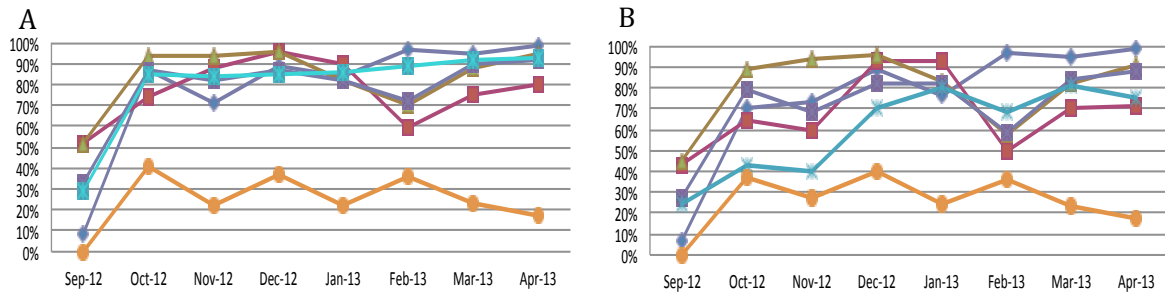


Run Charts

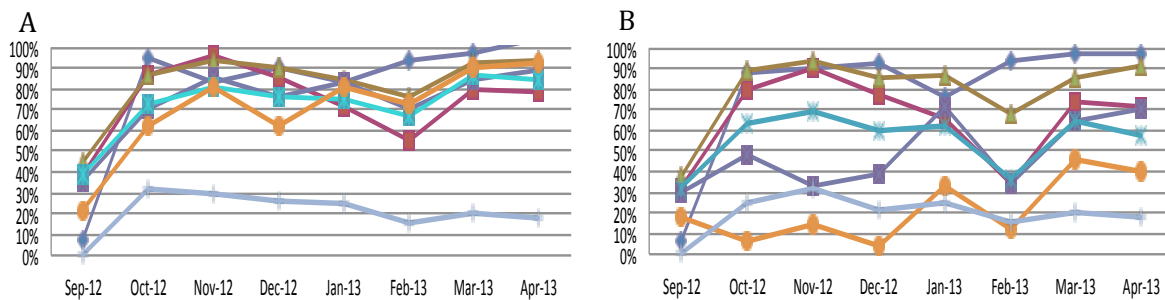
Newborn visit



Topic	Pre-Collaborative IPAG Documentation	Post Collaborative IPAG Documentation	
		Discussion of Correct & Incorrect Questions	Discussion of only Incorrectly Answered Questions
Screening tool use	7%	99%	99%
Car Seat Safety	43%	80%	72%
Sleep Safety	45%	95%	91%
Fire/burn Safety	28%	91%	88%
Family Interactions	24%	92%	75%
Family identified IP topic	0%	17%	17%

A. Run chart of newborn WCV, showing documentation of discussions for all topics. B. Run chart of newborn WCV, showing documentation of discussions occurring around those topics families answered incorrectly. All data represented as percent of charts containing documentation of listed measure.

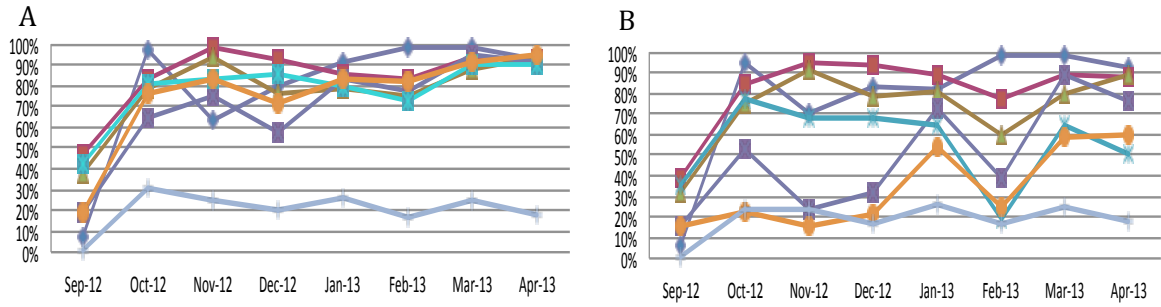
Two-Month Visit



Topic	Pre-Collaborative IPAG Documentation	Post Collaborative IPAG Documentation	
		Discussion of Correct & Incorrect Questions	Discussion of Correct & Incorrect Questions
Screening tool use	7%	100%	98%
Car Seat Safety	33%	79%	72%
Sleep Safety	38%	94%	92%
Family Interactions	30%	89%	70%
Fall Prevention	33%	85%	58%
Supervision	18%	93%	40%
Family identified IP Topic	0%	17%	17%

A. Run chart of two-month WCV, showing documentation of discussions for all topics. B. Run chart of two-month WCV, showing documentation of discussions occurring around those topics families answered incorrectly. All data represented as percent of charts containing documentation of listed measure.

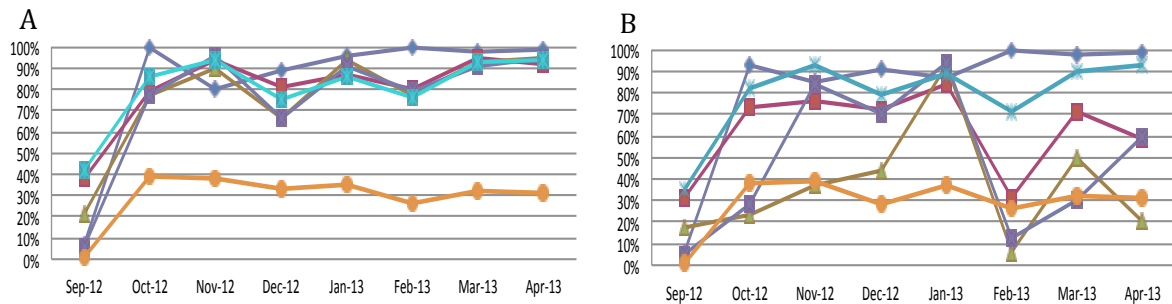
Four-Month Visit



Topic	Pre-Collaborative IPAG Documentation	Post Collaborative IPAG Documentation	
		Discussion of Correct & Incorrect Questions	Discussion of Correct & Incorrect Questions
Screening tool use	6%	93%	93%
Sleep Safety	39%	93%	88%
Fire/burn Safety	32%	94%	90%
Fall Prevention	16%	92%	77%
Family Interactions	35%	90%	50%
Supervision	16%	95%	60%
Family Identified IP Topic	1%	19%	19%

A. Run chart of four-month WCV, showing documentation of discussions for all topics. B. Run chart of four-month WCV, showing documentation of discussions occurring around those topics families answered incorrectly. All data represented as percent of charts containing documentation of listed measure.

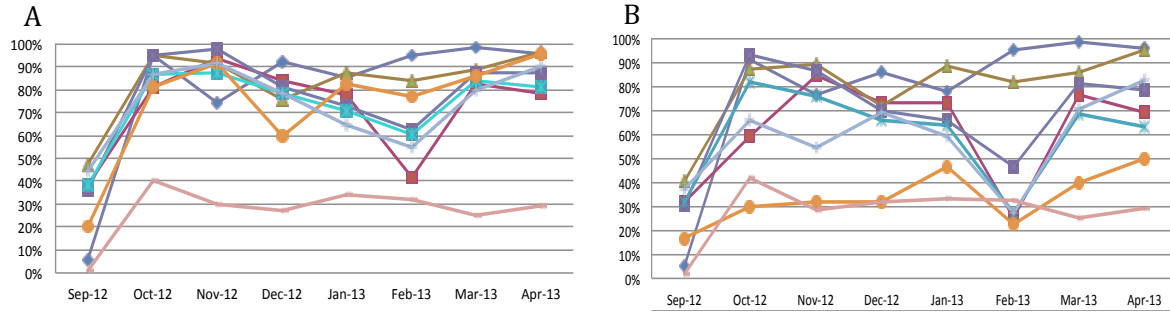
Six-Month Visit



Topic	Pre-Collaborative IPAG Documentation	Post Collaborative IPAG Documentation	
		Discussion of Correct & Incorrect Questions	Discussion of Correct & Incorrect Questions
Screening tool use	6%	99%	99%
Fall Prevention	31%	92%	59%
Supervision	18%	95%	20%
Water Safety	5%	95%	60%
Choking Risks	35%	94%	93%
Family Identified IP Topic	1%	31%	31%

A. Run chart of six-month WCV, showing documentation of discussions for all topics. B. Run chart of six-month WCV, showing documentation of discussions occurring around those topics families answered incorrectly. All data represented as percent of charts containing documentation of listed measure.

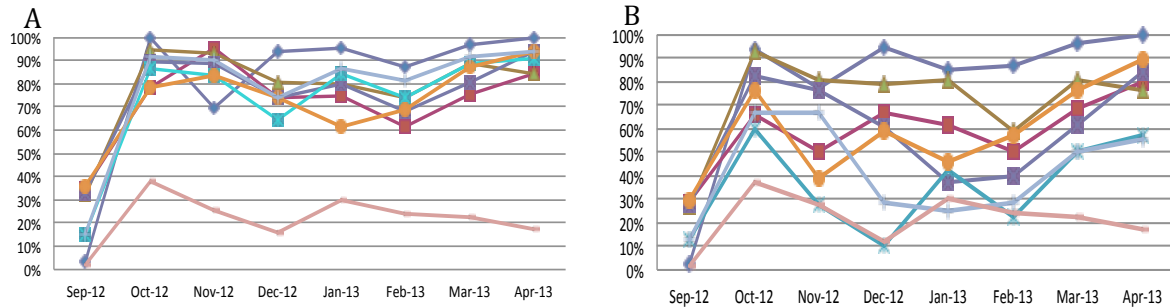
Nine-Month Visit



Topic	Pre-Collaborative IPAG Documentation	Post Collaborative IPAG Documentation	
		Discussion of Correct & Incorrect Questions	Discussion of Correct & Incorrect Questions
Screening tool use	5%	96%	96%
Car Seat Safety	32%	78%	69%
Choking Risks	40%	97%	95%
Unintentional Ingestions	30%	88%	78%
Fall Prevention	32%	81%	63%
Play Safety	17%	96%	50%
Home Safety	37%	90%	83%
Family Identified IP Topic	2%	29%	29%

A. Run chart of nine-month WCV, showing documentation of discussions for all topics. B. Run chart of nine-month WCV, showing documentation of discussions occurring around those topics families answered incorrectly. All data represented as percent of charts containing documentation of listed measure.

Twelve-Month Visit



Topic	Pre-Collaborative IPAG Documentation	Post Collaborative IPAG Documentation	
		Discussion of Correct & Incorrect Questions	Discussion of Correct & Incorrect Questions
Screening tool use	3%	100%	100%
Car Seat Safety	29%	85%	80%
Unintentional Ingestions	26%	85%	77%
Fall Prevention	27%	94%	85%
Play Safety	13%	91%	57%
Home Safety	30%	94%	89%
Water Safety	13%	94%	56%
Family Identified IP Topic	2%	17%	17%

A. Run chart of twelve-month WCV, showing documentation of discussions for all topics. B. Run chart of twelve-month WCV, showing documentation of discussions occurring around those topics families answered incorrectly. All data represented as percent of charts containing documentation of listed measure.

Six practices with 16 pediatricians participated in the learning collaborative, submitting chart review data to the injury prevention team on a monthly basis. The run charts above illustrate improvement in documentation of injury prevention anticipatory guidance provided at the six well child visits during the first year of life. Age appropriate injury prevention topics were discussed at each of the well child visits - each topic is represented as a unique color and shape on the respective well child visit run chart.

Data was analyzed and presented in several forms to assist in answering the collaborative aims:

1. 90% of patients 1 year of age and younger will have documentation of using the screening tool at all well child visits.
2. 90% of parents with children 1 year of age and younger will identify at least one topic for discussion with their physician at all well child visits.
3. 90% of well child visits by the physician will cover all age appropriate injury counseling identified during the visit.

The above run charts exhibit improvement in screening tool use, Aim #1, for each well child visit. At baseline, prior to the start of the collaborative, 6.6% of all well child visit charts reviewed utilized any type of screening tool. By the end of the collaborative, 97.2% charts utilized our screening tool, exceeding the 90% goal listed above.

During the collaborative, discussion points for all children \leq 1 year of age increased for all topics, Aim #3, the majority of which met or exceeded the 90% documentation goal. Greatest percent increase in discussions about injury anticipatory guidance by mechanism occurred in: water (84.9%, n=231), play (75.65%, n=154), and supervision safety (73.61%, n=251), when responses were aggregated by office visit topic. The chart below compiled data from all office visits around a particular topic, pre and post learning collaborative; the percent change in discussions noted in the last column.

Topic	% Addressed Pre-Collaborative (n)	% Addressed Post-Collaborative (n)	% Δ
Car seat	41.16 (396)	80.12 (332)	38.96
Sleep	48.0 (300)	93.89 (262)	45.89
Fire/burn	35.5 (200)	92.61 (176)	57.11
Family	28.0 (300)	91.19 (261)	63.19
Fall	38.06 (494)	87.96 (407)	49.9
Supervision	20.81 (298)	94.42 (251)	73.61
Water	10.77 (195)	95.67 (231)	84.9
Choking	44.67 (197)	95.35 (172)	50.68
Ingestion	34.01 (197)	86.27 (153)	52.26
Play	17.86 (196)	93.51 (154)	75.65
Home	40.31 (196)	91.56 (154)	51.25

Furthermore, the injury prevention project team developed two run charts to display improvement around Aim #3. Chart A for each well child visit contains percent documentation of all discussions around age appropriate injury prevention guidance for that well child visit.

While Chart B removes screening tool topics in which parents answered the question correctly and therefore did not necessarily require further discussion by the physician; chart B highlights collaborative progress towards provision of counseling when families knowledge of a topic was insufficient.

Finally, Aim #2, focused on families identifying at least one injury prevention anticipatory guidance topic for discussion. Teams did not achieve the 90% goal, namely because parents felt that all injury prevention topics were discussed on the screening tool and could not identify any additional topics.

Themes from Practice Narratives

During the course of the eight-month learning collaborative practices submitted monthly practice narratives. Practice narratives served as a mechanism for the Injury Prevention project team to identify successes and challenges that teams faced during action periods as well as capture qualitative feedback on the ease and effectiveness of the injury prevention anticipatory guidance screening tool. Responses from monthly practices narratives guided action period call topics and discussions.

Early in the collaborative participating teams provided valuable feedback on usability of the screening tool during daily practice. Practices provided screening tools for families to complete while waiting to see the physician which were then graded by providers to determine which responses required discussion during the office visit – many teams used the provided transparency grading sheet to quickly identify inappropriately answered questions. It was through this exercise that providers noticed which questions and topics parents continually answered incorrectly and consequently which physician talking points were difficult to deliver. These insufficiencies of the screening tool and physician talking points were discussed in depth on the first two action period calls and ultimately lead to the development and rewording of the screening tools for use in wave two of the learning collaborative. The majority of rewording focused on rephrasing car seat, infant temperament, and choking questions. However, physicians suggested, “I don't think some of these are question or wording issues, parents just need the education.” Practice narrative responses later in the collaborative revealed that providers were continually “surprised how people sleep with their children and where the children sleep.” The first two action period calls also focused on delivery of physician talking points - family interactions was the most frequently cited talking point to deliver – physicians found this to “be a touchy subject, hard to deliver and hard to document.”

Improvement in several injury prevention anticipatory guidance topics was still weak to moderate, particularly after the Injury Prevention team discussed how to approach the minor challenges around questions on the tool and physician talking points. A monthly practice narrative revealed that providers had to determine what topics to address during the brief well child visit. The Injury Prevention Project team received mixed responses to the question: “How do you determine which questions to discuss with families?” Half of the practices stated that

they discussed all incorrectly answered questions with families while others prioritized their discussions - providers determined how “risky their practice is” starting “with the most dangerous and working my way down.” Despite trying to create an injury prevention screening tool that minimized time necessary to discuss anticipatory guidance, providers still had too much to discuss during well child office visits.

Practice narratives also served as a time for teams to reflect on the past months data or to explain why it was difficult to meet the minimum chart review requirement per physician. Teams also reported that they had begun to implement tools at all screening visits as well as how they planned to continue to use tools and conduct random chart audits on a quarterly basis – “this has made the office, as a whole, aware of the importance of injury prevention.” Teams also specifically stated that they will continue to encourage car seat checking, make parents aware of safe sleep environments and improve the teaching they provide to parents when discussing injury prevention anticipatory guidance with children one year and younger but that they would be interested in tools that discussed injury prevention behaviors for older children.

Results of Office Systems Inventory

In addition to maintaining previously established office systems, of which practices (n=6) averaged 3.67 systems, an additional 3 office systems were adapted by practices during the course of the learning collaborative, a statistically significant increase (p = 0.0125). Prior to the learning collaborative none of the practices were using an injury prevention screening tool and subsequently were not monitoring the use of such tool. Upon completing the learning collaborative over 2/3 of the practices were using the Injury Prevention Anticipatory Guidance tool with all children one year and younger and were monitoring use of that tool. Additionally, there was a 33% increase in practice provision of appropriate safety products for families.

Office Systems Inventory	Pre	Post
Key Driver 1 - Engaging Your QI Team and Your Practice		
Our practice has regular meetings to discuss work on improvement in injury prevention.	67%	50%
Our team regularly collects and enters injury prevention chart review data	33%	67%
Our practice provides education to primary care providers on proper anticipatory guidance around injury prevention topics.	17%	67%
Our practice provides reference materials for providers to use on injury prevention.	50%	83%
Key Driver 2 - Using a Planned Care Approach to Ensure Reliable Injury Prevention Anticipatory Guidance		
Our practice has determined staff workflow to support use of an injury prevention survey tool and anticipatory guidance.	83%	83%
Our practice uses a survey tool with all children 1 year of age and younger at well child visits.	0%	67%
Our practice assesses families’ current safety practices by using an injury prevention survey tool.	17%	83%
Our practice monitors the use of an injury prevention survey tool.	0%	67%
Key Driver 3 -Providing Self Management Support		
Our practice provides injury prevention educational materials to families.	100%	100%
Our practice provides appropriate safety products for families to use after primary care providers have provided injury prevention education.	0%	33%