Appendix: Studies Measuring the Effectiveness of Child Safety Seat Distribution Programs

Author & year (study period) Design suitability: design Quality of execution Evaluation setting	Intervention and comparison elements	Study population description Sample size	Results: Effect measure	Reported baseline	Reported effect	Value used in summary[a]	Follow-up time
Studies measuring the effect on injury rates							
Saalberg, Chapter 5, 1982 (1977-81) [1] Least: Before-after Good Insurance company	Location: Michigan, USA Components: Child safety seat giveaway Comparison: Pre-program period and families not issued a restraint by the company	Parents of 0–4-year-old children N = 7140 seats distributed to 5776 households	Injuries (record review)	16.3%	10%, p<0.05	-6.3%	0–2 years
Studies measuring the effect on use of safety seats							
Robitaille 1990 (1981-82) [2] Greatest: Non-randomized group trial Good Clinic, home visits	Location: Montreal, Canada Components: Loan program, classroom instruction, instructional films, community safety belt/safety seat promotional programs Comparison: Community safety belt/safety seat promotional programs	Mother/infant pairs N = 635 community-wide observations	Self-reported use 3 months 13 month follow-up	Intervention vs comparison 40.8% vs 21.6% [11.5, 26.7] 66.3% vs 54.3%		 +18.2% +2.1%	 3 months 10 months
Christopherson 1982 (1981) [3] Greatest: Randomized clinical trial Fair Hospital	Location: Kansas City, Kansas, USA Components: Loan program and demonstration of safety seat use Comparison: Usual discharge instructions (not described)	Mother/infant pairs N = 15 (intervention) N = 15 (comparison)	Correct use (observed) Discharge 4-6 week follow-up	Intervention vs comparison 67% vs 0% (p<0.001) 29% vs 23% (p>0.05)		 +67% +6%	 Discharge from hospital 4–6 weeks
Colletti 1986 (1979-84) [4] Moderate: Time series Fair Hospitals	Location: Vermont, USA Components: Rental program pamphlets, demonstration, skill rehearsal Comparison: Pre-program period	Mother/infant pairs N = 1846	Correct use (observed)	1979 <21%	1984 82%	 +61%	 Discharge from hospital
Geddis 1986 (1981-84) [5] Moderate: Time series Fair Hospital	Location: Dunedin, New Zealand Components: Rental program, pamphlets, individual education, letters/pamphlets mailed to parents not visited in hospital, monthly public safety campaigns (not described) Comparison: Pre-program period	Observed infants or children in motor vehicles 0-6 months N = 582 6-18 months N = 471	Correct use (observed) 0-6 months old 6-18 months old	1981 0% 61%	1984 +66% +27%	 +66% +27%	 0-18 months 0-18 months

Appendix Continued

Author & year (study period) Design suitability: design Quality of execution Evaluation setting	Intervention and comparison elements	Study population description Sample size	Effect measure	Results Reported baseline	Reported effect	Value used in summary[a]	Follow-up time
Hletko, 1987 (1985) [6] Greatest: Randomized clinical trial Fair Hospital	Location: Kalamazoo, Michigan, USA Components: Rental program, interactive video instruction, quizzes, demonstration, reinforcing materials Comparison 1: Individual education, filmstrip, pamphlet Comparison 2: No intervention, community members	Mother/infant pairs N=295 (intervention) N=300 (comparison 1) N=358 (comparison 2)	Correct use (observed)	Intervention vs comparison 1 64.6% vs 63.9%, $X^2 = 1.06$, p>0.05 Intervention plus comparison 1 vs comparison 2 64.3% vs 53.1%, p<0.05		+0.7% Not used	4 months
Lindqvist, 1993 (1984-85) [7] Greatest: Non-randomized group trial Fair Hospital	Location: Ostergotland, Sweden Components: Loan program, demonstration of use, videotape ("Safety from the Beginning") Comparison: Usual care (not described)	Observed infants in motor vehicles N = 764 (intervention) N = 397 (comparison)	Self-reported use 0-9 months old 9-12 month follow-up	Intervention vs comparison 96.2% vs 49.4% 98.7% vs 97.6%		+46.8% +1.1%	9 months 6 months
Reisinger, 1978 (1976-77) [8] Greatest: Non-randomized clinical trial Fair Hospital	Location: Pittsburgh, Pennsylvania, USA Group 1: Safety seats made easily available for purchase, literature, nurses supportive Group 2: Literature, displays, safety seats made easily available for purchase; demonstration and discussion if purchased Group 3: Literature plus offer of free safety seat; demonstration if purchased; seats NOT readily available for purchase Comparison (Group 4): Safety seats available for purchase in hospital shop	Mother/infant pairs Group 1: N = 271 Group 2: N = 295 Group 3: N = 265 Comparison (Group 4): N = 272	Correct use (observed) at: Discharge from hospital 2-4 month follow-up	Group 1 vs 4 Group 2 vs 4 Group 3 vs 4 Group 1 vs 4 Group 2 vs 4 Group 3 vs 4	8% vs 6% 8% vs 6% 11% vs 6% 22% vs 21% 20% vs 21% 28% vs 21%	Not used Not used +5% Not used Not used +7%	Immediate 2–4 months
Saalberg, Chapter 5, 1982 (1977-81) [1] Least: Before-after Good Insurance company	Location: Michigan, USA Components: Child safety seat giveaway Comparison: Pre-program period and families not issued a restraint by the company	Parents of 0–4-year-old children N = 7140 seats distributed to 5776 households	Self-reported use	Intervention vs comparison 56.6% vs 16.7%, p<0.01		+39.9%	0–2 years

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Author & year (study period) Design suitability: design Quality of execution Evaluation setting	Intervention and comparison elements	Study population description Sample size	Results: Effect measure	Reported Baseline	Reported effect	Value used in summary[a]	Follow-up time
Saalberg, Chapter 8, 1982 (1979-81) [9] Least: Cross-sectional Fair Insurance company	Location: Michigan, USA Components: Safety seat giveaway Comparison: Families not issued a safety seat by the company	Parents of 0–4-year-old children N = 800 households	Self-reported use	Families provided a restraint vs families not provided a restraint 23% vs 22%		+1%	0–2 years
Studies measuring the effect on possession/acquisition of safety seats							
Robitaille 1990 (1981-82) [2] Greatest: Non-randomized group trial Good Clinic, home visits	Location: Montreal, Canada Components: Loan program, classroom instruction, instructional films, community safety belt/safety seat promotional programs Comparison: Community safety belt/safety seat promotional programs	Mother/infant pairs N = 635 community-wide observations	Self-reported possession 3 months	Intervention vs comparison 61% vs 39.7% [10.6, 27.5]		+21.3%	3 months
Culler, 1980 (1979) [10] Greatest: Non-randomized clinical trial Fair Hospital	Location: Chattanooga, Tennessee, USA Group 1: Offered a low-cost rental Group 2: Offered a free loaner Comparison: Encouraged to use own resources to acquire a safety seat	Mother/infant pairs N = 35 (Group 1) N = 40 (Group 2) N = 44 (Comparison)	Self-reported acquisition	Group 1: 51% Group 2: 83% Comparison: 0% X^2 =64.32, p<0.0001		51% 83%	3-8 weeks 3-8 weeks
Reisinger, 1978 (1976-77) [8] Greatest: Non-randomized clinical trial Fair Hospital	Location: Pittsburgh, Pennsylvania, USA Group 1: Safety seats made easily available for purchase, literature, nurses supportive Group 2: Literature, displays, safety seats made easily available for purchase; demonstration and discussion if purchased Group 3: Literature plus offer of free safety seat; demonstration if purchased; seats NOT readily available for purchase Comparison (Group 4): Safety seats available for purchase in hospital shop	Mother/infant pairs Group 1: N = 271 Group 2: N = 295 Group 3: N = 265 Comparison (Group 4): N = 272	In-hospital acquisition	Group 1 vs 4 6% vs 1% Group 2 vs 4 11% vs 1% Group 3 vs 4 94% vs 1%		Not used Not used +93%	Immediate

Appendix Continued

Author & year (study period) Design suitability: design Quality of execution Evaluation setting	Intervention and comparison elements	Study population description Sample size	Results				
			Effect measure	Reported Baseline	Reported effect	Value used in summary[a]	Follow-up time
Saalberg, Chapter 8, 1982 (1979-81)[9] Least: Cross-sectional Fair Insurance company	Location: Michigan, USA Components: Safety seat giveaway Comparison: Families not issued a safety seat by the company	Parents of 0–4-year-old children N = 800 households	Self-reported possession	Families provided a restraint vs families not provided a restraint: 78% vs 62%		+16%	0–2 years

[a] This is the value used to summarize the evidence and to develop the recommendation. In some cases, this column reflects values calculated because the effects reported by the authors were not consistent with effect measures used in other studies.

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