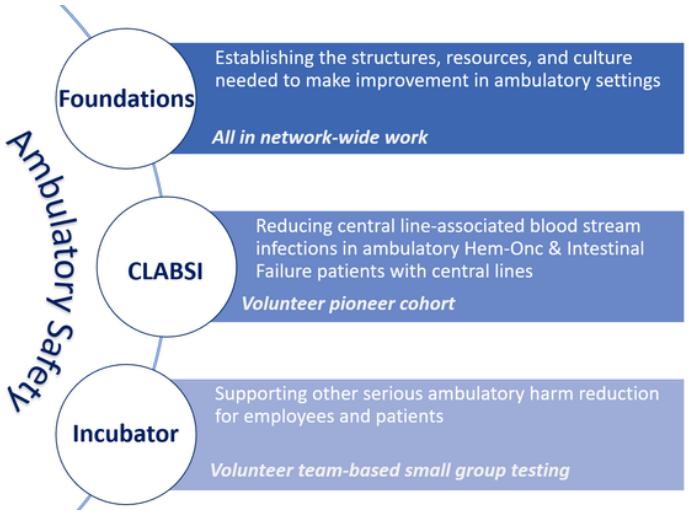
SPS Ambulatory Portfolio

Ambulatory Foundations
Ambulatory CLABSI
Ambulatory Incubator

Portfolio Overview

Children receive vastly more health care in the outpatient than inpatient setting. For every single inpatient visit, an estimated 28 outpatient visits occur. Serious harm can happen in either setting, and preliminary data suggests that the outpatient setting may be even more complex and error prone than the inpatient environment. Click here to see the SPS Ambulatory Operational Definition for more information around the inclusion criteria for ambulatory care and ambulatory patients.



The SPS Ambulatory Safety portfolio is designed as a three-pronged approach to work towards the global aim of ensuring that all patients are safe from harm in ambulatory health care settings.

- **All network hospitals** participate in **Ambulatory Foundations**
- Network hospitals can **optionally** volunteer to participate in the **Ambulatory CLABSI** Pioneer Cohort to reduce central line associated blood stream infections (CLABSI) in the ambulatory setting
- Network hospitals can **optionally** volunteer to participate in an **Ambulatory Incubator** team with others who are interested in collaborating to identify, explore, and develop quality improvement work to decrease serious ambulatory harms for both employees/staff and patients

Click the buttons below to jump ahead to each workstream and learn more about the work and how to participate.

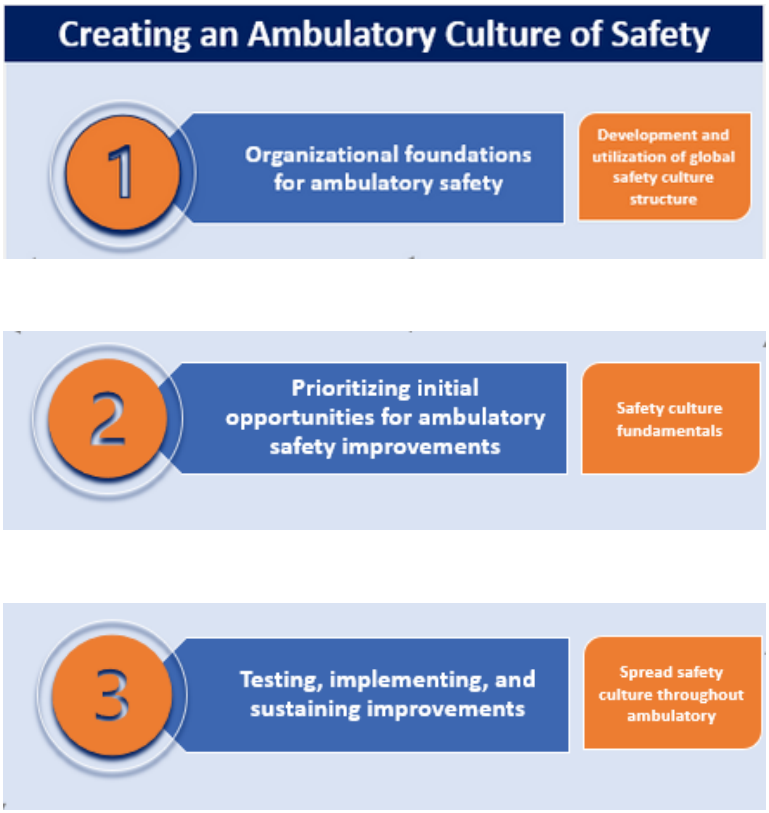
Ambulatory Foundations

Ambulatory CLABSI

Ambulatory Incubator

Ambulatory Foundations

Ambulatory Foundations is our all in, network-wide Ambulatory work. The network expectation is that all hospitals review the foundations roadmap and assess where they are on their ambulatory safety journey.



To help teams get started, we have developed an Ambulatory Safety organizational gap analysis tool (accessible via the button below). The intention of this tool is to help hospitals understand where they are on their ambulatory journey and to identify where organizational gaps currently exist. We ask that all network hospitals complete and submit to SPS by **Friday, Nov. 18**.

In the months to come, SPS will send additional communications regarding network-wide webinars focused on utilizing the roadmap and gap analysis.

Ambulatory Foundations Roadmap

Downloads a file!

Ambulatory Foundations Gap Analysis

Review a PDF of the questions here.

SPS Staff Support

Amy Combs - amy.combs@cchmc.org

Mary Bauer - mary.bauer@cchmc.org

Back to start

SPS Ambulatory Foundations

Network Launch

1. CHECK LIST – ACTIONS TO COMPLETE

1. Review this document with your team
2. Join us for a 1-hour office hours meeting on **Tuesday, Aug. 16 from 12-1 p.m. ET** to ask questions and review supporting Ambulatory Foundations materials. To participate, please use the following link to register:
    - **Registration URL:** https://solutionsforpatientsafety.zoom.us/meeting/register/tZAudu-qrTIpHtbY66f4j5klOBvgQTaaDTuo
    - **Meeting ID:** 843 1623 9342
    - **Password*:*** **247395**
3. Please email comments and questions to ochsps@cchmc.org
4. Complete the Ambulatory Foundations gap analysis as a multi-disciplinary team by **Friday, Nov. 18** via REDCap here: https://redcap.research.cchmc.org/surveys/?s=ME3KHNJ7W3W7W4K9

Contents

2. BACKGROUND AND PURPOSE

BACKGROUND

Children receive vastly more health care in the outpatient than inpatient setting. For every inpatient visit, an estimated 28 outpatient visits occur. [1] Serious harm can happen in either setting, and preliminary data suggests that the outpatient setting may be even more complex and error prone than the inpatient environment.[2] One study by *Woods et al.* estimated that about 75,000 hospitalizations per year in the United States are secondary to preventable adverse events in the ambulatory setting.[3] Employees are injured in ambulatory settings as well, and little attention has been given to employee harm in this environment.

The SPS Ambulatory Safety strategy is designed as a three-pronged approach to achieve the global aim of ensuring that all employees/staff and patients are safe from harm in ambulatory health care settings. Ambulatory Foundations is our all in, network-wide Ambulatory work specifically focusing on the establishment of an integrated inpatient/ambulatory safety infrastructure that results in a learning system for measurement and improvement of key safety indices. A 2019 survey of the SPS member hospitals revealed that safety infrastructure is often limited in the ambulatory setting. Often, hospitals have immature mechanisms to detect or learn from harm, have no measures, and have weak connections to the safety knowledge and resources that exist in inpatient settings. Leadership has been focused on safety in the inpatient setting, but the culture of safety in the ambulatory environment is less strong.

PURPOSE

As SPS continues with the mission to eliminate healthcare-associated harm to children and employees, we have established a structure to support network hospitals' ambulatory safety improvement for both employees/staff and patients. The SPS network has established an Ambulatory Safety foundation in children's hospitals that will allow for the longitudinal reduction in harm. In addition, SPS will work closely with patients and families to develop and test interventions. The aim of the Ambulatory Safety Foundation's work is to establish the structure for the development of foundational elements needed for network hospitals to address harm in the ambulatory setting.

3. METHOD

To help network hospitals get started, we have developed the Ambulatory Safety Roadmap along with an Ambulatory Safety organizational gap analysis tool. The intention of the roadmap and gap analysis tool is to help hospitals understand where they are on their ambulatory journey and to identify where organizational gaps currently exist.

There are 3 phases of the Ambulatory Safety Roadmap:

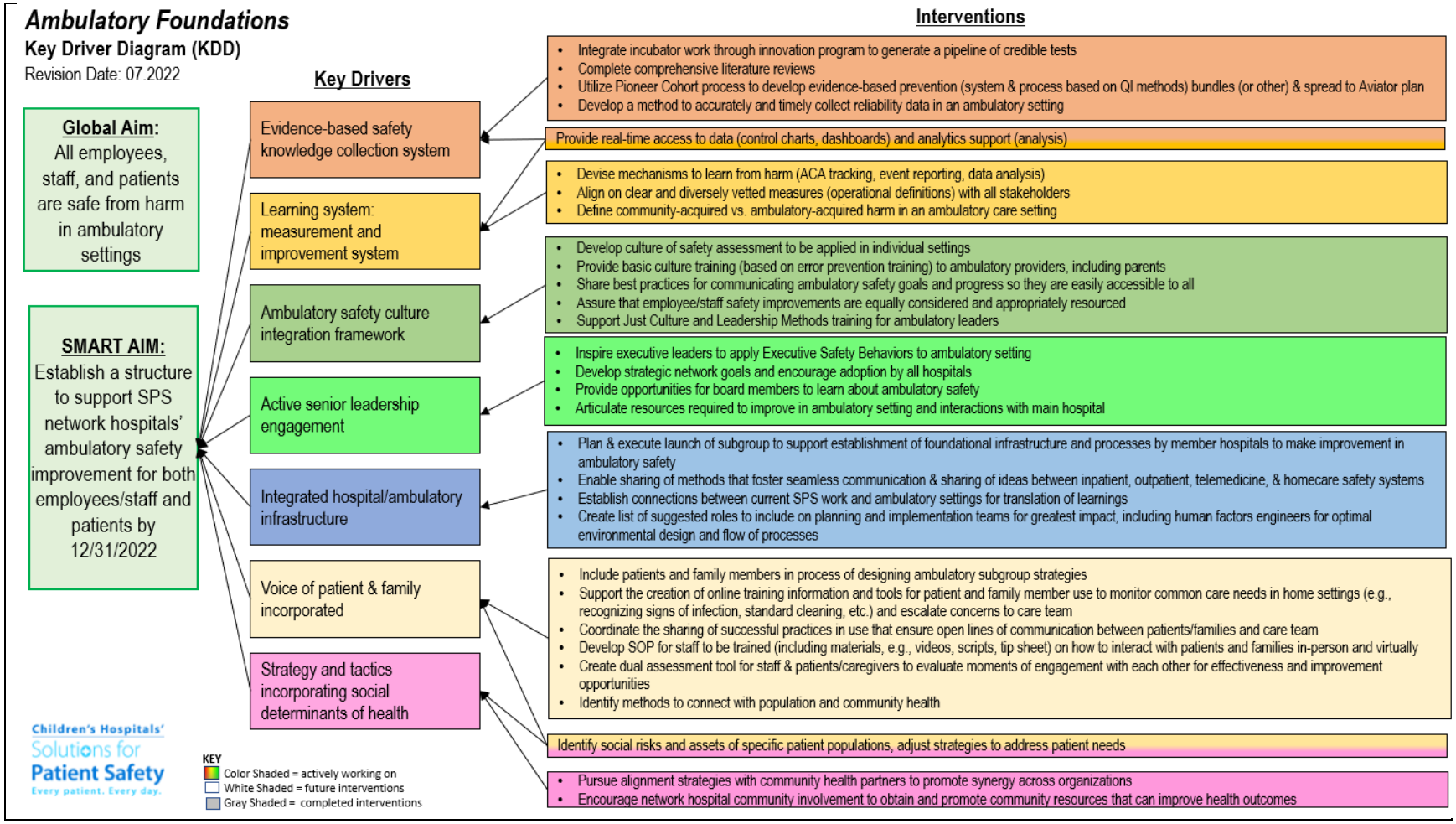
1) Organizational foundations for ambulatory safety
2) Prioritizing initial opportunities for ambulatory safety improvements
3) Testing, implementing, and sustaining improvements

Each phase has a series of steps that are accompanied by key considerations and examples to help guide organizations along their ambulatory safety journey. *Please note*, not all key considerations may apply to your organization. The gap analysis will be utilized at both the hospital and the SPS network level. Once the gap

analysis is completed, SPS will utilize the information to provide a better and more efficient experience for participants and allow hospitals to reflect on their current ambulatory safety efforts.

In the months to come, SPS will send additional communications regarding networkwide webinars focused on utilizing the roadmap and gap analysis.

4. KEY DRIVER DIAGRAM



5. AMBULATORY PATIENT OPERATIONAL DEFINITION

Children's Hospitals' Solutions for Patient Safety
Every patient. Every day.

OPERATIONAL DEFINITION

MEASUREMENT: Ambulatory Patient Definition

I. Description and Rationale

This definition clearly defines the patient population for SPS projects in ambulatory safety. The objective of this document is to provide guidance for SPS hospitals on how to define ambulatory. Individual improvement projects in the SPS portfolio may have a narrower scope for data collection, measurement, and event attribution in the ambulatory setting.

II. Population Definition

Inclusion criteria

Ambulatory patients: Patients who are classified neither as observation status nor as inpatient status but who receive treatment/diagnosis in the ambulatory setting. These patients should be considered in an active care relationship in the ambulatory setting and do not have to be physically present while receiving care.

Ambulatory care: Any health care an organization delivers for a patient that is NOT currently in an inpatient or observation status. Care delivery locations may include but are not limited to:

- Primary care clinics
- Specialty care clinics and centers (infusion, dialysis, day hospitals)
- Ambulatory surgical centers
- Outpatient radiology, laboratory service sites
- Decision care units (e.g., 23-hour centers, including sleep studies centers)
- Urgent care centers
- Hospital-associated and free-standing emergency departments
- Skilled nursing and chronic care facilities affiliated or owned by hospital
- Care that is directed by a physician affiliated with the hospital, received in the home, and given by:
    - Families
    - Home health clinicians (regardless of whether the home health agency is owned by the hospital)
- Web portals that permit information exchange and dialogue with patients outside the hospital setting
- Electronic outreach that mimics a clinic setting (e.g., telehealth services)

NOTE: When reporting SPS outcomes data, patients that are included in the numerator should also be included in the respective denominator.

Exclusion criteria

Inpatient and observation stay patients (per CMS definitions) in licensed pediatric beds. (Reference the Inpatient Definition for more detail)

III. Data Source(s)

Each hospital will report data using their own collection methods until specific high detection methods are prescribed by the SPS network.

IV. Sampling and Data Collection Plan

A specific measurement strategy will be determined with each individual improvement project

V. Calculation

N/A

VI. Data Quality Audit Procedures

Hospitals should develop their own procedures for auditing data quality until quality auditing procedures are suggested by the network.

VII. Notes

N/A

VIII. Experts/Resources

http://www.cms.gov/Regulations-and-guidance/Guidance/Manuals/downloads//bp102c01.pdf

http://www.cms.hhs.gov/Regulations-and-Guidance/Guidance/Transmittals/downloads//R107BP.pdf

IX. Attachments

N/A

X. Revision History

Version	Primary Author(s)	Description of Version	Date Completed
Version 1	Katie Staubach, Mary Bauer, and Ambulatory Foundations Team	Initial draft	Jan. 20, 2022

6. GAP ANALYSIS

As a part of the "All Teach, All Learn" guiding principle, the Ambulatory Safety Foundations leaders and SPS team would like to learn more about your hospital's ambulatory safety efforts which will be assessed via a multidisciplinary gap analysis. SPS will utilize the information to provide a better and more efficient experience for participants and allow hospitals to reflect on their current ambulatory safety efforts.

Complete the Ambulatory Foundations gap analysis as a multi-disciplinary team by **Friday, Nov. 18** via REDCap here: https://redcap.research.cchmc.org/surveys/?s=ME3KHNJ7W3W7W4K9

7. PARTICIPATION EXPECTATIONS

Because of the seriousness, velocity, and resource requirements that participation in the Ambulatory Foundations work requires, SPS would like to ensure that your hospital is aware of the participation requirements.

PARTICIPATION EXPECTATIONS OF EACH HOSPITAL:

- Local hospital executive and senior leadership commitment to the work
- Willingness to collaborate with other SPS network hospitals
- Identification of resources necessary, which may include:
    - Clinical or operational champions
    - Team members with quality improvement experience to assist with testing, measurement, observations, etc.
    - Data collection/entry personnel
    - EMR support as needed
    - Project management to coordinate and support team
- Anticipated time commitments:
    - Participation in regular Ambulatory Foundations network webinars
    - Participation in regular team meetings at your organization

8. AMBULATORY FOUNDATIONS ROADMAP & KEY CONSIDERATIONS

Organizational foundations for ambulatory safety

Development and utilization of global safety culture structure

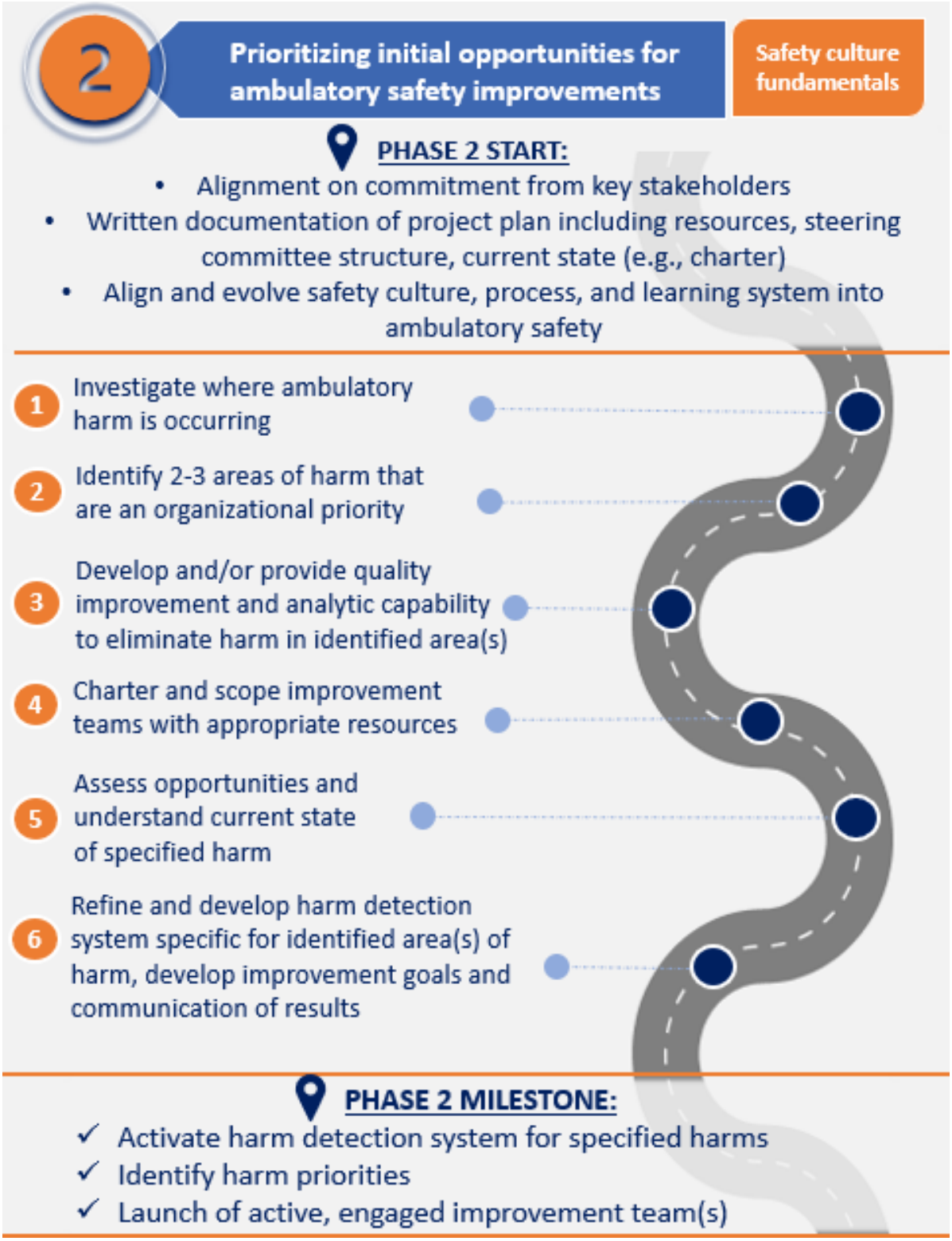
ROADMAP STEP	KEY CONSIDERATIONS	EXAMPLES
1.1 | Determine and communicate how ambulatory safety is aligned with strategic organizational priorities	Connect ambulatory safety to the organizational mission and vision	Develop and share ambulatory safety vision statement
	Assemble the case for ambulatory safety as a critical component of overall safety strategy for hospitals	Scan literature, news for ambulatory care safety events/stories; know volume of patients/visits for ambulatory care; look for patient stories within your system
		Perform analysis of all potential costs associated with errors in ambulatory care
	Explore opportunities to incorporate ambulatory safety into strategic planning	Assess for presence of inpatient safety work already showing actual or potential opportunity for spread to ambulatory care (e.g., oncology CLABSI prevention)
		Prove that work can/is being performed on a small scale already within the institution
	Engage support of board of directors and executive leadership at the hospital	Presentations at board of directors meetings, executive leadership meetings, followed by highlighting to all leaders in organization
		Present the case for importance of ambulatory safety to executive leadership and board of directors at the hospital to engage support/buy-in as strategic priority via data, storytelling, etc.
		Dedicate time during board of directors meetings for presenting ambulatory safety and the need to make it a strategic priority
		Link ambulatory safety progress/work to incentive goals for highest level leadership and include in metrics report to board of directors
	Elevate ambulatory safety visibility within the organization	Compile data as well as stories/examples from literature (error rates, harm, litigation/malpractice data, financial impact) and share across SPS network for use
		Include ambulatory areas in safety rounds and daily organizational safety report-outs
		Include safety reports (both harm and "good catches") during ambulatory meetings

ROADMAP STEP	KEY CONSIDERATIONS	EXAMPLES
1.2 | Establish an institutional ambulatory executive sponsor and steering committee with the following goals: • Foster partnerships across ambulatory sites • Commit to the provision of resources • Remove any barriers for improvement teams • Monitor progress of the work • Communicate results and outputs	Identify executive level sponsor	
	Assess or build your new guiding steering committee to execute the development of the ambulatory safety structure and standard operating procedures with regularly scheduled meetings. Roles may include quality and safety, ambulatory leaders, data specialists, clinical staff, and other key collaborators	Schedule regular meetings
		Steering committee members may include an ambulatory safety executive leader, champions for this work within the senior leadership group, ambulatory operational leaders (MD/RN dyad), patients/families, other operational services involved in the care (e.g., pharmacy, security, risk management, IT, lab, radiology, infusion, etc.), patient safety specialist, data, quality improvement, business partners, project management
	Elevate ambulatory safety visibility within the organization	Compile data and stories/examples from literature (error rates, harm, litigation/malpractice data, financial impact); share across SPS network
		Include ambulatory areas in safety rounds and daily organizational safety report-outs
		Include safety reports (both harm and "good catches") during ambulatory meetings
	Communicate progress of ambulatory safety into executive leadership meetings, organizational scorecards, and board metrics	Create a shared leadership understanding that ambulatory care is fraught with patient/staff risk and harm
	Incorporate ambulatory safety within structure/function of organizational quality and safety framework	Establish a committee aligned with organization's patient safety committee structure. Focus agenda on safety and quality data review, safety event analysis, and cultural improvement projects
	Create a sense of urgency amongst operational, clinical, and support services leaders in ambulatory governance structure	Develop clear picture of the 'why' for the organization value proposition
		Share value proposition document outlining current state, ideal state, impact, and resource needs to leaders
	Build ambulatory safety into organizational situational awareness	Add ambulatory safety summary into daily safety call
		Create opportunities for sharing experiences and lessons learned between ambulatory and inpatient quality/safety; Distribute shared learnings from both environments; consider having individuals that sit on both committees
		Explore ways of improving communication between inpatient and ambulatory care; conduct assessment among physicians and staff to determine current levels of collaboration between ambulatory and inpatient
		When possible, fold ambulatory areas into existing culture work (safety coaches, safety huddles etc.)
	Identify other stakeholders within ambulatory setting to accelerate safety awareness & improvement	Provide networking opportunities for individuals working on improving ambulatory safety

ROADMAP STEP	KEY CONSIDERATIONS	EXAMPLES
1.3 | Complete a current state global ambulatory safety assessment including harm prevention and safety culture	Perform internal environmental scan	Understand if a committee or board charged with ensuring ambulatory quality and safety exists already
		Ensure policies exist establishing governing body over ambulatory safety, ensuring methods for providing physician, non-physician, and operational/system governance
		Identify key patient safety stakeholders in ambulatory areas to acquire information on the current state of safety
		Listening sessions with operational ambulatory leaders (town hall, SWOT analysis, survey tool)
		Perform safety needs assessment for ambulatory (utilize SPS provided gap analysis)
	Visit ambulatory sites to learn about current efforts for ambulatory harm prevention	Host focus groups with staff and providers
		Talk to staff and providers using scripted interview questions

ROADMAP STEP	KEY CONSIDERATIONS	EXAMPLES
1.4 | Develop or utilize global, overall systems for harm detection (safety event reporting systems and other harm metrics)	Perform gap analysis for ambulatory safety reporting	Perform Gemba walk
		Examine how events are reported, who reports them, where information is shared, and what actions occur as a result of analysis
		Review incidence reports, safety event data, patient complaints, and RCAs looking for trends or highest risks
		Pull data from electronic health record (i.e., pull data by different trigger words or key events, triggers for manual review); utilize IHI trigger tool
		Identify resources that exist within inpatient structure that overlap with ambulatory needs and can be leveraged. Event reporting system that combines ambulatory and inpatient events
		Understand/investigate REDCap or data collection tool/process
	Implement ambulatory safety self-reporting system	Partner with IT to create electronic reporting system if one does not already exist
		Create shortcut on workstation desktop computers
		Identify resources that exist within inpatient structure that overlap with ambulatory needs and can be leveraged. Event reporting system that combines ambulatory and inpatient events

ROADMAP STEP	KEY CONSIDERATIONS	EXAMPLES
1.4 Cont. | Develop or utilize global, overall systems for harm detection (safety event reporting systems and other harm metrics)	Train ambulatory teams to report safety data	Educate individual teams involved
		Videos, tip sheets on how/what/why to report
		Develop criteria for high-risk scenarios (e.g., ranking system for evaluating harm level, such as team huddles and root cause analyses (RCAs))
		Have a system in place for patients and families to report
	Encourage increased reporting of events	Assess ease of use and accessibility of event entry system
	Develop and implement process for ambulatory safety information exchange	Develop routine communication with legal department
		Develop reports on specific risk events associated with harm
		Establish ambulatory-focused leader safety reporting
		Review M&M meetings and mortality/autopsy reports
		Huddle and investigate when harm meets specified thresholds
		Review action plans and look for incomplete action items or low reliability that needs additional attention
		Review consult calls between subspecialties and primary care providers
		Report to organizational-level safety committee
		Monthly report, committee meetings, dashboard of key safety measures
		Report to team at routine meetings when events occur
		Enhance visibility and access to reporting system
		Identify other safety events, misdiagnosis, delay in diagnosis
		Identify communication issues between care team members
		Unidentified harm event that legal is aware of due to malpractice


2
Prioritizing initial opportunities for ambulatory safety improvements
Safety culture fundamentals
PHASE 2 START:
• Alignment on commitment from key stakeholders
• Written documentation of project plan including resources, steering committee structure, current state (e.g., charter)
• Align and evolve safety culture, process, and learning system into ambulatory safety
1 Investigate where ambulatory harm is occurring
2 Identify 2-3 areas of harm that are an organizational priority
3 Develop and/or provide quality improvement and analytic capability to eliminate harm in identified area(s)
4 Charter and scope improvement teams with appropriate resources
5 Assess opportunities and understand current state of specified harm
6 Refine and develop harm detection system specific for identified area(s) of harm, develop improvement goals and communication of results
PHASE 2 MILESTONE:
✓ Activate harm detection system for specified harms
✓ Identify harm priorities
✓ Launch of active, engaged improvement team(s)

ROADMAP STEP	KEY CONSIDERATIONS	EXAMPLES
2.1 | Investigate where ambulatory harm is occurring	Identify nationally identified, severe and/or frequent harms already known to occur in the ambulatory setting	Develop and share ambulatory safety vision statement
	Identify internal examples of known harm events	Repeated incidents identified by current reporting systems, including incident reporting systems, patient/family complaints, risk management
	Identify examples of individual patient harms experiences	Stories/case reports of individual patient harm events
	Share statistics and stories, engage with current quality and safety, ambulatory, and hospital leadership	Present findings to current quality and safety leader forums and ambulatory leadership
	Review causes of ambulatory harm already identified elsewhere	Examine pre-established natural metrics to determine relevance to SPS efforts
	Review organizational data of ambulatory harm, if already robust (including event reporting systems, grievance, complaints, and risk data)	Perform density analysis
		Create common cause analysis
	Share stories and data transparently to create dialogue	Present in organizational forums
		Share stories in newsletters and on intranet
		Create ambulatory forums if they do not already exist
	Listen to the voice of the customer and team members	Hold focus groups
	Meet with other external ambulatory stakeholders to ensure all possible harm is accounted for	Partner with other stakeholders that have an affiliation to ambulatory at your site (retail pharmacies, home health, etc.)

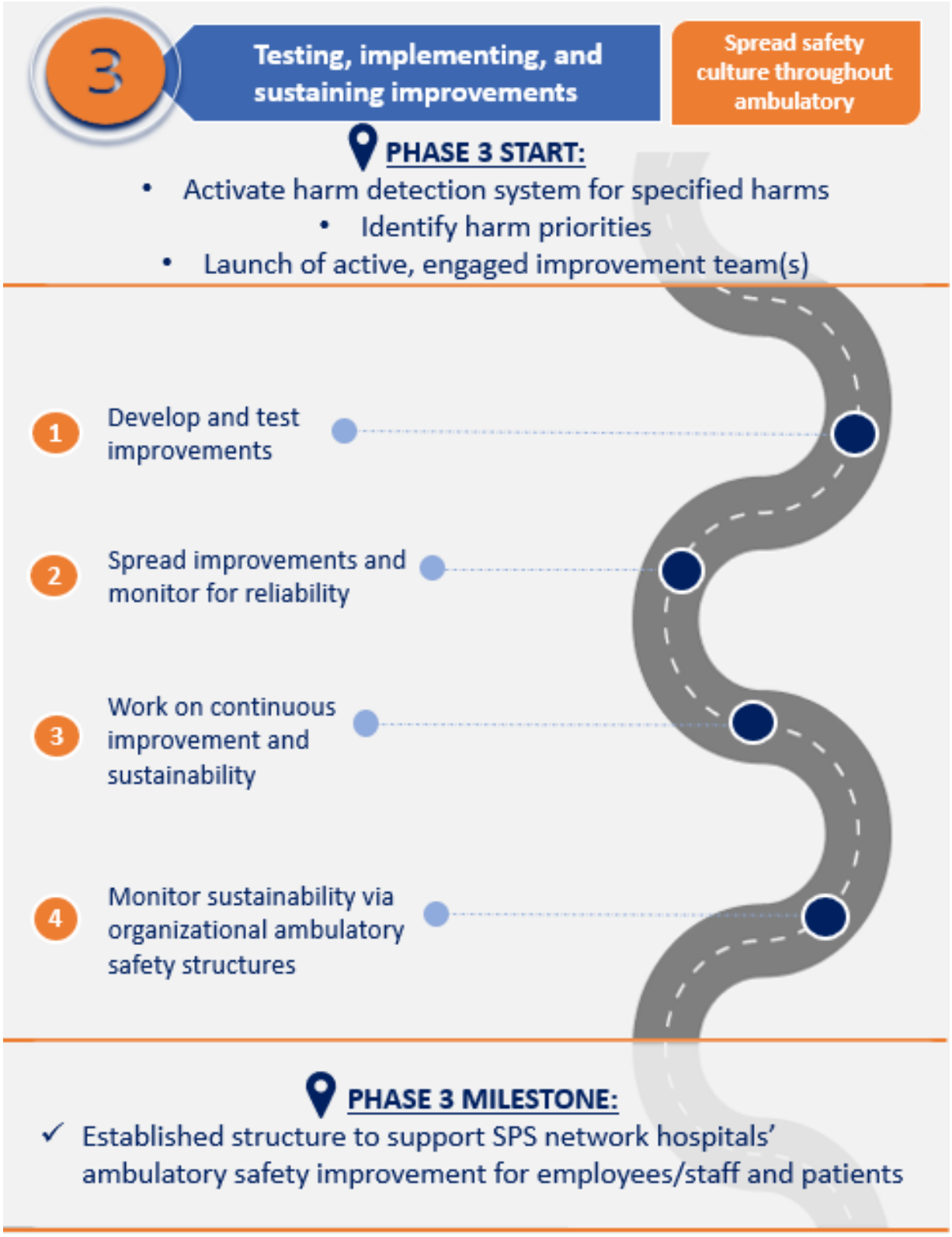
ROADMAP STEP	KEY CONSIDERATIONS	EXAMPLES
2.2 | Identify 2-3 areas of ambulatory harm that are an organizational priority	Align organization strategic goals with risk prioritization	Create top 10 lists for each unit and look for common needs
		Create or adopt risk stratification tool
		Perform Failure Modes and Effects Analysis (FMEA) on process with potential harm
	Obtain organizational and patient/family feedback specific to ambulatory settings	Hold focus groups with patients and families
		Work with patient and family advisory committee
		Review surveys
	Prioritize ambulatory areas within your organization that are capable of improvement work on a high priority ambulatory harm	

ROADMAP STEP	KEY CONSIDERATIONS	EXAMPLES
2.3 | Develop and/or provide quality improvement and analytic capability to eliminate harm in identified area(s)	Assess current organizational/unit quality improvement capacity	Meet with teams
		Focus groups
		Send questionnaires and interview leaders
		Survey ambulatory leaders (such as division chiefs, practice administrators, ambulatory provider informatics, etc.)
	Leverage existing safety structures and understand similarities/differences where they exist and link when appropriate	
	Have a dose-based approach to quality improvement; create and improve improvement science capability and capacity targeted to ambulatory setting	Establish and teach to a standard methodology
		Create online, virtual, and in-person training modules
		Create teams; learn by doing
		Create strategy-based on organizational structure/need
	Develop mechanism for allocating quality improvement resources based on risk stratification	Build result review and resource allocation into leadership responsibility
		Create consultation service to determine needs and coach work
	Create common tools to improve sharing and accountability	Create online toolkit and guide
		Create common forms for key driver diagram, plan-do-study-act (PDSA) cycles, and problem solving
	Recruit ambulatory staff with quality improvement experience	Create online toolkit and guide
	Establish accountability framework to ensure project completion and sharing of lessons learned	Create visual Obeya, both virtual and physical (note: Obeya refers to a space where all project information and data is readily visible and available)

ROADMAP STEP	KEY CONSIDERATIONS	EXAMPLES
2.4 | Charter and scope improvement teams with appropriate resources	Build a guiding coalition to execute the development of the new ambulatory safety structure	1-3 leaders from the patient safety and ambulatory leadership to lead work
	Identify executive sponsor	Senior Vice President
	Identify owners	Operational and physician dyad
	Identify voting members from service lines	Nursing leadership, clinical support staff
	Identify administrative support	Project management and safety (meeting minutes, roll call, etc.)
	Plan and host kick-off meeting to engage identified stakeholders	Security, risk management, IT, lab, radiology, infusion, patient and family advisory committee members, data support
	Identify stakeholder that exist within inpatient structure that overlap with ambulatory needs and can be leveraged	
	Prepare/draft a charter	
	Approve charter	

ROADMAP STEP	KEY CONSIDERATIONS	EXAMPLES
2.5 | Assess opportunities and understand current state of specified harm	Ask front line staff and patients/families about areas of greatest risk	Interview open-ended or standardized questions to better understand current state
		Observe current state
	Design/strengthen data collection system (consider "implementation" if not included elsewhere)	Identify current data, perform validation processes ensuring accuracy of collection
		Consider small tests of change to refine data collection system
	Map key processes especially those that have led to near misses, precursor events, or serious safety events	Failure Modes and Effects Analysis (FMEA)
		Create process flow map
		Observe current state with stakeholders (Gemba)
		Prioritization could be given to events that have a higher impact on patient and family

ROADMAP STEP	KEY CONSIDERATIONS	EXAMPLES
2.6 | Refine and develop harm detection system specific for identified area(s) of harm and develop improvement goals	Co-design and co-produce healthcare processes and improvement strategies with patients/families	Review all metrics with patient and family advisory committee (or equivalent)
		Activities that support patient/family co-design and co-production may include: • Formal meetings • Informal family interviews • Questionnaires facilitated through patient portal or QR codes • Social media comments
	Solicit feedback from team members	Frontline team members may better understand the issues
		Consider meetings, use of surveys, and one-on-one interactions as opportunities to solicit feedback
	Analyze obtained data across varied ambulatory areas to set goal	Analysis of event reporting trends or other early data sources
	Determine if other organizations have developed methods for detecting harm of interest	


3
Testing, implementing, and sustaining improvements
Spread safety culture throughout ambulatory
PHASE 3 START:
• Activate harm detection system for specified harms
• Identify harm priorities
• Launch of active, engaged improvement team(s)
1 Develop and test improvements
2 Spread improvements and monitor for reliability
3 Work on continuous improvement and sustainability
4 Monitor sustainability via organizational ambulatory safety structures
PHASE 3 MILESTONE:
✓ Established structure to support SPS network hospitals' ambulatory safety improvement for employees/staff and patients

ROADMAP STEP	KEY CONSIDERATIONS	EXAMPLES
3.1 | Develop and test improvements	With frontline staff and key stakeholders, select initial interventions to test and implement in ambulatory areas	Consider: • Pre-clinic safety huddles • Standardize vaccine tracking • Standardize family education and take-home tools • Check-lists and bundles
	Ensure family has effective tools, resources, and guidance to support interventions	Ensure attention towards health equity: • Translation for limited English proficiency patients/families (ex: ensuring web-based education, reports, and resources are available in multiple languages) • Materials are presented at appropriate reading level
	If applicable, utilize population health tracking to ensure all patients are reached	How to track that all patients with a nasogastric tube had a teaching session
	Create model to engage patients/families in ambulatory safety efforts at a time and manner that is convenient to them	After hours focus groups/meetings
		Material that can be accessed at any time
	Based on initial findings, revise subsequent tests of change	Plan-do-study-act (PDSA) cycle work

ROADMAP STEP	KEY CONSIDERATIONS	EXAMPLES
3.2 | Spread improvements and monitor for reliability	Assess existing/ongoing ambulatory safety efforts, identify efforts to spread and share with Ambulatory Safety Steering Committee	Use Ambulatory Quality Consultant or such to collate existing cross organization ambulatory work
		Create generic rating system to identify areas for spread
		Partner with IT personnel to establish measurable BPAs targeting goal-based safety improvements
	Prioritize spread based upon strategic priorities, presence of clinical owner, opportunity data, etc.	Consider utilization of a prioritization tool
	Develop a process for each identified opportunity for improvement to support monitoring and spread	Consider/develop K cards to monitor process reliability
	Identify champions for spread in new areas and deploy train-the-trainer model	Onboarding to engage new employees on safety culture and goals
	Engage families in improvement work	Consider K cards for families to provide education on what they were taught in the clinic to empower them to care for their child

ROADMAP STEP	KEY CONSIDERATIONS	EXAMPLES
3.3 | Work on continuous improvement and sustainability	Ensure leaders and front-line staff have improvement and safety science capability	Mentorship from other areas with expertise
		Connect with hospital internal quality improvement resources
		Identify ongoing education opportunities
	Establish and support a measurement plan	Outline what data will be collected, how/when it will be collected, and how/when it will be analyzed
		Specify experience, learning, process, and outcome measures
		Develop clear operational definitions for each measure
		Summarize what you are learning from your data at minimum on a quarterly basis
		Outline how you will use data to inform course corrections
		Consider possible barriers to data collection and/or reporting and outline how the measurement plan will overcome them
	Provide resources for ambulatory safety quality work	Basic QI training for staff to support and build efforts
		Consider how to best integrate data and analytics support
		Collaboration of health equity subject matter experts (SME) and Safety/Quality SME on IT system development to capture health equity data
		Feedback from patient/parent group(s)
	Make ambulatory strategic goals focus for continuous improvement with budgetary support to ensure sustainability	Ensure regular feedback is circulated back to stakeholders

ROADMAP STEP	KEY CONSIDERATIONS	EXAMPLES
3.4 | Promote sustainability via organizational ambulatory safety structures	Reassess organization's current state utilizing the organizational structure gap analysis tool	Organizational structure gap analysis tool
	Determine methods to transparently review data/learnings with members across the ambulatory and inpatient continuum of care	Display data for front-line staff to review, share during monthly meetings
		Share at monthly committee meetings
		Share quarterly review with QI leaders
		Share quarterly data with executive/hospital leaders
	Develop timely signaling strategy (i.e., how and when do we react)	Identify signals to monitor for frequency and reporting structure of signals
		Thoughtful consideration and incorporation of the many new stakeholders in improvement project prioritization using a decision-making rubric
	Utilize structured interdisciplinary committees to facilitate learning and create processes for implementation of successful change concepts	Assign process owners for various change concepts
		Develop method to communicate progress
		Regularly assess viability of change concepts
	Collaborate and spread learnings throughout SPS Network	Share learnings and best practices through SPS's Ambulatory Incubatory projects

9. TIMELINE

HIGH-LEVEL TIMELINE:

Oct-Dec. 2022

- SPS hosts getting started webinar for all ambulatory contacts (details TBA)
- Nov: hospitals submit gap analysis responses
- Dec: SPS analyzes gap analysis responses and determines strategy for moving forward

Jan-March 2023

- Jan: SPS analyzes gap analysis responses and determines strategy for moving forward
- Feb: network-wide communication around strategy
- March: SPS hosts getting started webinar for all ambulatory contacts (details TBA)

April-June 2023

- April-June: webinar(s) focused on utilizing phase 1, 2, 3 key considerations document to build framework for organizational ambulatory safety (details TBA)
- May: SPS Spring National Learning Session

July-Sept. 2023

- July-Sept: webinar(s) focused on utilizing phase 1, 2, 3 key considerations document to build framework for organizational ambulatory safety (details TBA)

Oct-Dec. 2023

- SPS Fall National Learning Session

10. SPECIAL THANKS

Each of the network members below have spent countless hours working as a very effective team to align on this improvement plan, and we at SPS are so grateful for their generous participation. These individuals demonstrate our mission and values of *working together to eliminate serious harm across all children's hospitals*. Our patients and families are so fortunate. Thank you!

Name	Hospital	Role
Alice Phillips	Cook Children's Medical Center	Ambulatory Foundations Subject Matter Expert
Matt Carroll	Cook Children's Medical Center	Ambulatory Foundations Subject Matter Expert
Autumne Harding	Monroe Carell Jr. Children's Hospital at Vanderbilt	Ambulatory Foundations Subject Matter Expert
Dane Snyder	Nationwide Children's Hospital	Ambulatory Foundations Subject Matter Expert
Fiona Levy	Cohen Children's Medical Center of NY	Ambulatory Foundations Subject Matter Expert
Katie King	MUSC Children's Hospital	Ambulatory Foundations Subject Matter Expert
Heather Tory	Connecticut Children's Medical Center	Ambulatory Foundations Subject Matter Expert
Valerie Ward	Boston Children's Hospital	Ambulatory Foundations Subject Matter Expert
Karyn Yonekawa	Seattle Children's	Ambulatory Foundations Subject Matter Expert
Amy Billett	Nemours Children's Hospital, Delaware	Ambulatory Foundations Subject Matter Expert
Jamie Vik	Lucile Packard Children's Hospital	Ambulatory Foundations Subject Matter Expert
Khoi Dang	Children's Hospital of Philadelphia	Ambulatory Foundations Subject Matter Expert
Sandip Godambe	CHOC Children's	Ambulatory Foundations Subject Matter Expert

11. REFERENCES

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[2] Lorinez CY, Drazen E, Sokol PE, Neerukonda KV, Metzger J, Toepp MC, Maul L, Classen DC, Wynia MK. Research in Ambulatory Patient Safety 2000-2010: A 10 Year Review. American Medical Association, Chicago, IL 2011. *Downloaded from https://psnet.ahrq.gov/resources/resource/23742/research-in-ambulatory-patient-safety-2000-2010-a-10-year-review on July 21, 2019*

[3] Woods DM, Thomas EJ, Holl JL, Weiss KB, Brennan TA. Ambulatory care adverse events and preventable events leading to a hospital admission. Qual. Saf Health Care 2007;16:127-131.

Ambulatory CLABSI

The network is launching a voluntary pioneer cohort to reduce central line associated blood stream infections (CLABSI) in the ambulatory setting. The SPS Ambulatory CLABSI Pioneer Cohort will be launched in two phases. Phase 1 will help participating pioneer hospitals to establish a reliable detection and measurement system for Ambulatory CLABSI as well as establish a structural framework using the SPS Ambulatory CLABSI roadmap. Phase 2 will aim to test factors in hopes of developing an evidence-based bundle of best practices to prevent CLABSIs in the ambulatory setting.

If your hospital wishes to join the cohort, please review the invitation packet, as well as complete and return the participation form linked below.

Ambulatory CLABSI Invitation Packet

Downloads a file!

Ambulatory CLABSI Participation Form

SPS Staff Support

Allie Beams - allie.beams@cchmc.org

Katie Nowacki - Katherine.Nowacki@cchmc.org

Back to start

Children's Hospitals' Solutions for Patient Safety
Every patient. Every day.

SPS Ambulatory CLABSI Pioneer Cohort

Primary Target Populations: Hematology-Oncology and/or Intestinal Failure

Invitation to participate in the Ambulatory CLABSI Pioneer Cohort and provide input into the improvement proposal

The Children's Hospitals' Solutions for Patient Safety (SPS) is launching a voluntary pioneer cohort to reduce central line associated blood stream infections (CLABSI) in the ambulatory setting. The SPS Ambulatory CLABSI Pioneer Cohort will be launched in two phases. Phase 1 will help participating pioneer hospitals to establish a reliable detection and measurement system for Ambulatory CLABSI as well as establish a structural framework using the SPS Ambulatory CLABSI roadmap. Phase 2 will aim to test factors in hopes of developing an evidence-based bundle of best practices to prevent CLABSIs in the ambulatory setting.

The SPS Ambulatory CLABSI Pioneer Cohort will target primarily ambulatory Hematology-Oncology and Intestinal Failure patients. Additional ambulatory patient populations may be proposed and considered for inclusion.

1. CHECK LIST – ACTIONS TO COMPLETE

2. Review this document with your team.
3. Please bring your questions regarding joining the Ambulatory CLABSI Pioneer Cohort to the Office Hours on **Tuesday, Aug. 16 from 12-1 p.m. ET.**

   To participate, please use the following link to register:

   Registration URL: https://solutionsforpatientsafety.zoom.us/meeting/register/tZAudu-qrTIpHtbY66f4j5klOBvgQTaaDTuo

   Meeting ID: 843 1623 9342

   Password*:* **247395**

4. Please email comments, questions, and improvements to ochsps@cchmc.org.
5. If you are interested in joining the Ambulatory CLABSI Pioneer Cohort, please fill out the attached commitment form and send to ochsps@cchmc.org by **Friday, Sept. 2.** The kick-off cohort call will take place in September, and your team will receive appointments for the cohort calls upon submission of your hospital's completed commitment form.

CONTENTS

2. PARTICIPATION COMMITMENT

If you are interested in joining the SPS Ambulatory CLABSI Pioneer Cohort, please fill out the attached commitment form and send to ochsps@cchmc.org by **Friday, Sept. 2**. When committing to the pioneer cohort, teams are committing to participating in both phases of the cohort. Individuals listed in the commitment form, in addition to your hospital's designated SPS project manager, will be included in both phase 1 and phase 2 of the pioneer effort and serve as your hospital's contacts to receive the cohort call appointments and any relevant Ambulatory CLABSI Pioneer Cohort communications.

3. BACKGROUND AND OBJECTIVES OF AMBULATORY CLABSI PIONEER COHORT

BACKGROUND

Children receive vastly more health care in the outpatient than inpatient setting. In fact, for every one inpatient visit, an estimated 28 outpatient visits occur.[i] Serious harm can happen in either setting, and preliminary data suggests that the outpatient setting may be even more complex and error prone than the inpatient environment.[ii] One study by Woods *et al.* estimated that about 75,000 hospitalizations per year in the United States are secondary to preventable adverse events in the ambulatory setting.[iii]

The Children's Hospitals' Solutions for Patient Safety (SPS) Ambulatory Central-line Associated Blood Stream Infections (CLABSI) Pioneer Cohort aims to support the detection and reduction of Ambulatory CLABSI by applying available knowledge in the network and to test factors using the SPS pioneer methodology to help develop an evidence-based bundle of best practices to reduce ambulatory CLABSI. This pioneer cohort is designed to address ambulatory CLABSI and will target primarily ambulatory Hematology-Oncology and Intestinal Failure patient populations (e.g., patients on parental nutrition). Additional ambulatory patient populations may be proposed and considered for inclusion.

Learning across the SPS learning network is often fastest when project-focused. For this reason, SPS will undertake work related to Ambulatory CLABSI while simultaneously assisting hospitals in establishing a strong foundation in ambulatory safety. A network-wide survey and focus group discussions, as well as input from key safety leaders from across the network, guided the selection of ambulatory CLABSI from a variety of health care harms that happen outside the hospital setting. Although solutions for Ambulatory CLABSI will be different from strategies to prevent inpatient CLABSIs, the latter will provide a solid foundation to begin.

PIONEER METHODOLOGY

The purpose of a pioneer cohort is to identify a harm reduction bundle for carefully selected hospital-acquired harm categories where evidence-based practices were limited.[iv] An ambulatory CLABSI leadership team has selected interventions (factors) for testing and will guide the work throughout the pioneer process. Using fundamental quality improvement techniques and planned experimental design, each participating hospital will submit outcome and process compliance data for the factor implemented. Aggregate data from all hospitals implementing a particular factor will be analyzed using Shewhart charts and other statistical methods to identify whether reliable implementation of the factor is related to better outcomes. Factors will be categorized based on strength of evidence and other clinical or evidentiary support, with the goal to promote factor(s) with strong support to an SPS bundle for dissemination and spread to all SPS hospitals.

AMBULATORY CLABSI PIONEER PURPOSE/AIM

As SPS continues the mission to eliminate healthcare-associated harm to children and employees, the creation of a robust learning system for ambulatory safety is a 2022-2024 strategic priority. To accomplish this, SPS is launching an Ambulatory CLABSI Pioneer Cohort to learn together about the detection and prevention of ambulatory CLABSI events.

A voluntary pioneer cohort of hospitals will be created to test interventions, submit data, and participate in monthly calls organized to discuss challenges and share best practices related to the work of the pioneer cohort. The SPS Ambulatory CLABSI Pioneer Cohort will incorporate the interests of patients and families, as they are often the primary caregivers for children with central lines in ambulatory and home settings.

Patient populations chosen for the voluntary pioneer cohort will primarily target Hematology-Oncology and Intestinal Failure ambulatory patients. Hospitals can choose one or both populations when participating in the pioneer cohort. These populations were chosen because of the long-term use of central lines in the ambulatory setting. Additional ambulatory patient populations may be proposed and considered for inclusion.

The SPS Ambulatory CLABSI Pioneer Cohort will be launched in two phases. Phase 1 will help pioneer hospitals to establish a reliable detection and measurement system for ambulatory CLABSI, as well as establish a structural framework using the SPS Ambulatory CLABSI roadmap. Phase 2 will aim to test factors in hopes of developing an evidence-based bundle of best practices to prevent CLABSIs in the ambulatory setting.

PHASE 1: ESTABLISHING A MEASUREMENT SYSTEM FOR AMBULATORY CLABSI

Pioneer hospitals who would like to participate in the SPS Ambulatory CLABSI Pioneer Cohort will focus on establishing a reliable detection and measurement system for Ambulatory CLABSI. Unlike other hospital acquired conditions, Ambulatory CLABSI does not have a nationally accepted operational definition. A group of subject matter experts have created an Ambulatory CLABSI operational definition for cohort hospitals to test. Ambulatory CLABSI measurement is rather novel and will require more resources to develop internal processes for the detection of Ambulatory CLABSI. To properly apply the pioneer methodology, [iv] a proper baseline for Ambulatory CLABSI will need to be established prior to the testing of factors.

Additionally, we need input from each of you on the operational definition, improvement approach, and measurement, thus minor changes could occur before the cohort begins the work and during the initial phases of the cohort.

PHASE 1: AMBULATORY CLABSI STRUCTURAL ROADMAP

In addition to establishing a measurement system for Ambulatory CLABSI, a systems-level structural roadmap will be launched in Phase 1 to supplement the foundations for successful implementation for this new body of work. The following are system-level key drivers that can be implemented while a robust detection and measurement system for ambulatory CLABSI is being developed.

- **Roadmap Element 1:** Leadership commitment and allocated resources to support Ambulatory CLABSI prevention work

- Hospital leadership is supportive of participation in SPS pioneer cohort
- Internal data sharing and feedback loop to executive sponsor are established. Ambulatory CLABSI rates for the selected population(s) are available to the organization leadership

- **Roadmap Element 2:** High performing Ambulatory CLABSI oversight structure
  - Develop a team to lead improvement in ambulatory CLABSI to include the following team members but not limited to: HAC champion, data analyst, infection preventionist, quality improvement partner, physician leader, nursing leader, safety leader, at least one caregiver, administrative support
  - Develop a communication plan to share information about the project across the continuum
  - Adapt a learning culture and build intention to learn in the ambulatory CLABSI space (such as joint meetings with overall CLABSI Steering team)
  - Create a process to complete and report out findings from apparent cause analysis (ACAs) for confirmed ambulatory CLABSI events

- **Roadmap Element 3:** Accurate and thorough data collection and surveillance systems
  - Infection preventionist determines ambulatory CLABSI based on the SPS definition (adapted from NHSN)
  - IT support to capture central line days monthly for chosen population
  - Process to complete apparent cause analysis (ACAs) for ambulatory CLABSI events

- **Roadmap Element 4:** Reliably performed standards of care for central line care in the ambulatory setting
  - Develop a family escalation pathway to address questions and unanticipated barriers with the central line such as when to seek emergency care, etc.
  - Develop infrastructure to being testing factors to 80% reliability or greater for chosen population

- **Roadmap Element 5:** Active family and/or caregiver engagement for ambulatory CLABSI
  - Have a family and/or caregiver on your Ambulatory CLABSI prevention team
  - Ideal State: Develop peer-to-peer support program for families newly discharged with a central line

PHASE 2: TESTING FACTORS FOR IMPROVEMENT IN AMBULATORY CLABSI

Once pioneer hospitals have developed an internal reliable detection and measurement system for ambulatory CLABSI with an established baseline rate, interventions (factors) can be tested to determine their effectiveness on reducing ambulatory CLABSI. Three factors are being proposed for the SPS Ambulatory CLABSI Pioneer Cohort, which include:

1. Caregiver Pre-discharge Education
2. Ambulatory CLABSI Maintenance Protocol
3. Caregiver Follow-up Post Discharge

SPS will announce the specific details of the factors and the start of Phase 2 of the Ambulatory CLABSI Pioneer Cohort in 2023. The separation of the phases will allow participating hospitals a period to build a detection and measurement system for Ambulatory CLABSI in order to obtain a baseline rate prior to testing interventions (factors).

4. PARTICIPATION EXPECTATIONS

Thank you for your continued support of the Children's Hospitals' Solutions for Patient Safety (SPS) network and considering participation in the efforts that will establish prevention standards for our network. Because of the seriousness, velocity, and resource requirements that participation in the Ambulatory CLABSI Pioneer Cohort work requires, SPS would like to ensure that your hospital is aware of the participation requirements.

Participation expectations of each hospital:

- Senior leadership commitment of resources
- Anticipated human resource required:
    - Executive sponsor
    - Physician and nurse champions
    - HAC champion that represents ambulatory Hematology-Oncology population
    - HAC champion that represents ambulatory Intestinal Failure population
    - HAC champion that represents ambulatory population proposed
    - Quality improvement consultant to assist with testing, measurement, observations, etc.
    - Data collection/entry personnel
    - Infection prevention personnel
    - Parent/caregiver representation
    - Front-line team members who take care of patients with central lines in the ambulatory Hematology-Oncology, Intestinal Failure, or proposed populations
    - Project management to coordinate and support the team
- Anticipated time commitments:
    - Participation in the monthly Ambulatory CLABSI Pioneer Cohort calls
    - Participation in a bi-weekly or monthly team meetings at your organization
    - Weekly facilitation of PDSA (plan-do-study-act) cycles to test selected factors
    - Monthly data collection on process reliability and ambulatory CLABSI events for Hematology-Oncology, Intestinal Failure, or proposed population patients
    - Monthly apparent cause analysis (ACA) investigation of ambulatory CLABSI events
    - Track outcomes data monthly
    - **Monthly data submission into SPS SharePoint for process and outcomes data**
    - Adopt and measure against the ambulatory CLABSI operational definition and patient definition
    - Consider utilizing patient/family representatives
    - Transparency of hospital results and learnings

5. DATA COLLECTION METHODOLOGIES

PART 1: ESTABLISHING A MEASUREMENT SYSTEM FOR AMBULATORY CLABSI

All data will be submitted to SPS two months after the encounter and is due by the 10th day of the month. For example, March data would be submitted by May 10. SPS will collect the following types of data:

OPERATIONAL DEFINITION

MEASUREMENT: Ambulatory CLABSI

I. Description and Rationale

This measure answers the question: How often is a patient harmed due to ambulatory central line associated blood stream infections (CLABSI)?

The current version of the National Healthcare Safety Network (NHSN) Manual: Patient Safety Component Protocol, will serve as the official reference guide for rules around defining central line associated blood stream infections with some modifications detailed in this document to understand what is included the numerator and denominator for ambulatory CLABSI.

II. Population Definition

Ambulatory patient central line days and CLABSI events will be included in the measure. (See the Ambulatory Patient Op Def)

Ambulatory central line days and CLABSI events will be collected for specific populations of patients instead of patient location. Patient populations may include Ambulatory Hem-Onc, Ambulatory Intestinal Failure, Ambulatory Dialysis/renal, other.

Inclusion criteria:

This measure includes all ambulatory patients with a central line regardless of age, as long as they are followed by a pediatric physician. A CLABSI is considered an ambulatory CLABSI if the date of event occurs in the ambulatory setting. The window for capturing ambulatory CLABSI is beginning on the 2nd calendar day post discharge (day of discharge plus one calendar day). CLABSI infections and central line days would continue to count as ambulatory unless the patient is admitted to an inpatient location and meets criteria for an inpatient CLABSI which is 3rd hospital calendar day of admission or later (day of admission plus 2 calendar days). Ambulatory central line days and Ambulatory CLABSI events are counted regardless of the patient's central line being accessed and includes both the days that the patient is home and the days that the patient has an outpatient visit or procedure.

Date of Event Classification

Hospital Day	Classification
2 days before admission	Ambulatory Acquired
1 day before admission	Ambulatory Acquired

Hospital Day 1 (day of admission)	Ambulatory Acquired
Hospital Day 2	Ambulatory Acquired
Hospital Day 3 (day of discharge)	Hospital Acquired
Ambulatory Day 1	Hospital Acquired
Ambulatory Day 2	Ambulatory Acquired
Ambulatory Day 3	Ambulatory Acquired

Exclusion criteria:

Patients defined as inpatient and meet criteria for inpatient central line days and inpatient CLABSI events per NSHN definition (i.e., hospital acquired infections).

III. Additional Definitions

1. **Ambulatory Central Line Associated Blood Stream Infection (CLABSI):** A laboratory confirmed bloodstream infection where an eligible BSI organism is identified, and an eligible central line is present per NHSN definition. This definition includes MBI events.

2. **Ambulatory Central Line Days:** The number of days a central line has been present to determine if a LCBI is a CLABSI. NOTE: A central line day is counted for an ambulatory central line even if the line is not accessed.

3. **Central line (CL):** An intravascular catheter that terminates at or close to the heart, OR in one of the great vessels that is used for infusion, withdrawal of blood, or hemodynamic monitoring. Consider the following great vessels when making determinations about CLABSI events and counting CL device days:

    1. Aorta
    2. Pulmonary artery
    3. Superior vena cava
    4. Inferior vena cava
    5. Brachiocephalic veins
    6. Jugular veins
    7. Subclavian veins
    8. External iliac veins
    9. Common iliac veins
    10. Femoral veins
    11. In neonates, the umbilical artery/vein.

    Notes:

    1. Neither the type of device nor the insertion site is used to determine if a device is considered a central line for SPS reporting purposes.

2. At times, a CL may migrate from its original central location after confirmation of proper placement. SPS does not require ongoing verification of proper line placement. Therefore, once a line has been designated a CL it continues to be a CL, regardless of migration, until removed from the body.

Identification of Line Insertion Date:

A central line insertion date should be used from EHR documentation for counting of central line days. If the date of insertion is not listed in the EHR, utilize the day the patient was first seen for ambulatory care.

Identification of Line Removal Date:

A central line removal date should be used from EHR documentation for counting of central line days. If the date of removal is not listed in the EHR, utilize the first day in which the patient was seen for ambulatory care without a central line.

For patients that are deceased and have a central line in place, the date of death will be considered the date of removal.

For patients transferring to another hospital, use date of last encounter.

Location of Attribution Special Circumstances:

The location where the patient's central line days (denominator data) was counted on the date of event for the CLABSI is the location of attribution, unless the patient is admitted.

1. **If the patient has 2 central lines:**
   a) Attribute the infection to the line that resulted in the positive blood culture
   b) If both lines are infected – go with the line of the highest risk (standard with inpatient NHSN criteria)
   c) If same risk, attribute to the line with a potential identified risk (e.g. if dressing was soiled prior to infection)
   d) If no identified risk, or both lines with identified risks, go with line that was last accessed prior to symptom presentation

2. **For patients receiving care in multiple pediatric centers and/or pediatric long term care facilities:**

   If the date of the event for the CLABSI is on the date of transfer or discharge, or the next day, the infection is attributed to the transferring/discharging location. This is the transfer rule. If the patient was in multiple locations within

the transfer rule timeframe, attribute the CLABSI to the first location the day before the infection date.

If a patient is receiving some of their care in another pediatric inpatient center (i.e. they go to a different organization for a bone marrow transplant etc) and the dates are known, you may subtract those dates from your ambulatory central line days. If this information is not known, the ambulatory central line day count would continue.

If the patient develops a CLABSI while under the care of another organization, this CLABSI and would be attributed to the other organization. The location where the patient's central line days were counted on the date of event for the CLABSI is the location of attribution; therefore, the CLABSI belongs to that location.

Location example:

Date	Patient Location	Location of Attribution
5/5	Ambulatory Setting 1	
5/6	Ambulatory Setting 1 & Ambulatory Setting 2	
5/7 (CLABSI)	Ambulatory Setting 2	Ambulatory Setting 1
5/8	Ambulatory Setting 2	
5/9	Ambulatory Setting 1	

3. **For blood cultures drawn at outside facilities:**

If the criteria for an ambulatory CLABSI was met at an encounter at an outside organization, they will still count as an ambulatory CLABSI at their home organization if they meet the NHSN definitions.

For example, if a patient normally receives care at their home organization but is traveling and receives care and cultures at a different facility, the home organization will still own the CLABSI event.

Location example:

Date	Patient Location	Location of Attribution
5/5	Home organization	
5/6	Home organization & outside ED for labs	
5/7 (CLABSI)	Home organization	Home organization because they are the service who cares for/owns the line

5/8	Home organization	
5/9	Home organization	

4. **For patients who come for an Ambulatory Consult, ED visit or procedure from a Different Organization:**

    1. If the patient is seen at another institution, and that institution does not assume ownership of the line, the line days continue to be counted in the home organization and any CLABSI events are attributed to the home organization. Unless the intent is to transfer the care to another institution, the home organization continues to own that line.

Location example:

Date	Patient Location	Location of Attribution
5/5	Organization 1	
5/6	Organization 1 & Organization 2	
5/7 (CLABSI)	Organization 2	Organization 1
5/8	Organization 1	
5/9	Organization 1	

5. **For patients who are seen by multiple ambulatory services in the same organization that play a role in central line care:**

    The service that makes the decision to have the central line placed owns the CLABSI infection and the central line days regardless of which ambulatory service last saw the patient.

Location example:

Date	Patient Location	Location of Attribution
5/5	Home with a CVC owned by Service A	
5/6	Clinic visit(s) with Services B, C, D, etc.	
5/7 (CLABSI)	Home with a CVC owned by Service A	Service A
5/8	Home with a CVC owned by Service A	

IV. Sampling and Data Collection Plan

V. Calculation

Numerator(s): Total monthly ambulatory CLABSI events

Denominator: Total monthly ambulatory line days

Calculating Ambulatory Central Line Days:

Total monthly Central line days – total monthly inpatient central line days = ambulatory central line days

Formulas:

Ambulatory CLABSI $Rate = \frac{\#\ of\ Ambulatory\ CLABSIs}{Ambulatory\ Central\ Line\ days} * 1000$

VI. Data Quality Audit Procedures

Hospitals develop their own procedures for auditing data quality until quality auditing procedures are suggested by the network.

VII. Notes

VIII. Experts/Resources

N/A

X. Attachments

None

References:

Bloodstream Infections (cdc.gov)

XI. Revision History

Version	Primary Author(s)	Description of Version	Date Completed
V 1.0	Jen Ormsby, Jeff Hord, Amy Kunkel, Eric Werner, Mary Beth Davis, Stephanie Powell	Initial Draft – Ambulatory CLABSI Op Def	8/1/2021
V 2.0	Trey Coffey, Katie Nowacki, Katie Staubach, Emily Gehring, Jeff Hord, Amy Kunkel, Eric Werner, Mary Beth Davis, Stephanie Powell Infection Prevention Advisory Group: Jen Ormsby, Wendy Burg, Sarah Smathers, Dorine Berriel	Updated wording from facility to setting, changed sources from NHSN to SPS, added criteria around patient admission status, added language around line attribution and clarification if the patient has more than one central line	8/1/2022
V 3.0			
V 4.0			
V 5.0			
V 6.0			
V 7.0			

6. IMPROVEMENT APPROACH

PHASE 2: TESTING FACTORS FOR IMPROVEMENT IN AMBULATORY CLABSI

Testing requires reliable implementation of factors and relating those factors to a change in outcomes for patients in the ambulatory setting. For our purposes, a 'factor' is a measured change to your hospital system that can be measured during every transaction, like a bundle. The theory is that if the factor is effective, increasing the reliability of the factor will improve the outcome measure.

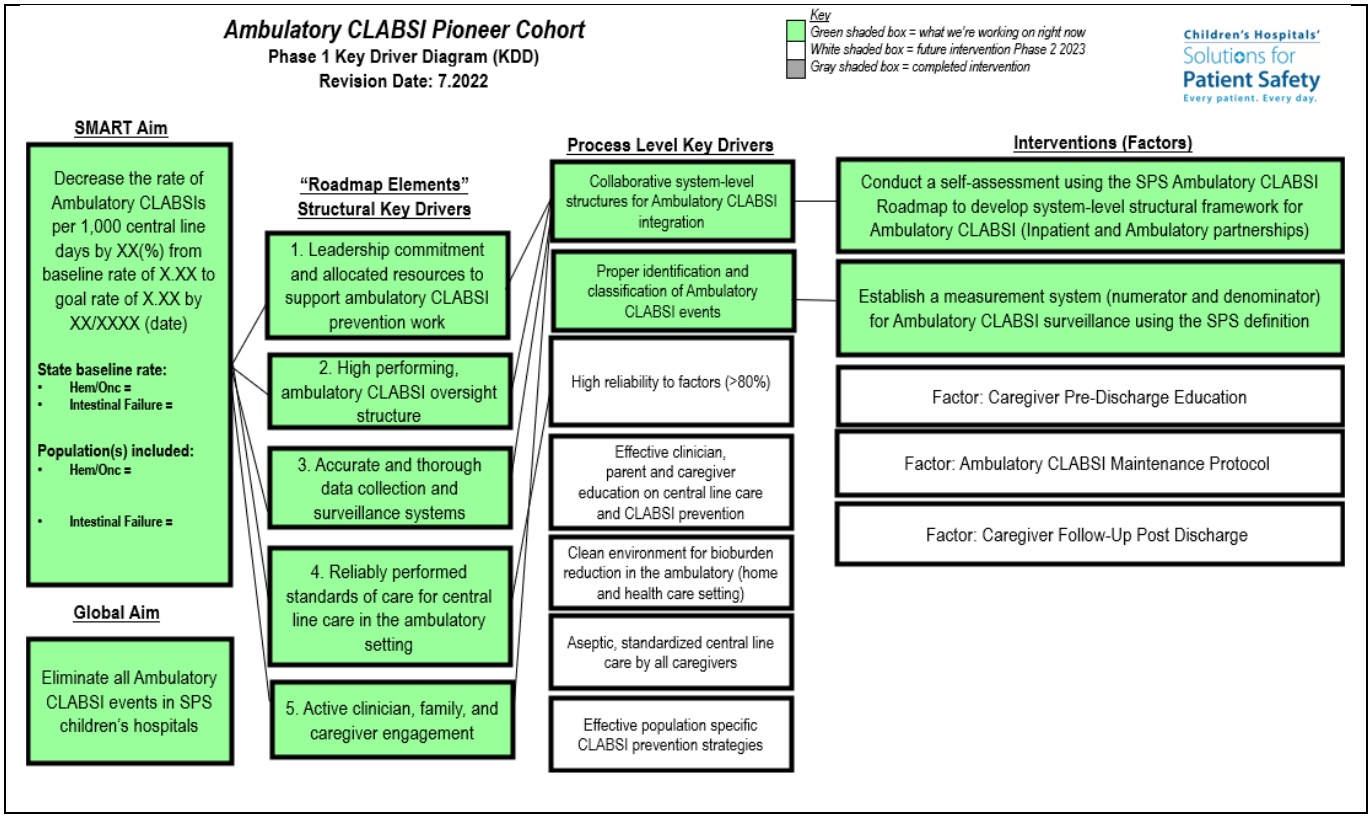
The cohort will ask teams to focus on being reliable with the ambulatory CLABSI factors. Reliability means that a factor is observed correctly implemented greater than 80% of the time for all ambulatory patients with a central line in the Hematology-Oncology, Intestinal Failure, or proposed populations. As with all of our improvement, we will start small with becoming reliable to one factor, and then slowly add additional factors.

The factor definitions will be defined as a cohort so that each hospital in the cohort will implement and measure each factor to the same standard. The Ambulatory CLABSI Pioneer Cohort will support documentation, data collection, and improvement discussions for ambulatory CLABSI prevention.

SPS recommends a goal of **30 observations per month** for the factor being tested. 30 observations of patients that meet clinical criteria will help obtain enough statistical power to see if the factors, when implemented reliably, reduce ambulatory CLABSIs. SPS recommends to start small when collecting observations, then increase the sample size as your team has bandwidth to do so. If you have less than 30 patients in the population, sample all patients. Hospitals develop their own procedures for auditing unless auditing procedures are suggested by the network.

7. PHASE 1: AMBULATORY CLABSI KEY DRIVER DIAGRAM

Below is a preview of the Ambulatory CLABSI Pioneer Cohort key driver diagram, including the system-level key drivers that can be implemented while a robust detection and measurement system for Ambulatory CLABSI is being developed. Additional key drivers and factor details will be released at the start of Phase 2 of the Ambulatory CLABSI Pioneer Cohort.



8. AMBULATORY CLABSI PIONEER COHORT FACTORS

PHASE 2: TESTING FACTORS FOR IMPROVEMENT IN AMBULATORY CLABSI

Phase 2 of the Ambulatory CLABSI Pioneer Cohort will launch in 2023. Below is a preview of the factors being proposed to reduce ambulatory CLABSI. More detailed factor definitions will be refined and are subject to change. All changes will be shared with the cohort at the start of the launch of Phase 2. SPS strongly encourages pioneer hospitals to establish a reliable detection and measurement system for ambulatory CLABSI **prior** to the testing of these factors. Hospitals participating in the pioneer cohort will begin factor testing only at the start of Phase II and should not work ahead.

Factor	High-level Definition
Caregiver Pre-discharge Education	1. Prior to the day of discharge, the caregivers (patient optional if applicable) will receive central line care education with ambulatory CLABSI prevention elements 2. Education must include a teach back component and caregiver must be assessed by a nurse as ready to care for the central line at home 3. Two caregivers must receive the education prior to the day of discharge to be considered compliant
Ambulatory CLABSI Maintenance Protocol	A registered nurse or clinician with subject matter expertise in central line care assesses the caregivers on the ambulatory CLABSI maintenance protocol for ambulatory patients with a central line which includes the following elements: 1. Regular assessment of dressing to assure clean/dry/occlusive 2. Standardized access procedure 3. Standardized dressing and cap change procedures/timing 4. Clean work environment for access, dressing, and cap changes 5. Protecting central line from contamination and catheter fracture
Caregiver Follow-up Post Discharge	A registered nurse or clinician with subject matter expertise in central line care has a meaningful interaction with parents or caregivers of patients discharged with a new central line between day one but no longer than day five post-discharge. Day of discharge is considered day zero. A meaningful interaction can include a phone call, text messaging, portal messaging, virtual communication, email, in-person, or telehealth visit and must be bi-directional and include feedback from the caregivers. Information in the standards of home care for central lines and escalation of problems are addressed. The following are required as a part of the follow-up post discharge: 1. Who is caring for patient at home? (Status of training completion for caregiver) 2. Medication questions related to administration through the central line 3. Did home supplies arrive and are there any questions regarding use? 4. Escalation of any issues – how do I get help/triage about the central line? 5. Biggest concern/what worries you have related to the care of the line?

9. TIMELINE

July 2022
- Ambulatory CLABSI invitation packet sent to all network hospitals' Project Managers & Quality Leaders

August 2022
- Office hours
- Hospitals commit to join the Ambulatory CLABSI Pioneer Cohort
- Hospitals select resource and support team members
- Hospitals teams detail plans to implement and measure factors
- Hospitals develop a project plan

September 2022 – August 2023
- Launch Ambulatory CLABSI as a SPS Pioneer HAC Phase 1
- Hospitals utilize expected detection methods (outcomes)
- Hospitals adopt operational definition
- Hospitals begin submitting house-wide outcomes measures

September 2023
- Evaluate cohort baseline to determine readiness for Ambulatory CLABSI as a SPS Pioneer HAC Phase 2
- Prepare for factor testing

October 2023 and on going
- Launch of Ambulatory CLABSI as a SPS Pioneer HAC Phase 2
- Begin submitting process data for at least one factor
- Factor testing (spread to more than one factor as your team develops bandwidth)
- Goal: maintain at least 80% reliability with all factors
- Reduction goal achieved

Projected project end estimate Q4 2024
- Prevention bundle and change package published
- Spread learning to the network by transitioning Ambulatory CLABSI to the aviator phase

10. OFFICE HOURS

Office Hours will take place on **Tuesday, Aug. 16 from 12-1 p.m. ET.**

During this time, we will discuss topics such as the operational definition, factors, and data expectations. We will also review any questions network hospitals may have and collect any feedback from your team.

To participate, please use the following link to register:

Registration URL: https://solutionsforpatientsafety.zoom.us/meeting/register/tZAudu-qrTIpHtbY66f4j5klOBvgQTaaDTuo

Meeting ID: 843 1623 9342

Password: 247395

11. PIONEER COHORT CALLS

Webinar appointments will be sent via Outlook to those listed on the commitment form. Webinars will occur on a monthly cadence, beginning in September 2022.

12. SPECIAL THANKS

Each of the network members below have spent countless hours working as a very effective team to align on this improvement plan, and we at SPS are so grateful for their generous participation. These individuals demonstrate our mission and values of *working together to eliminate serious harm across all children's hospitals*. Our patients and families are so fortunate. Thank you!

Name	Hospital	Role
Amy Kunkel	Dayton Children's Hospital	Ambulatory CLABSI Subject Matter Expert
Audrey Hubbard	Baylor Scott & White McLane Children's Medical Center	Ambulatory CLABSI Subject Matter Expert
Christine Marigliano	Cohen Children's Medical Center of New York	Ambulatory CLABSI Subject Matter Expert
Courtney Nataraj	New York-Presbyterian Komansky Children's Hospital	Ambulatory CLABSI Subject Matter Expert
Jeff Hord	Akron Children's Hospital	Ambulatory CLABSI Subject Matter Expert
Stephanie Powell	Children's Hospital of Philadelphia	Ambulatory CLABSI Subject Matter Expert
Emily Stiglich	Children's Hospital of Philadelphia	Ambulatory CLABSI Subject Matter Expert
Eric Werner	Children's Hospital of The King's Daughters	Ambulatory CLABSI Subject Matter Expert
Sandip Godambe	CHOC Children's Orange	Ambulatory CLABSI Subject Matter Expert
Chris Quiles-Wong	UH/Rainbow Babies & Children's Hospitals	Ambulatory CLABSI Subject Matter Expert
Alexandra Carey	Boston Children's Hospital	Ambulatory CLABSI Subject Matter Expert
Jen Ormsby	Boston Children's Hospital	Ambulatory CLABSI Subject Matter Expert
Megan Gabel	University of Rochester Medical Center – Golisano Children's Hospital	Ambulatory CLABSI Subject Matter Expert
Mary Beth Davis	University of Iowa Stead Family Children's Hospital	Ambulatory CLABSI Subject Matter Expert

13. REFERENCES

[i] Johansen ME, Kircher SM, Huerta TR. Reexamining the Ecology of Medical Care. N Engl J Med 2016; 374:495-496.

[ii] Lorinez CY, Drazen E, Sokol PE, Neerukonda KV, Metzger J, Toepp MC, Maul L, Classen DC, Wynia MK. Research in Ambulatory Patient Safety 2000-2010: A 10 Year Review. American Medical Association, Chicago, IL 2011. *Downloaded from https://psnet.ahrq.gov/resources/resource/23742/research-in-ambulatory-patient-safety-2000-2010-a-10-year-review on July 21, 2019*

[iii] Woods DM, Thomas EJ, Holl JL, Weiss KB, Brennan TA. Ambulatory care adverse events and preventable events leading to a hospital admission. Qual. Saf Health Care 2007;16:127-131.

[iv] Lyren A, Dawson A, Purchell D, Hoffman J, Provost L. Developing Evidence for New Patient Safety Bundles Through Multihospital Collaboration. J Patient Saf 2019; 00 (00): 1-9.

SOLUTIONS FOR PATIENT SAFETY

Working together to eliminate serious harm

SPS Ambulatory CLABSI Pioneer Cohort

Primary Target Populations: Hematology-Oncology and/or Intestinal Failure

Participation Commitment Form for Cohort Hospitals

INSTRUCTIONS:

Please fill out the table and questions below to indicate your organization's commitment to participate and return to ochsps@cchmc.org by **Friday, Sept. 2.** Individuals listed will serve as your hospital's contacts to receive relevant Ambulatory CLABSI Pioneer Cohort communications. Upon submission of your commitment form, you will receive the cohort call appointments and be added to the finalized list of participating Ambulatory CLABSI Pioneer hospitals.

Hospital Name		
Hospital Team Members Role:	**Name**	**Email Address**
Senior Leader Sponsor		
Ambulatory CLABSI Pioneer Cohort Project Team Leader		
Ambulatory CLABSI Pioneer Cohort Project Team Leader		
Ambulatory CLABSI Pioneer Cohort Project Team Member(s)		

1. A senior leader project sponsor is identified, informed, and supports the decision to join the SPS Ambulatory CLABSI Pioneer Cohort.
   - ☐ Yes
   - ☐ No

2. As a part of the work the SPS Ambulatory CLABSI Pioneer Cohort requires, my hospital commits to detection, measurement, and factor testing for the following populations in: (check all that apply)
   - ☐ Ambulatory Intestinal Failure patients

- ☐ Ambulatory Hematology-Oncology patients
- ☐ Other Proposed Population. Please identify other populations your hospital would propose to include for Ambulatory CLABSI improvement.

3. My hospital has chosen to participate and we understand and agree to support the expectations that participation in the SPS Ambulatory CLABSI Pioneer Cohort requires, including but not limited to: participation in cohort calls, submission of outcomes data, active testing/implementation of at least one factor, and process reliability measurement/submission for your chosen factor(s).
   - ☐ Yes
   - ☐ No

4. My hospital agrees to develop a measurement system to track Ambulatory CLABSI rates in a specific population(s) using the SPS Ambulatory CLABSI operational definition before testing of factor/interventions.
   - ☐ Yes
   - ☐ No

5. My hospital agrees to submit baseline data prior to testing of factors/interventions to SPS.
   - ☐ Yes
   - ☐ No

6. My hospital agrees to implement the Ambulatory CLABSI roadmap to develop structural support for ambulatory CLABSI.
   - ☐ Yes
   - ☐ No

7. Does your surveillance system have the ability to separate permanent vs non-permanent central lines using the NHSN definition and/or specific line type (i.e., tunneled catheter, port, PICC) by month?
   - ☐ Yes, we have this data
   - ☐ No, this would be a big lift for us to build this function

Ambulatory Incubator

SPS is seeking small teams of 2-3 network hospitals who are interested in collaborating to identify, explore, and develop quality improvement work to decrease serious ambulatory harms for both employees/staff and patients. Interested teams are asked to submit a high-level proposal for consideration.

Selected SPS Incubator project teams will guide the identification, exploration, and development of quality improvements in ambulatory serious harms via small-group testing. The attached invitation packet will provide you with the following information:

- Purpose & background
- Methodology
- SPS resources
- Participation expectations
- Proposal evaluation criteria
- Success measures
- Timeline

If your organization is interested in participating in the Ambulatory Incubator work after reviewing, we invite you to complete the following as a team:

1. Submit a high-level proposal of the serious ambulatory harm your team is interested in addressing via the survey link below by **Friday, Sept. 2**:
   - Collated responses will be distributed to all submitters to help facilitate forming small groups of interested improvers
   - Further details about this process can be found in the invitation packet
2. Join us for a 1-hour office hours meeting on **Aug. 16 from 12-1 p.m.** to ask questions and review the process for finding a team, expectations, and getting started
   - Register here
   - Meeting ID: 843 1623 9342
   - Meeting Password: 247395

Ambulatory Incubator Proposal Submission

Ambulatory Incubator Invitation Packet

Downloads a file!

SPS Staff Support

Amy Combs - amy.combs@cchmc.org

Ingrid Cooper - ingrid.cooper@cchmc.org

Back to start

SPS Ambulatory Incubator

Invitation to submit proposal and participate in an Ambulatory Incubator team

1. CHECK LIST – ACTIONS TO COMPLETE

1. Review this document with your team

2. Join us for a 1-hour office hours meeting on **Tuesday, Aug. 16 from 12-1 p.m. ET** to ask questions and review the process for finding a team, expectations, and getting started. To participate, please use the following link to register:

   Registration URL: https://solutionsforpatientsafety.zoom.us/meeting/register/tZAudu-qrTIpHtbY66f4j5klOBvgQTaaDTuo

   Meeting ID: 843 1623 9342

   Password*:* **247395**

3. Please email comments, questions, and improvement ideas to ochsps@cchmc.org

4. If you are interested in forming an Ambulatory Incubator team, please submit a high-level proposal via the Constant Contact survey by **Friday, Sept. 2:** https://lp.constantcontactpages.com/sv/iw6xlhN
   - Responses will be collated and distributed by SPS. Proposal submitters will use this information to find other network hospitals to partner with to form Incubator teams
     - NOTE: once Incubator teams form, teams will then collaboratively submit an Ambulatory Incubator project application for SPS selection consideration. 4-6 applications will be selected as SPS-supported Incubator projects

CONTENTS

2. SOLUTIONS FOR PATIENT SAFETY (SPS) OVERVIEW

SOLUTIONS FOR PATIENT SAFETY

Thank you for your continued support of the Children's Hospitals' Solutions for Patient Safety (SPS) Network and considering participation in the efforts that will establish prevention standards for our network.

Our mission: working together to eliminate serious harm across all children's hospitals.

We are a network of 145+ children's hospitals working together to help each individual hospital make progress on a journey to zero harm, so that every child receives safe care every time they enter our hospitals. We are squarely focused on how we can prevent harm in our hospitals, along with our partners, the Cardinal Health Foundation, Children's Hospital Association, and the federal Partnership for Patients program. SPS is the only such effort in the nation that is specifically focused on improving pediatric care and reducing associated Medicaid costs.

3. BACKGROUND AND PURPOSE

BACKGROUND

Children receive vastly more health care in the outpatient than inpatient setting. For every inpatient visit, an estimated 28 outpatient visits occur. [1] Serious harm can happen in either setting, and preliminary data suggests that the outpatient setting may be even more complex and error prone than the inpatient environment.[2] One study by *Woods et al.* estimated that about 75,000 hospitalizations per year in the United States are secondary to preventable adverse events in the ambulatory setting.[3] Employees are injured in ambulatory settings as well, and little attention has been given to employee harm in this environment.

A significant challenge for improvement in the ambulatory environment is lack of evidence related to the frequency of harms in ambulatory settings, as well as successful change ideas. While SPS has appreciated the importance of establishing a solid infrastructure for ambulatory safety in hospitals and rapidly testing existing change ideas in a very common ambulatory harm (e.g., CLABSI), developing evidence to eliminate other types of serious harm is also critical and must occur simultaneously.

PURPOSE

The SPS Ambulatory Incubator process supports the work of small teams (Incubators) of interested, cross-network improvers collaborating and learning to identify, explore, and develop quality improvement work to decrease serious ambulatory harms for both employees/staff and patients.

4. METHOD

METHOD

Interested hospitals will form small 'Incubator teams' comprised of participants from 2-3 SPS network hospitals working on similar projects. Working together, Incubator teams will submit an Ambulatory Incubator project application to SPS describing the serious ambulatory harm and proposed quality improvement project *(reference details in section 5 for finding an 'Incubator team' and details in section 7 for application selection process).*

Examples of serious harm in the ambulatory setting could be, but are not limited to: cast related pressure injuries, delayed/wrong results, employee exposure to chemicals (e.g., chemo drugs, radiology imaging), patient behavioral events (PBE), medication errors due to language barriers, etc.

SPS will then select up to six project applications to be promoted to SPS-supported Incubator projects, each focused on a type of serious ambulatory harm. Working largely independently, the selected Incubator project teams will use quality improvement (QI) methodology to identify and test potential solutions for that harm, with the goal of providing basic or foundational knowledge that can serve as the basis for quality improvement work on a larger scale (i.e., hospital, regional, or national level).

SPS PROVIDED RESOURCES

Each Incubator team will work largely independently, with some support from SPS quality improvement, data, and project management staff up front to help each Incubator kick off with goals, data collection, milestones, and timelines. After kick-off, the Incubator teams will meet periodically with SPS staff to report on project status and seek assistance related to challenges.

An overview of the expected SPS supporting resources includes:

- Compilation of the submitted high-level proposals to help hospitals connect and form Incubator teams with other SPS network hospitals focused on similar harm reduction
- Kick-off meeting to align on expectations and initial plan
- Quarterly project status meetings with SPS staff and leadership
- QI toolkit and templates
- Data collection and reporting support through REDCap
- Consulting access with SPS leadership and staff

5. SUBMITTING A HIGH-LEVEL PROPOSAL AND FINDING AN INCUBATOR TEAM

Interested SPS network hospitals will form small 'Incubator teams,' comprised of participants from 2-3 SPS network hospitals working on a similar project. The steps below contain further details around identifying partners to form an Incubator team:

1. Hospitals interested in participating in an Ambulatory Incubator team will submit a high-level proposal outlining the serious ambulatory harm they are interested in addressing via a Constant Contact survey by **Friday, Sept. 2**: https://lp.constantcontactpages.com/sv/iw6xlhN

2. Following the survey deadline, SPS will collate all the submitted high-level proposals. The document of collated proposal submissions will include an overview of each proposal and the accompanying submitter's contact information. SPS will distribute the compiled proposal submissions via email to all contacts who submitted, along with the Ambulatory Incubator project application template

3. High-level proposal submitters will review the compiled submissions and identify 1-2 other network hospitals who submitted a similar proposal

4. High-level proposal submitters will connect via email/phone using the contact information provided
    a. Note: all proposal submitters are responsible for proactively reaching out to other contacts. SPS is not designating particular individuals to be responsible for initiating contact
    b. Contacts to compare proposals to ensure alignment
    c. If aligned, Incubator team forms

5. Incubator team submits a detailed Ambulatory Incubator project application to SPS for consideration by **Friday, Oct. 14** *(see section 7 for more details)*.

6. PARTICIPATION EXPECTATIONS

Because of the seriousness, velocity, and resource requirements that participation in the Ambulatory Incubator work requires, SPS would like to ensure that your hospital is aware of the participation requirements.

PARTICIPATION EXPECTATIONS OF EACH HOSPITAL:

- Local hospital executive and senior leadership commitment to the work
- Willingness to collaborate with other SPS network hospitals on an Incubator team
- Identification of resources necessary to achieve proposed AIM, which may include:
    - Clinical or operational champions
    - Team members with quality improvement experience to assist with testing, measurement, observations, etc.
    - Data collection/entry personnel
    - EMR support as needed
    - Project management to coordinate and support team
- Anticipated time commitments:
    - Participation in regular Incubator calls (self-guided and coordinated by each Incubator team)
    - Participation in regular team meetings at your organization
    - Participation in quarterly Incubator progress update calls with SPS (scheduled by SPS)
    - Other improvement efforts as identified by the Incubator team

7. AMBULATORY INCUBATOR APPLICATION SELECTION CRITERIA

After Incubator teams form, members will submit a detailed project application. Applications will be due by **Friday, Oct. 14**. The Ambulatory Incubator project application submitted by each Incubator team will be evaluated and scored based on their alignment to the SPS mission to eliminate serious harm, impact, proof of concept/improvement opportunity, demonstrated commitment by participating hospitals, level of resources

required, ability to achieve the project aim within the proposed timeframe, and the opportunity to address potential safety disparities.

All Ambulatory Incubator project applications will be scored by a team of reviewers using a selection decision matrix. SPS leadership will evaluate and determine 4-6 applications to be selected as SPS-supported Incubator projects.

Each team who submitted a project application will be notified of their selection status, however, not all applications will be accepted to become SPS-supported Incubator projects. SPS leadership may provide feedback, particularly if an application is not accepted.

8. TIMELINE

HIGH-LEVEL TIMELINE:

Aug-Sept. 2022:

- SPS hosts office hours call to answer questions
- Call for high-level proposals will be communicated to the SPS network
    - Incubator teams form
    - Ambulatory Incubator project application template sent to Incubator teams

Oct. 2022:

- Ambulatory Incubator project applications submitted by Incubator teams
- Ambulatory Incubator project application evaluations and selections

Nov-Dec. 2022:

- Ambulatory Incubator project applicants notified of selection status
- SPS hosts kick-off call(s) with teams of selected SPS-supported Incubator projects
- Incubator project teams begin designing and planning projects

Jan. 2023 through Aug. 2024:

- Incubator project teams test and learn supported by quarterly progress updates with SPS *(note: project teams test for ideally 12 months and not to exceed 18 months)*

Jan-Aug. 2024:

- Incubator projects end
- Evaluate results and recommend next steps

9. MEASURING SUCCESS

Selected Incubator project teams will determine their project aim, theory for improvement (such as a key driver diagram), and project timeline. By the end of the project time period (ideally 12 months and not to exceed 18 months), an Incubator project team should have the following foundational outputs:

- Problem statement about the harm
- Focused literature review

- Operational definition
- Measurement or measurement ideas
- Detection processes
- Improvement ideas
- Existing knowledge translating to the ambulatory setting
- Executed small scale testing with data outputs
- Reflections or lessons learned about the work

Potential additional outputs may include a proposed bundle, robust evidence, or a change package, but are not expected. Incubator project teams should have sufficient information gathered to make an informed recommendation to SPS leadership on next steps for spread.

10. SPECIAL THANKS

Each of the network members below have spent countless hours working as a very effective team to align on this improvement plan, and we at SPS are so grateful for their generous participation. These individuals demonstrate our mission and values of *working together to eliminate serious harm across all children's hospitals*. Our patients and families are so fortunate. Thank you!

Name	Hospital	Role
Jodi Simon	Akron Children's Hospital	Ambulatory Incubator Subject Matter Expert
Stephanie Whealen	SSM Health Cardinal Glennon Children's Hospital	Ambulatory Incubator Subject Matter Expert

11. REFERENCES

[1] Johansen ME, Kircher SM, Huerta TR. Reexamining the Ecology of Medical Care. N Engl J Med 2016; 374:495-496.
[2] Lorinez CY, Drazen E, Sokol PE, Neerukonda KV, Metzger J, Toepp MC, Maul L, Classen DC, Wynia MK. Research in Ambulatory Patient Safety 2000-2010: A 10 Year Review. American Medical Association, Chicago, IL 2011. *Downloaded from https://psnet.ahrq.gov/resources/resource/23742/research-in-ambulatory-patient-safety-2000-2010-a-10-year-review on July 21, 2019*
[3] Woods DM, Thomas EJ, Holl JL, Weiss KB, Brennan TA. Ambulatory care adverse events and preventable events leading to a hospital admission. Qual. Saf Health Care 2007;16:127-131.