Trauma Surgery & Acute Care Open

# Evaluation of a Firearm Safe Storage Device Distribution Program at a Break the Cycle of Violence Summit

Creason Walter ,[1] Insia Zufer,[2] Lillian Milstone,[3] Nathan Irvin,[4] Joseph Victor Sakran,[5] Katherine Hoops [6]

► Additional supplemental material is published online only. To view, please visit the journal online (https://doi.org/10.1136/tsaco-2024-001513).

[1]Department of Pediatrics, The Johns Hopkins University School of Medicine, Baltimore, Maryland, USA
[2]Department of Family and Community Medicine, University of Illinois College of Medicine at Chicago, Chicago, Illinois, USA
[3]University of Pennsylvania, Philadelphia, Pennsylvania, USA
[4]Department of Emergency Medicine, The Johns Hopkins University School of Medicine, Baltimore, Maryland, USA
[5]Department of Surgery, The Johns Hopkins University, Baltimore, Maryland, USA
[6]Department of Anesthesiology and Critical Care Medicine, The Johns Hopkins University School of Medicine, Baltimore, Maryland, USA

**Correspondence to**
Mrs Creason Walter; cschafe6@jhmi.edu

Received 21 May 2024
Accepted 30 July 2024



**To cite:** Walter C, Zufer I, Milstone L, *et al*. *Trauma Surg Acute Care Open* 2024;**9**:e001513.

## SUMMARY

This study assesses the feasibility and acceptability of a Firearm Safe Storage Device Distribution Program. The distribution took place at the Break the Cycle of Violence Summit hosted by the Johns Hopkins Medicine, the Break the Cycle Hospital Violence Intervention Program, and the Johns Hopkins Bloomberg School of Public Health Center for Gun Violence Solutions. The findings will guide future efforts to distribute safe storage devices in clinical settings. Attendees of the Break the Cycle of Violence Summit could choose from three types of safe storage devices to provide to their patients within their practice. Those attendees who participated were asked to participate in an electronic survey to assess the feasibility and acceptability of the safe firearm storage device distribution at the Summit. 24 participants received safe storage devices at the Break the Cycle of Violence Summit. Of the 24 participants, 15 participated in our evaluation. 86% of participants distributed most of the devices by the time of the survey and 57% of participants stated that by having safe storage devices to distribute, they were more likely to provide safe gun storage counseling. All participants would like to see continued safe gun storage distribution programs in their community. The provision of free safe storage devices allowed for open conversations about firearms and safe storage with patients and clients. This study can be used as a model to guide future efforts in safe storage device distribution in a hospital or clinic-based setting and showed feasibility, effectiveness, and efficacy.

## INTRODUCTION

Firearm-related injury and death is a public health problem in America. According to the Centers for Disease Control and Prevention, in 2021, there were more than 48 000 fatal firearm injuries.[1] The majority of these fatal firearm injuries are among males aged 35–39.[1] Firearm injuries are the leading cause of death for children and adolescents aged 1–19 and rank in the top five leading causes of death for ages 1–44.[2 3] Every day, in the USA, there are around 362 people injured by firearms, of whom 32% (117 people) are killed.[4] In addition, there are 23 children and teens injured by firearms every day, six of whom die from their injuries.[4] Firearm injuries lead to a diminished quality of life in terms of psychological and physical needs, and an increase in healthcare costs.[5–9]

Numerous medical and public health organizations have advocated for safe storage of firearms as a key measure for preventing firearm injuries.[10–14] Safe storage is defined as 'storing them unloaded, locked, and separate from ammunition'.[3 15] Devices, such as a gun safe, cabinet, trigger or cable locks, can be used to safely store firearms.[16] By safely storing firearms, there is a reduction in firearm injuries and deaths as well as reduction in risk of fatal self-harm and unintentional injuries.[12 17] Researchers found that more than half of all US gun owners do not practice safe firearm storage and notably, safe firearm storage was slightly higher among households with children.[16 18 19] Approximately 4.6 million children in the USA live in a home with at least one unlocked and loaded firearm.[20] Firearm Safe Storage is proven to mitigate risk of harm or death that unsecured firearms can pose to children, adults, and their communities and has been linked to a lower risk of school shootings as well as reducing unintentional and assault-related injuries.[12 21–23] However, these safe storage interventions have not been widely adopted as a large number of firearms remain unsafely stored.[23]

Interventions that provide Firearm Safe Storage Devices to individuals have been studied previously and highlight important considerations for policy makers and public health professionals.[23–29] Evidence suggests that costs matter and that Firearm Safe Storage Devices that were distributed at an economic cost to the consumer were not as effective in promoting safe firearm storage practices in comparison to improvements in safe firearm storage practices when they were provided free of charge.[12 23–29] By providing these Firearm Safe Storage Devices at no charge, economic and time barriers are removed.[12] Counseling patients around safe storage of firearms requires clinicians to be empowered with the knowledge and skills to discuss this issue in an objective and non-judgmental manner.[23 30]

Community-based firearm injury prevention programs include provision of safety devices, such as cable locks, trigger locks, and lock boxes, as well as an educational component with counseling on how to use the device.[3] The provision of devices has demonstrated an increase in safe storage practices.[3 31] Prior research has demonstrated a strong preference among gun owners for receiving gun safes, which are the most effective safe storage device, as compared with lock boxes or trigger locks and cable locks.[31 32] Despite this, most interventions for the provision of safe firearm storage

devices focus on the distribution of cable or trigger locks as these devices are cost-effective and easier to distribute.[31]

Healthcare professionals play an important role in educating patients and families about safe storage of firearms.[33] Clinician screening has been shown to be feasible and effective in other injury prevention areas, such as child passenger safety use and substance use.[34] The American Academy of Pediatrics recommends including firearm injury prevention counseling by pediatricians in well-child care visits.[35] Researchers have piloted using the 5A's for Firearm Safety Counseling and found it to be an effective educational tool for counseling on firearm injury prevention in a simulation-based setting.[36 37]

By providing gun storage devices to clinicians and violence prevention partners, a Firearm Safe Storage Distribution Program could help reduce the number of deaths and injuries resulting from unlocked firearms and reduce firearm theft. There has been little research looking at the feasibility and effectiveness of a large medical institution providing Firearm Safe Storage Devices to clinicians and community violence prevention programs for counseling and distribution to their patients and clients at no cost.

This project's purpose is to assess the feasibility and acceptability of a Firearm Safe Storage Device Distribution Program. The findings will guide future efforts to distribute safe storage devices in clinical and community settings.

## DESCRIPTION OF THE SUMMIT

The purpose of the Break the Cycle of Violence Summit was to unite stakeholders from across sectors in Baltimore City to identify priorities, build partnerships, and prevent violence. The Summit, which took place on Friday, June 2, 2023, to kick off Wear Orange Weekend, was hosted by Johns Hopkins Medicine. Attendees to the Summit included clinicians, public health practitioners, hospital-based violence intervention partners, victim services groups, law enforcement, and government officials. The Summit's schedule included lectures and panel discussions allowing for sharing of experiences and breakout discussions to brainstorm ideas for program development, educational programs, and policy initiatives.

## FIREARM SAFE STORAGE DEVICE DISTRIBUTION

A station was set up at the event where the safe storage devices were distributed free of charge to interested clinicians and community partners with the recommendation that they distribute them to patients or families in their practices. The program received an internal award of $10,000 from hospital leadership and administration to support the purchase of devices and distribution in multiple settings. The intended audience was clinicians who work with patients that are victims of gun violence or at an increased risk for self-harm or unintentional injuries, violence intervention program team members who actively engage with community members who have experienced gun-related violence, and community partners and violence reduction advocates such as Marylanders to Prevent Gun Violence and Roca.

Participants chose from three types of gun storage devices (combination cable locks, keyed cable locks, and gun drawer safes) and were asked to select what they felt would be most useful in their practice. Because gun safes are both the most effective means of safe storage, conferring the greatest protection, and the most preferred device, this Firearm Safe Storage Device Distribution Program sought to make all types of devices available but especially small safes. In total, the program had 50 drawer safes, 150 keyed cable locks, and 250 combination cable locks to distribute. During the distribution, the number of gun storage devices was limited to 10 devices per individual (including two drawer safes) or 15 devices per medical director or supervisor (including four drawer safes). The event team collected the names of clinicians or community organization members, the city and zip code of their practice, the number and type of devices provided, and follow-up email address all via a QR code for Google Forms. The clinicians/community violence organization members consented to follow-up at 3 months and then 6 months, if necessary, to assess their success and satisfaction with the Firearm Safe Storage Device Distribution at the summit. The event team retrieved the desired number of gun storage devices for the clinicians/community organization members at the time of the Google Forms completion. The clinicians/community organization members could take the devices with them immediately or at the summit's completion. Distribution and registration for safe storage devices occurred at set times (morning breaks, lunch, afternoon breaks, and reception) during the summit to allow the event team to attend the summit sessions.

## SURVEY DESIGN AND DISTRIBUTION

A group of multidisciplinary providers, including emergency medicine physicians and pediatric intensive care physicians, created the survey questionnaire. The survey was uploaded into Qualtrics for completion electronically by the participants. No identifiable information was collected. Participants could stop the survey at any time. The survey questions included a description of the participant's profession and location of work, the number and type of storage devices received at the summit, the number of devices successfully given away, the feasibility of giving devices to patients, the client and patient preference of device, the likelihood of providing safe storage counseling with the accompaniment of a safe storage device to distribute, barriers encountered, acceptability of the process of requesting and receiving the safe storage devices at the summit, and opinions on continuing the program. The type of questions included multiple choice, a Likert scale, and free text responses. The detailed survey can be found in online supplemental appendix 1.

The survey was distributed to the email address provided with a direct Qualtrics link sent by event organizer and the principal investigator (CW and KH). The participants were emailed the survey three times during 3 months for responses (November 9, 2023; November 14, 2023; and November 28, 2023). The fourth email (January 3, 2024) was a final call for survey completion.

## PATIENT AND PARTICIPANT INVOLVEMENT/PILOT SURVEY

Before dissemination, survey drafts were shared among clinician researchers, including an expert survey methodologist. The survey was then piloted with several lay members of the project team to ensure clarity and time required to complete the instrument.

## ANALYSIS

Descriptive statistics were calculated using data exported from Qualtrics. A total of 24 participants took part in the Firearm Safe Storage Device Distribution at the Break the Cycle of Violence Summit. This number was gathered from the Google Forms completed at time of distribution. Of the 24 participants, there were 15 respondents to the survey. Not all of the 15 participants completed each question, some only completed parts of the survey. Our survey participants included physicians (22%), social

**Table 1** Demographics of survey participants

| Profession | n | % |
|---|---|---|
| Pediatric emergency medicine physician | 2 | 22 |
| Nurse | | |
| Social worker | 1 | 11 |
| Child life specialist | | |
| Injury prevention specialist | | |
| Community health worker | | |
| Other clinician | 1 | 11 |
| Community violence prevention program team member | 2 | 22 |
| Other | 3 | 33 |
| **Location of work** | | |
| Baltimore City | 8 | 88 |
| Baltimore County | | |
| Elsewhere in Maryland | 1 | 11 |
| Outside of Maryland | | |
| **Clinician practice environment (free text response)** | | |
| Victim services | 1 | 25 |
| Large academic medical center | 2 | 50 |
| Large academic center, emergency department | 1 | 25 |

workers (11%), clinicians (11%), community violence prevention program team members (22%), and others. If respondents selected 'other', they had the opportunity to describe. The vast majority (88%) work in Baltimore City. More than half (75%) of the clinicians' practice environments were at a large academic medical center. Table 1 indicates the demographics of the survey respondents.

The quantitative data collected demonstrated that 100% of respondents received safe storage devices at the summit; 29% received combination cable locks, 57% received keyed cable locks, and 85% received small safes (table 2). On average, each respondent received four keyed cable locks, six combination cable locks, and two small safes. Over half of the respondents have given all of the devices away (43%) or most of them away (43%). No respondents reported having given none away since the summit. Respondents preferred to distribute the gun safes (57%). Patients or clients, when offered a choice, preferred to receive gun safes (57%). Respondents felt that giving safe gun storage devices to patients or clients was somewhat or extremely easy.

When asking respondents about how having safe storage devices to distribute influenced likelihood to provide safe gun storage counseling, four respondents (57%) were much more likely to counsel on safe storage because of having free devices to share. The majority of respondents (86%) agree that they would like to continue to give away safe gun storage devices to patients or clients, and 100% agree that they would like to see continued Firearm Safe Storage Distribution Programs in their community.

Gun-related injury and death is reduced when Firearm Safe Storage is practiced. The ability to provide educational interventions in combination with safe storage devices for firearms can be used to encourage behaviors grounded in safe storage practices. This evaluation shows promising preliminary evidence that the provision of free devices to clinicians and community violence interrupters is feasible and helps promote safe firearm storage counseling and device distribution in their practices/communities.

The summit seized on the opportunity to have a diverse group of stakeholders in the same room and have the opportunity to reach their respective groups. A strength of having a diverse

**Table 2** Quantitative responses to survey questions

| | n | % |
|---|---|---|
| **4. Did you receive Firearm Safe Storage Devices at the Johns Hopkins Medicine Break the Cycle of Violence Summit in June 2023?** | 9 responses | |
| Yes | 9 | 100 |
| No | | |
| **6. Which type of storage device did you receive? (respondants could select multiple options)** | 7 responses | |
| Combination cable locks | 2 | 29 |
| Keyed cable locks | 4 | 57 |
| Small safes | 6 | 85 |
| **7. To the best of your memory, how many of each type of device did you receive? Average number** | 8 responses | |
| Keyed cable locks | 4.57 | |
| Combination cable locks | 6.33 | |
| Small safes (maximum of 4) | 2.71 | |
| **9. How many of the devices you received have you successfully given away?** | 7 responses | |
| All of them | 3 | 43 |
| Most of them | 3 | 43 |
| A few of them | 1 | 14 |
| None of them | 0 | 0 |
| **10. How do you feel having safe storage devices that could be given to patients/clients influenced your likelihood of providing safe gun storage counseling?** | 7 responses | |
| It had no effect on my counseling practices—I always counsel on safe storage. | | |
| I was much more likely to counsel on safe storage because of having free devices to share. | 4 | 57 |
| I was slightly more likely to counsel on safe storage because of having free devices to share. | 2 | 29 |
| I was slightly less likely to counsel on safe storage because of having free devices to share. | | |
| I was much less likely to counsel on safe storage because of having free devices to share. | | |
| It had no effect on my counseling practices—I do not counsel on safe storage. | | |
| Comments on how having devices for distribution influences your counseling practice. | 1 | 14 |
| **11. I felt that giving safe gun storage devices to patients or clients was…** | 7 responses | |
| Extremely easy | 4 | 57 |
| Somewhat easy | 3 | 43 |
| Neither easy nor difficult | | |
| Somewhat difficult | | |
| Extremely difficult | | |
| **17. Which device did you most prefer to distribute?** | 7 responses | |
| Keyed cable locks | 2 | 29 |
| Combination cable locks | 1 | 14 |
| Gun safes | 4 | 57 |
| **18. Which device did your patients or clients most prefer to receive?** | 7 responses | |
| Keyed cable locks | | |
| Combination cable locks | | |
| Gun safes | 4 | 57 |
| Unsure | 1 | 14 |
| I did not offer patients or clients choice of devices. | 2 | 29 |
| **12. To what extent do you agree with the following statement? I would like to continue to give away safe gun storage devices to my patients or clients.** | 7 responses | |

Continued

Table 2 Continued

| | n | % |
|---|---|---|
| Strongly disagree | 1 | 14 |
| Somewhat disagree | | |
| Neither agree nor disagree | | |
| Somewhat agree | | |
| Strongly agree | 6 | 86 |
| **15. Please share any barriers you have encountered when distributing safe storage devices.** | 7 responses | |
| Very few of my patients or clients have needed or wanted them. | 1 | 14 |
| I have been reluctant to talk to patients or clients about firearm access. | | |
| I have been reluctant to distribute the devices. | | |
| I have not had time to counsel on gun safety or distribute the devices. | 2 | 29 |
| I have received negative feedback from a patient or client when asking about gun safety or offering gun storage device. | | |
| Please comment on any barriers to device distribution that you have personally encountered. | 4 | 57 |
| **8. Was the process for requesting and receiving safe storage devices at the Summit acceptable?** | 6 responses | |
| Yes | 4 | 66 |
| No | | |
| Unsure | | |
| Needs improvement (comment) | 2 | 33 |
| **19. To what extent do you agree with the following statement? I would like to see continued safe gun storage device distribution programs in my community.** | 6 responses | |
| Strongly agree | 6 | 100 |
| Somewhat agree | | |
| Neither agree nor disagree | | |
| Somewhat disagree | | |
| Strongly disagree | | |

group at the summit is that there are potentially individuals who would have been overlooked by programs and traditional outreach efforts. The summit also provided an opportunity for individuals to have discussions with trusted entities.

By having Firearm Safe Storage Devices to distribute to patients/clients, clinicians/community violence interrupters were more likely to provide Firearm Safe Storage counseling. One survey respondent shared that this program was a 'good means to engage the public at health fairs and public events'. Another survey respondent shared, 'this opened up so many conversations that I didn't expect to have amongst people looking for devices and guidance.' Others shared that it was helpful to have access to gun locks/safes.

Barriers, reported by the clinicians/community violence interrupters, include that the patients/clients were picking up the devices 'for friends or relatives who had firearms' so the clinician/community violence interrupter does not 'have detailed feedback'. Others reported the patient/client responding 'do I look like I own a gun' when asked about Firearm Safe Storage practices. One survey respondent shared that 'the biggest barrier was simply running out of devices. The need in the community is great'.

Given the number of firearms in homes across the USA, it is imperative that we identify innovative ways to reach people across different sectors and ensure that they have access to the devices and information to keep themselves and their families safe. In the future, we would like to continue this type of programming at our own institution and expand to include other partner hospitals using this program as a model. Additionally, it is important to engage city partners and other community-based organizations to facilitate more robust external distribution efforts and continue the work of integrating Firearm Safe Storage practices into the work of community violence intervention programs as well.[38] Little is known on how to tailor interventions for rural families; however, researchers have found that messages on safe storage delivered by a credible messenger, one who is well versed in local traditions and flexible storage options, should be used.[39]

There are limitations to our evaluation. Due to the small sample, our data may not fully reflect the distribution program's impact and future work is needed to determine the true effectiveness of these types of efforts. Due to the funding, we had to limit the number of devices given to each participant and we recognize that the costs of procuring these devices are an expense that may be prohibitive to many organizations. Our pilot program only distributed keyed cable locks, combination cable locks, and lock boxes without handouts or pamphlets that could be provided to the patient/client to demonstrate how to use them. However, the clinicians/community violence interrupters received hands-on demonstrations of how the devices work along with printed educational materials. Further evaluation is needed to assess the scalability of a hospital-based Firearm Safe Storage Device Distribution Program and the usage behaviors of individuals who received one.

## CONCLUSION

Our study demonstrates feasibility and attitudes related to a multidisciplinary Firearm Safe Storage Device Distribution initiative. Participants emphasized that the provision of free safe storage devices allowed for open conversations about firearms and safe storage with their patients and clients. This pilot study can be used as a model to guide future efforts in Firearm Safe Storage Device Distribution in a hospital or clinic-based setting and highlights an innovative way of getting a diverse group of stakeholders access to these devices for their respective clientele. The importance of promoting safe storage is shown to prevent injuries and there is a role for clinicians and hospitals in facilitating the adoption of safe and secure storage behaviors.

**Acknowledgements** We thank the Johns Hopkins Break the Cycle of Violence Summit and Break the Cycle Hospital Violence Intervention Program.

**Contributors** All authors approved the final article as submitted and agreed to be accountable for all aspects of the work. All authors reviewed and revised the article.

**Funding** The program received an internal award of $10,000 from hospital leadership and administration to support the purchase of devices and distribution in multiple settings.

**Competing interests** None declared.

**Patient consent for publication** Not applicable.

**Ethics approval** This study was reviewed by the Johns Hopkins School of Medicine Institutional Review Board (IRB00405210) and acknowledged as exempt research. Survey participation was voluntary and respondents were advised that participation signified consent.

**Provenance and peer review** Not commissioned; externally peer reviewed.

terminology, drug names and drug dosages), and is not responsible for any error and/or omissions arising from translation and adaptation or otherwise.



**ORCID iDs**
Creason Walter http://orcid.org/0000-0002-7568-0368
Katherine Hoops http://orcid.org/0000-0002-6404-5422

## REFERENCES

1 Web-based injury statistics query and reporting system. Available: https://www.cdc.gov/injury/wisqars/index.html [Accessed 9 Mar 2024].
2 Fat facts: firearm violence and injury prevention violence prevention injury center CDC. 2023. Available: https://www.cdc.gov/violenceprevention/firearms/fastfact.html [Accessed 9 Mar 2024].
3 Lee LK, Fleegler EW, Goyal MK, Doh KF, Laraque-Arena D, Hoffman BD. Firearm-Related Injuries and Deaths in Children and Youth. *Pediatrics* 2022;150:e2022060071.
4 Key statistics. Available: https://www.bradyunited.org/key-statistics [Accessed 9 Mar 2024].
5 Miller GF, Barnett SBL, Florence CS, McDavid Harrison K, Dahlberg LL, Mercy JA. Costs of Fatal and Nonfatal Firearm Injuries in the U.S., 2019 and 2020. *Am J Prev Med* 2024;66:195–204.
6 Tasigiorgos S, Economopoulos KP, Winfield RD, Sakran JV. Firearm Injury in the United States: An Overview of an Evolving Public Health Problem. *J Am Coll Surg* 2015;221:1005–14.
7 Cook PJ, Lawrence BA, Ludwig J, Miller TR. The medical costs of gunshot injuries in the United States. *JAMA* 1999;282:447–54.
8 Corso PS, Mercy JA, Simon TR, Finkelstein EA, Miller TR. Medical costs and productivity losses due to interpersonal and self-directed violence in the United States. *Am J Prev Med* 2007;32:474–82.
9 Gani F, Sakran JV, Canner JK. Emergency Department Visits For Firearm-Related Injuries In The United States, 2006-14. *Health Aff (Millwood)* 2017;36:1729–38.
10 Safe storage of firearms. Available: https://www.aap.org/en/advocacy/state-advocacy/safe-storage-of-firearms/ [Accessed 9 Mar 2024].
11 Major medical organizations form a coalition to stem the rising tide of firearm violence using a comprehensive public health approach. Available: https://www.facs.org/for-medical-professionals/news-publications/news-and-articles/press-releases/2023/major-medical-organizations-form-a-coalition-to-stem-the-rising-tide-of-firearm-violence/ [Accessed 9 Mar 2024].
12 Rowhani-Rahbar A, Simonetti JA, Rivara FP. Effectiveness of Interventions to Promote Safe Firearm Storage. *Epidemiol Rev* 2016;38:111–24.
13 Bulger EM, Kuhls DA, Campbell BT, Bonne S, Cunningham RM, Betz M, Dicker R, Ranney ML, Barsotti C, Hargarten S, *et al*. Proceedings from the Medical Summit on Firearm Injury Prevention: a Public Health Approach to Reduce Death and Disability in the US. *J Am Coll Surg* 2019;229:415–30.
14 Sakran JV, Bornstein SS, Dicker R, Rivara FP, Campbell BT, Cunningham RM, Betz M, Hargarten S, Williams A, Horwitz JM, *et al*. Proceedings from the Second Medical Summit on Firearm Injury Prevention, 2022: Creating a Sustainable Healthcare Coalition to Advance a Multidisciplinary Public Health Approach. *J Am Coll Surg* 2023;236:1242–60.
15 Secure gun storage. Available: https://www.everytown.org/solutions/responsible-gun-storage/ [Accessed 9 Mar 2024].
16 Crifasi CK, Doucette ML, McGinty EE, Webster DW, Barry CL. Storage Practices of US Gun Owners in 2016. *Am J Public Health* 2018;108:532–7.
17 Safe and secure gun storage center for gun violence solutions. Available: https://publichealth.jhu.edu/center-for-gun-violence-solutions/solutions/safe-and-secure-gun-storage [Accessed 9 Mar 2024].
18 Stennies G, Ikeda R, Leadbetter S, Houston B, Sacks J. Firearm storage practices and children in the home, United States, 1994. *Arch Pediatr Adolesc Med* 1999;153:586–90.
19 Johnson RM, Coyne-Beasley T, Runyan CW. Firearm ownership and storage practices, U.S. households, 1992-2002. A systematic review. *Am J Prev Med* 2004;27:173–82.
20 Miller M, Azrael D. Firearm Storage in US Households With Children: Findings From the 2021 National Firearm Survey. *JAMA Netw Open* 2022;5:e2148823.
21 Miller M, Lippmann SJ, Azrael D, Hemenway D. Household Firearm Ownership and Rates of Suicide Across the 50 United States. *J Trauma* 2007;62:1029–35.
22 Anglemyer A, Horvath T, Rutherford G. The accessibility of firearms and risk for suicide and homicide victimization among household members: A systematic review and meta-analysis. *Ann Intern Med* 2014;160:101–10.
23 Simonetti JA, Rowhani-Rahbar A, King C, Bennett E, Rivara FP. Evaluation of a community-based safe firearm and ammunition storage intervention. *Inj Prev* 2018;24:218–23.
24 U.S. government accountability office. *Programs that promote safe storage and research on their effectiveness*. 2017.
25 Carbone PS, Clemens CJ, Ball TM. Effectiveness of gun-safety counseling and a gun lock giveaway in a Hispanic community. *Arch Pediatr Adolesc Med* 2005;159:1049–54.
26 Barkin SL, Finch SA, Ip EH, Scheindlin B, Craig JA, Steffes J, Weiley V, Slora E, Altman D, Wasserman RC. Is office-based counseling about media use, timeouts, and firearm storage effective? Results from a cluster-randomized, controlled trial. *Pediatrics* 2008;122:e15–25.
27 Grossman DC, Stafford HA, Koepsell TD, Hill R, Retzer KD, Jones W. Improving firearm storage in Alaska native villages: a randomized trial of household gun cabinets. *Am J Public Health* 2012;102 Suppl 2:S291–7.
28 Sidman EA, Grossman DC, Koepsell TD, D'Ambrosio L, Britt J, Simpson ES, Rivara FP, Bergman AB. Evaluation of a community-based handgun safe-storage campaign. *Pediatrics* 2005;115:e654–61.
29 Grossman DC, Cummings P, Koepsell TD, Marshall J, D'Ambrosio L, Thompson RS, Mack C. Firearm safety counseling in primary care pediatrics: a randomized, controlled trial. *Pediatrics* 2000;106:22–6.
30 Beidas RS, Rivara F, Rowhani-Rahbar A. Safe Firearm Storage: a Call for Research Informed by Firearm Stakeholders. *Pediatrics* 2020;146:e20200716.
31 Simonetti JA, Simeona C, Gallagher C, Bennett E, Rivara FP, Rowhani-Rahbar A. Preferences for Firearm Locking Devices and Device Features Among Participants in a Firearm Safety Event. *West J Emerg Med* 2019;20:552–6.
32 Horn A, Grossman DC, Jones W, Berger LR. Community based program to improve firearm storage practices in rural Alaska. *Inj Prev* 2003;9:231–4.
33 Betz ME, Wintemute GJ. Physician Counseling on Firearm Safety: a New Kind of Cultural Competence. *JAMA* 2015;314:449–50.
34 Roszko PJD, Ameli J, Carter PM, Cunningham RM, Ranney ML. Clinician Attitudes, Screening Practices, and Interventions to Reduce Firearm-Related Injury. *Epidemiol Rev* 2016;38:87–110.
35 Grossman DC, Mang K, Rivara FP. Firearm injury prevention counseling by pediatricians and family physicians. Practices and beliefs. *Arch Pediatr Adolesc Med* 1995;149:973–7.
36 Hoops K, McCourt A, Crifasi CK. The 5 A's of firearm safety counseling: Validating A clinical counseling methodology for firearms in A simulation-based randomized controlled trial. *Prev Med Rep* 2022;27:101811.
37 Searight HR. Counseling Patients in Primary Care: Evidence-Based Strategies. *Am Fam Physician* 2018;98:719–28.
38 Webster DW, Tilchin CG, Doucette ML. Estimating the effects of safe streets baltimore on gun violence. 2023. Available: https://publichealth.jhu.edu/sites/default/files/2023-10/estimating-the-effects-of-safe-streets-baltimore-on-gun-violence-july-2023.pdf [Accessed 11 Mar 2024].
39 Ewell Foster C, Derwin S, Bornheimer LA, Magness C, Kahsay E, Eis M, Verdugo JL, Smith T, Massey L, Rivara FP, *et al*. Firearm Safe Storage in Rural Families: Community Perspectives About Ownership and Safety Messaging. *Health Promot Pract* 2024;25:33–48.