

Illinois Chapter, American Academy of Pediatrics

Safe Firearm Storage

Quality Improvement Project

Final Report

Prepared by American Academy of Pediatrics, Area of Quality, Analytics & Evaluation

June 2026

Background

Firearm injury remains a leading cause of death among children and adolescents in the United States. Secure storage, specifically keeping firearms locked, unloaded, and stored separately from ammunition, has been shown to significantly reduce the risk of unintentional injury and suicide among children. Despite this evidence, and despite findings that brief counseling and provision of firearm locks can meaningfully increase secure storage practices, safe firearm storage counseling is delivered inconsistently across pediatric primary care settings. Common barriers include workflow inconsistency, discomfort with the topic, lack of documentation prompts, and inadequate training.

The ICAAP Safe Firearm Storage Quality Improvement (QI) Project was designed to address these gaps by supporting Illinois pediatric practices in integrating evidence-based safe firearm storage counseling into routine preventive care for children ages 0-6. Grounded in the Model for Improvement and aligned with Maintenance of Certification (MOC) Part 4 standards, the project guided practices to select one to three well-child visit ages between birth and six years at which firearm safety counseling would be consistently implemented. Clinically, the project emphasized key components of safe firearm storage counseling: discussing locked and unloaded storage, providing educational materials, offering firearm locks or lock resources, and, for practices choosing to include it, counseling caregivers to ask about the presence and safe storage of firearms in other homes where their children play (ASK/playdate safety).

The project aimed for at least a 20% improvement from baseline in the percentage of designated well-child visits at which appropriate safe firearm storage counseling was delivered and documented between January and May 2026. Beyond measurable improvement, the project sought to normalize firearm safety conversations as a routine part of anticipatory guidance, reduce stigma around discussing firearms in pediatric care, and promote harm-reduction strategies that help keep children safe.

Key Project Activities

Participating practices engaged in a structured learning series consisting of onboarding support and five live monthly webinars that combined clinical education with QI coaching (Table 1). The clinical curriculum progressed from foundational to applied content across the series, building from the evidence base for secure storage and the pediatrician's role, to embedding counseling in routine anticipatory guidance, to navigating difficult conversations, to supporting families in talking with others about firearm safety (the ASK approach), and closing with educational materials, resources, and sustainability. Each live webinar was accredited for 1 AMA PRA Category 1 Credit through the Illinois State Medical Society, and nurses and nurse practitioners could submit certificates of attendance to their accrediting boards. QI content focused on the Model for Improvement, Plan-Do-Study-Act (PDSA) cycle testing, interpretation of run charts, workflow mapping, and shared learning across practices, and each webinar included an interactive review of aggregate project data and PDSA roundtable discussion. Monthly QI office hours offered individualized coaching, technical assistance with data collection, and support as teams initiated and refined PDSA cycles.

Table 1. Webinar series: clinical education and quality improvement topics by session.

Session	Clinical Education Topic and Faculty	Quality Improvement Topic
---------	--------------------------------------	---------------------------

1 January 20, 2026	Project Kick-Off: The Role of the Pediatrician in Firearm Safe Storage (Megan Attridge, MD, MS)	Introduction to the Model for Improvement and data collection overview
2 February 17, 2026	Safe Storage Counseling as Routine Anticipatory Guidance at Well-Visits for Children 0-6 (Sandra Yockey, MD)	Conducting and scaling up PDSA cycles; rapid cycle testing; annotating and interpreting run charts
3 March 31, 2026	How to Handle Tricky Conversations About Safe Storage (Deanna Behrens, MD, FAAP)	Leading change; PDSA roundtable; data review
4 April 21, 2026	Counseling Families on How to Talk About Safe Firearm Storage With Others (Kelly Henry, MD)	Planning for sustainability (from QI to quality control); PDSA roundtable; QIDA data review
5 May 19, 2026	Next Steps: Educational Materials and Resources for Clinicians and Parents (Deborah Loeff, MD)	Sustainability and final data review

At the outset of the project, each practice selected one to three well-child visit ages between birth and 6 years at which it would focus its improvement efforts; these served as the practice's designated well-child visits for chart review and measurement. During the project period (baseline data from December 2025 and four monthly data collection cycles from January through May 2026), teams completed monthly chart reviews of these designated visits using a standardized chart-review tool and submitted data on project measures (see Table 2) to the AAP Quality Improvement Data Aggregator (QIDA). Each data cycle included a convenience sample of approximately twenty charts from designated well-child visits, or all eligible charts if fewer than twenty were available. Run charts allowed teams to track performance over time, identify trends, and refine workflows through iterative testing.

Evaluation data were collected at three points. Participant and site characteristics were collected through the registration form at enrollment, practice-level performance data were collected through monthly chart reviews submitted to QIDA, and a post-project survey was administered electronically at the close of the project (May to June 2026) to assess participant satisfaction, retrospective pre-post changes in self-reported knowledge and confidence, the balancing measure, barriers, and practice changes.

Table 2. Project quality improvement (QI) measures.

Measure	Definition	Measure Calculation (Numerator/Denominator)	Goal
1. Safe Firearm Storage Counseling Rate	% of designated well-child visits (ages 0-6) at which appropriate safe firearm storage counseling was provided and documented. Appropriate counseling includes, at minimum, discussion of locked and unloaded storage and may also include providing educational materials, offering firearm locks or	Numerator: Number of charts with appropriate safe storage counseling documented at the visit. Denominator: Number of charts reviewed for designated well-child visits (ages 0-6).	20% improvement from baseline

	resources, and discussing playdate safety.		
2. ASK/Playdate Safety Counseling Rate	% of designated well-child visits at which ASK (Asking Saves Kids)/playdate safety counseling was delivered (counseling caregivers to ask about the presence and safe storage of firearms in other homes where their child plays).	Numerator: Number of charts with ASK/playdate safety counseling documented. Denominator: Number of charts reviewed for designated well-child visits (ages 0-6).	Monitor only; optional component
3. Balancing Measure	Impact of project participation on the practice's clinical and operational work (5-point scale from significantly worsened to significantly improved), plus open-ended report of unintended consequences; collected via the post-project survey.	Distribution of responses among post-project survey respondents.	Monitor only

Maintenance of Certification (MOC) Part 4 Requirements

To meet MOC Part 4 expectations, practices were encouraged to form a local team with a designated physician leader, have at least one team member attend four of the five scheduled webinars live, complete at least one PDSA cycle (with at least one shared during a project webinar), and collect and submit practice-level data on project measures for five monthly data cycles (baseline and four project data collection cycles). Individual physicians were required to attend at least one of the five webinars live, view recordings of sessions they could not attend, and contribute to their practice's PDSA cycles and data collection.

Site and Participant Characteristics

A total of 61 individuals registered for the project across 21 practice sites. Fifty-two of 61 registrants (85%) attended at least one live webinar, and 32 (52%) attended four or all five sessions. Active participants were predominantly physicians (88%; 40 MD and 6 DO), joined by two registered nurses, a licensed social worker, and a certified medical assistant (credentials were not reported for two attendees). The 21 participating sites were predominantly urban (48%) and suburban (38%), with three rural sites (14%), and included pediatric group practices (29%), medical school or university-affiliated settings (24%), non-profit community health centers (19%), and a mix of hospital-based, solo or two-physician, HMO, and government clinic settings. Sites used a range of electronic health record (EHR) systems, with Epic (43%) and Athenahealth (19%) the most common. At the individual level, among the 34 registrants who completed the full registration form, 94% indicated they were seeking ABP MOC Part 4 credit, 71% were 45 years of age or older, and 62% reported 20 or more years in practice.

Participation and Engagement

Individual attendance at each webinar ranged from 33 to 43 participants across the five sessions (January through May 2026). At the site level, 17 of 21 registered practices (81%) had at least one team member attend at least one webinar live, 13 practices (62%) met the MOC practice-team criterion of live

attendance at four of the five webinars, and 11 practices attended all five sessions. Fourteen practices submitted chart-review data through QIDA during the project period.

Of the 51 physicians tracked for MOC Part 4 credit, 36 (71%) met the individual participation criteria, and 35 (69%), representing 12 practices, also met the practice-level data submission requirement and qualified for MOC Part 4 credit. The most common reason for not meeting MOC criteria was insufficient live webinar attendance; a small group of registrants (primarily later enrollees) did not attend any sessions live.

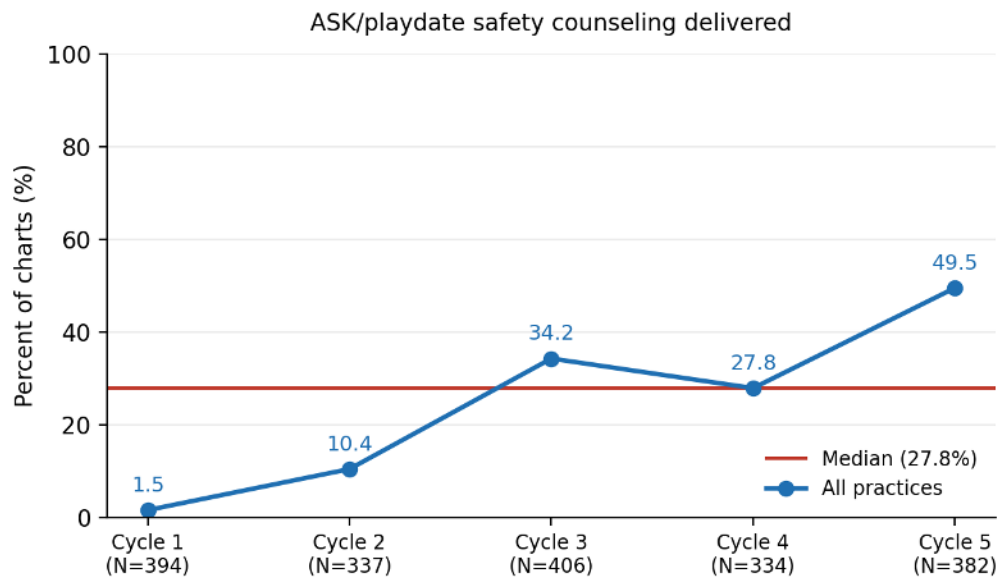
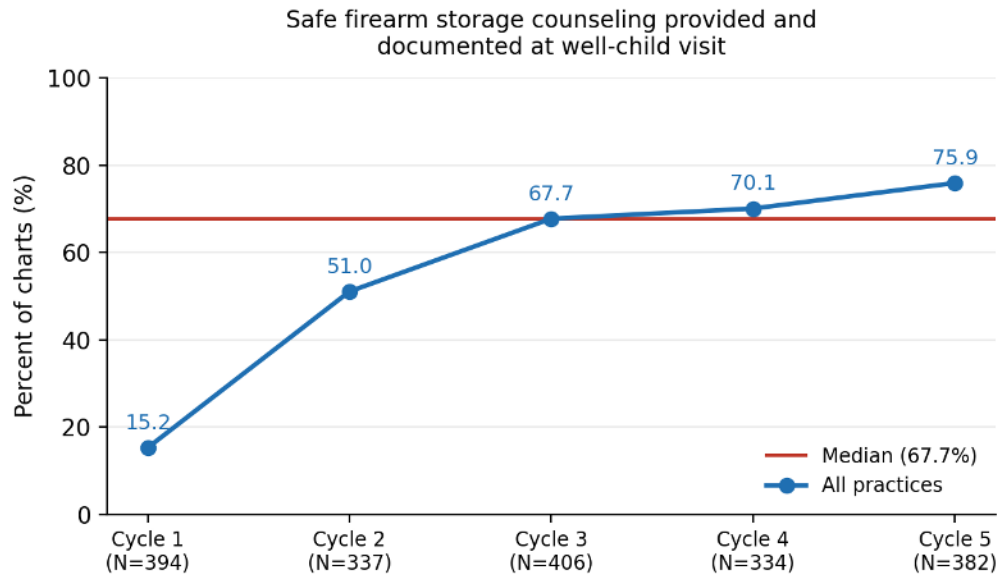
Quality Improvement Results

Practices tested a range of PDSA cycles aimed at making firearm safety counseling a reliable component of well-child care. Common tests of change included building EHR documentation supports (dot phrases, smart phrases, and revised note templates), embedding firearm safety questions into existing well-visit and safety screening workflows, chart-prepping visits with AAP patient education materials, distributing free cable gun locks (including locks obtained through IDPH), posting safety messaging in the office, and incorporating the ASK/playdate safety approach into anticipatory guidance. Ninety-five percent of post-project survey respondents (18 of 19) reported completing at least one PDSA cycle; the single respondent who did not cited inadequate patient volume as the primary barrier.

Across the project period, the 14 reporting practices reviewed 1,853 patient charts across five data cycles (baseline plus four monthly cycles). Figure 1 presents run charts with performance aggregated across the collaborative for each measure. The most frequently reviewed visit ages were the 5-year (n=386), 3-year (n=241), 4-year (n=241), and 1-month (n=228) visits, reflecting a concentration of counseling efforts at preschool-age visits as well as early infancy.

- **Safe Firearm Storage Counseling Rate (Figure 1.1):** The percentage of designated well-child visits with appropriate safe storage counseling documented increased from 15.2% at baseline (cycle 1) to 75.9% in cycle 5, an absolute improvement of more than 60 percentage points, far surpassing the project goal of a 20% improvement from baseline.
- **ASK/Playdate Safety Counseling Rate (Figure 1.2):** The percentage of visits with ASK/playdate safety counseling documented increased from 1.5% at baseline to 49.5% in cycle 5. Although this component was optional, nearly half of all reviewed visits included playdate safety counseling by the end of the project.

Figure 1. Aggregated run charts across 14 reporting practices: Safe Firearm Storage Counseling Rate (Figure 1.1) and ASK/Playdate Safety Counseling Rate (Figure 1.2). The blue line represents the aggregated rate for each cycle, and the red line represents the median across cycles. The number of charts contributing to each cycle is shown on the horizontal axis.



The balancing measure, “Overall, how has participation in this project impacted your site’s clinical and operational work?”, was collected through the post-project survey. No respondents reported negative impacts: 78% reported that clinical and operational work improved or significantly improved, and 22% reported a neutral impact. Additionally, no respondents reported unintended consequences (such as increased patient wait times or loss of revenue) from the new tools and processes tested.

Counseling Components Delivered

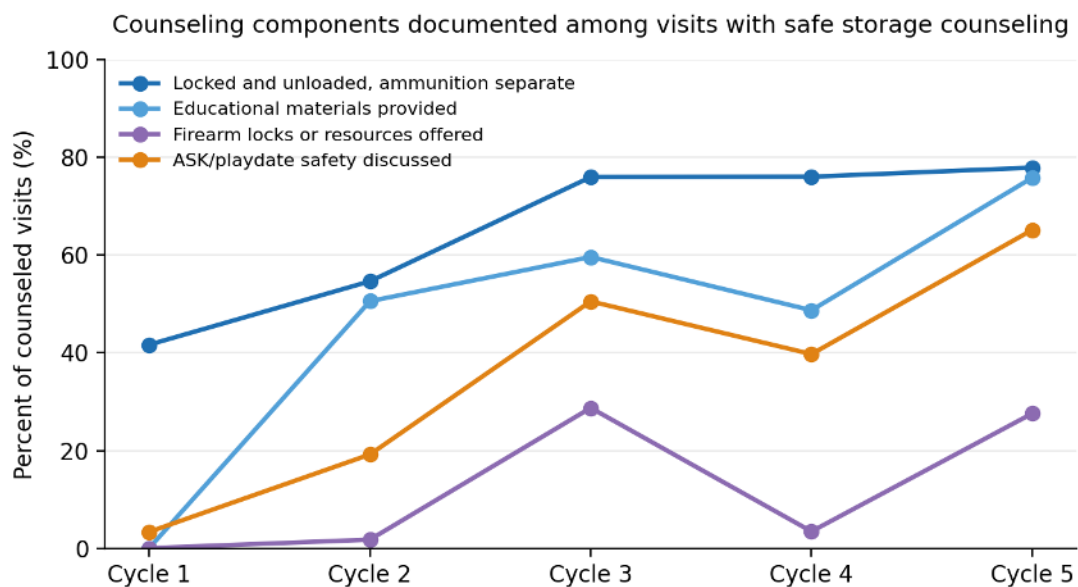
The chart-review tool also captured which counseling components were provided and documented at each visit. Among visits where appropriate safe storage counseling was documented, discussion of locked and unloaded storage with ammunition stored separately was the most consistently documented component, rising from 41.7% of counseled visits at baseline to 77.9% in cycle 5. Provision of educational materials increased from 0% at baseline to 75.9% of counseled visits by cycle 5, and

ASK/playdate safety counseling increased from 3.3% to 65.2%. Offering firearm locks or resources showed the lowest and most variable uptake (peaking at 28.7% in cycle 3, dropping to 3.4% in cycle 4, and rebounding to 27.6% in cycle 5), a pattern consistent with participant reports that lock supply was a limiting factor; lack of firearm locks or resources to offer families was also among the barriers reported in the post-project survey. The intensity of counseling also increased over time: by cycle 5, counseled visits averaged approximately two or more documented components, and the share of counseled visits with three or more components grew steadily across cycles (see Table 3 and Figure 2).

Table 3. Counseling components documented among visits with safe firearm storage counseling (denominator was counseled visits in each cycle). Components are not mutually exclusive.

Counseling component documented	Cycle 1 (baseline)	Cycle 2	Cycle 3	Cycle 4	Cycle 5
Discussed locked and unloaded storage with ammunition stored separately	41.7%	54.7%	76.0%	76.1%	77.9%
Provided educational materials	0.0%	50.6%	59.6%	48.7%	75.9%
Offered firearm locks or resources	0.0%	1.7%	28.7%	3.4%	27.6%
Discussed ASK/playdate safety	3.3%	19.2%	50.5%	39.7%	65.2%
<i>Counseled visits (denominator)</i>	<i>n=60</i>	<i>n=172</i>	<i>n=275</i>	<i>n=234</i>	<i>n=290</i>

Figure 2. Counseling components documented among counseled visits, by cycle.



Post-Project Survey Results

Participant Satisfaction

A total of 19 participants completed the post-project survey (a 37% response rate among the 52 registrants who attended at least one webinar), providing feedback on perceived impact,

implementation experience, and support needs. Satisfaction was exceptionally high, with a Net Promoter Score (NPS) of 74 (14 Promoters, 5 Passives, and 0 Detractors), indicating a strong likelihood that participants would recommend the project to colleagues.

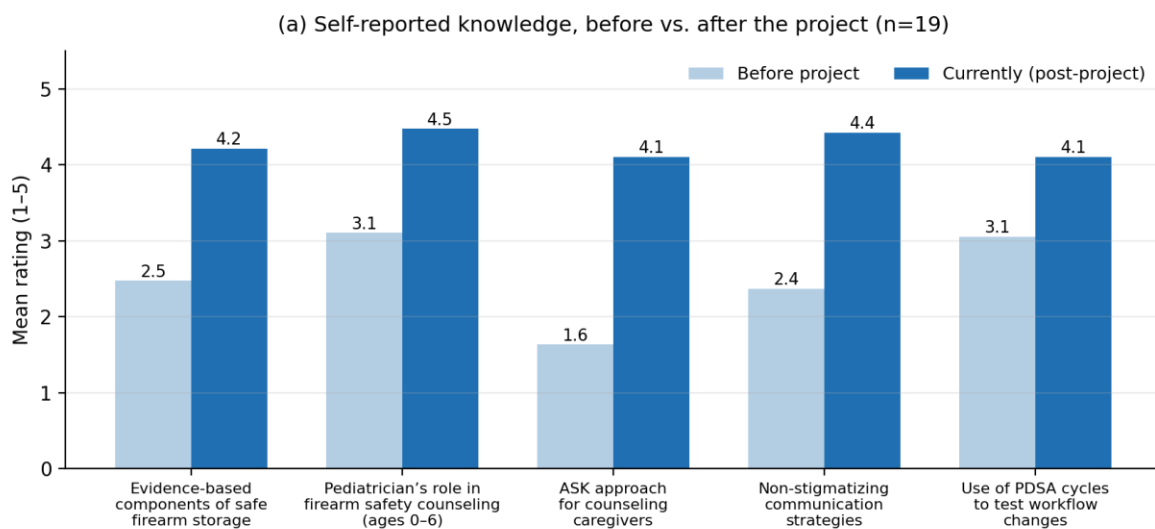
Participants reported a high return on the time and effort invested in the program. On a 7-point scale, 89% rated the program as high return (scores of 6-7). When compared with other relevant trainings, 63% reported a higher return and 32% a comparable return; only one respondent rated the return as lower. Most participants agreed or strongly agreed that program participation enhanced their professional satisfaction (89%), and 74% agreed or strongly agreed that the program contributed to their professional network.

Knowledge and Confidence Assessment

A retrospective pre-post design was used to evaluate participants' self-perceived knowledge and confidence before and after the project across five knowledge and five confidence objectives, each rated on a 5-point Likert scale. Knowledge objectives addressed evidence-based components of safe firearm storage, the pediatrician's role in firearm safety counseling for children ages 0-6, the ASK approach, non-stigmatizing communication strategies, and the use of PDSA cycles. Confidence objectives addressed delivering counseling at well visits, using non-stigmatizing language, counseling caregivers on the ASK approach, documenting counseling in the medical record, and conducting a PDSA cycle.

Across all objectives, participants reported increases from pre- to post-project for both knowledge and confidence (Figure 3). A Wilcoxon signed-rank test indicated statistically significant increases from pre- to post-project across all 10 objectives ($p < 0.001$ for each). The largest gains were observed for the ASK approach, where mean knowledge increased from 1.6 to 4.1 and mean confidence from 1.5 to 4.1, suggesting this content was largely new to participants and was effectively conveyed by the project.

Figure 3. (a) Pre- and post-project changes in mean self-reported knowledge related to safe firearm storage counseling (n=19); (b) pre- and post-project changes in mean self-reported confidence (n=19; n=18 for the PDSA objective). *All differences were statistically significant ($p < 0.001$).

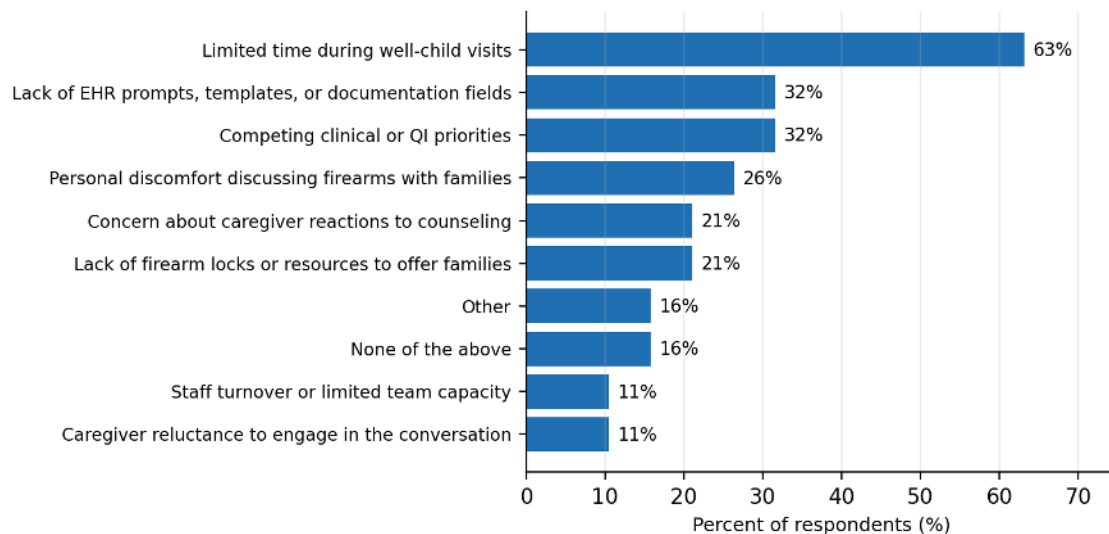




Barriers and Practice Changes

Reported barriers to applying project-related skills primarily related to visit-level constraints. Among the 19 respondents (multiple selections allowed), 12 (63%) identified limited time during well-child visits, 6 (32%) identified lack of EHR prompts, templates, or structured documentation fields, and 6 (32%) identified competing clinical or QI priorities. Roughly a quarter reported personal discomfort discussing firearms with families (26%), and about one in five reported concern about caregiver reactions (21%) or lack of firearm locks or resources to offer families (21%). “Other” responses included transitioning to a new EHR during the project, low staff capacity, and a large number of families denying firearm ownership. Three respondents (16%) reported no barriers at all (Figure 4).

Figure 4. Participant-reported barriers to applying skills learned during the project (n=19; multiple selections allowed).



Respondents described concrete and durable practice changes resulting from the project. These included embedding documentation supports in the EHR (dot phrases, smart phrases, and revised

templates), routinely providing educational handouts and resources at targeted well visits, distributing free cable gun locks (one respondent reported handing out nearly 100 locks), incorporating the ASK approach into playdate-related anticipatory guidance, expanding firearm safety questions to all well-child visits, chart-prepping visits with patient education materials, and enhancing resident education.

Qualitative Themes

Respondents (n=19) described a project that was practical, low-burden, and high-impact across four open-ended questions: "What components of the project have been of the most value to your site?", "What is the one thing that future projects should start doing?", "What is the one thing that future projects should stop doing?", and an item asking respondents to explain the rating they gave when asked how likely they were to recommend the project to a colleague.

In their answers, respondents most frequently cited strengths such as practical guidance on how to raise firearm safety with families (e.g., *"making it easy to bring up with other education"*), access to free cable gun locks and patient handouts, ready-to-use documentation supports, and the realization that caregivers were generally receptive (e.g., *"Made me realize parents do not get offended when speaking about gun safety"*). Participants also valued the webinar series and peer learning (e.g., *"it was beneficial to have the live interaction with colleagues in a variety of locations"*), the QI and PDSA coaching, and the project's achievable scope and reasonable length (e.g., *"Only requires a small amount of time and work to make a large impact"*). Several respondents emphasized the clinical importance of the topic, describing firearm safety counseling as an often overlooked but essential element of pediatric preventive care.

These responses also surfaced opportunities for improvement. Respondents requested clearer reminders about data cycle deadlines and reporting (e.g., *"We struggled as a team to keep track of dates"*), earlier access to firearm locks, additional caregiver-facing materials such as QR-code linked resources and waiting room messaging, and scheduling options outside clinic hours. One solo practitioner noted that small practices face data collection disadvantages, and another suggested timing future cohorts to warmer months when well-child visit volume is higher. When asked what the project should stop doing, nearly all respondents indicated nothing, with several describing the program as *"good as is."*

Impact and Conclusion

The ICAAP Safe Firearm Storage Quality Improvement Project achieved its primary aim: participating practices substantially increased the delivery and documentation of safe firearm storage counseling at designated well-child visits. At the collaborative level, counseling rates rose from 15.2% at baseline to 75.9% in the final cycle, an improvement of more than 60 percentage points that exceeded the project goal of a 20% improvement from baseline. ASK/playdate safety counseling, an optional component, increased from 1.5% to 49.5% of visits, and the depth of counseling grew over time, with greater documentation of locked and unloaded storage discussions, educational materials, and firearm lock provision among counseled visits.

These gains were accompanied by statistically significant improvements in self-reported knowledge and confidence across all 10 learning objectives, a high participant satisfaction (NPS of 74 with no

detractors), and no reported negative impacts on clinical or operational work. Engagement was strong: 85% of the 61 registrants attended at least one live webinar, over half attended four or more sessions, and 35 physicians from 12 practices met the full criteria for MOC Part 4 credit. Participants described durable changes, including EHR documentation supports, standardized handouts, lock distribution, and routine incorporation of firearm safety into anticipatory guidance, suggesting that the workflows established during the project are well positioned to be sustained.

Sustaining and spreading these gains will likely require continued attention to the feasibility barriers participants identified, particularly limited visit time, EHR enablement, and a reliable supply of firearm locks to distribute to families. The project's results demonstrate that a structured, time-limited QI collaborative can make firearm safety counseling a standard component of pediatric preventive care.