

# Towards Implementation of Child Restraint System Law in Malaysia: The Subsidy Program

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ORIGINAL ARTICLE

Open Access

## Article History:

Received  
20 Dec 2022

Accepted  
8 Feb 2022

Available online  
1 May 2023

**ABSTRACT** – Car accidents are the leading cause of injury and death among children, and using appropriate child restraint systems can significantly reduce the risk of severe injuries or fatalities. The Child Restraint Systems (CRS) are designed to provide protection and support to children during sudden stops, collisions, or other vehicle accidents. They are specifically designed to accommodate children's size, weight, and developmental stage, providing a secure and protective environment in the event of a crash. However, CRS usage among Malaysian citizens is still unfavorable even though the government has mandated CRS usage in moving private vehicles. To encourage and educate parents on the importance of CRS, Malaysia has launched a subsidy program for the CRS targeted at low-income families. This initiative brought positive results, with a total purchase of 63,395 CRS units, while the CRS usage rate increased to 45% in the Klang Valley.

**KEYWORDS:** Child Restraint System (CRS), subsidy, passenger vehicles, child safety, MyCRS

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Journal homepage: [www.jsaem.my](http://www.jsaem.my)

## 1. INTRODUCTION

According to Howard (2000), children who were not properly restrained were more likely to sustain severe injuries, which could increase their risk of death in the event of a crash. Given this, the Child Restraint System (CRS) has been proven to reduce injuries and prevent fatalities by 54 to 71 percent when used correctly (Zaza et al., 2001; Lennon, 2012). Seat belts, on the other hand, are designed for adults and may not provide adequate protection for young children (Lennon, 2012). The Child Restraint Systems (CRS), including car seats and booster seats, are specifically designed to provide the necessary protection for babies and toddlers in a car crash. Studies have shown that correctly used child restraints are more effective than seat belts in reducing fatalities to children by 71% for infants younger than 1 year old and by 54% for children 1 to 4 years old in passenger cars (Durbin et al., 2011).

In January 2020, Malaysia mandated the use of CRS under the Road Safety Act for children under the age of 12, below 36kg with a height of less than 136cm when traveling in a private passenger car. The Law is yet to be fully implemented and, therefore, it is essential to focus enforcement activities on educating, advising, and reminding the public about the importance of child safety seats.

Wider use of CRS could have a significant role in preventing child traffic injuries and deaths. To date, Malaysia's CRS utilization rate is at a moderate level (Shaari et al., 2022). Another study in Malaysia explored parents' awareness and usage of CRS, incentives, and challenges in CRS use, as well as their perception of potential CRS legislation in Malaysia (Paiman et al., 2019; Ramli & Yunus, 2020). The study found that although most parents were aware of CRS, only half had a CRS for their current newborn (Ang et al., 2020). Affordability was found as a factor limiting parents, particularly in Lower Middle-Income Countries (LMICs), from using CRS (Bhaumik et al., 2020; Puvanachandra et al., 2020). Although the government has mandated the use of a CRS or car seat, many parents cannot afford to purchase one despite their desire to ensure their child is safe in the vehicle. A study examining parents'

willingness to pay for CRS in Malaysia revealed that the maximum threshold was RM200 (Santosa et al., 2020). In addition, the Malaysian government received feedback that child safety seats costing between RM500 to RM4,000 would be a financial burden to some families.

To ease the financial hurdle for low-income families, the government has allocated RM30 million under the 2022 Malaysia Budget to subsidize the cost of acquiring a CRS by 50%; up to a maximum of RM150. This subsidy initiative has been designed to address the economic disparities that may impede the widespread adoption of CRS. It also aims to promote CRS usage among Malaysia's bottom 40% of low-income earners (B40). This paper aims to gauge the implementation of the CRS subsidy program and its effectiveness in increasing CRS usage for child safety.

## **2. MyCRS PROGRAM 2022**

The Malaysian Child Restraint System Subsidy (MyCRS) is a subsidy program to benefit B40 households when purchasing CRS on the market. The subsidy is eligible for B40 families with children aged 0 to 12 years old. MyCRS Subsidy eligibility requirements include (i) Have a child/adopted child/foster child aged 12 years and below; and (ii) Citizens residing in Malaysia.

The Malaysian Institute of Road Safety Research (MIROS) has been appointed as the implementing agency of the subsidy. Key data reference for BPR 2021 & BPN 2022 recipients was based on information received by LHDN/e-Kasih ICU. This subsidy provides for one CRS per household.

Several potential barriers to implementing CRS distribution and education programs are described in the literature. Implementing organizations must consider the potential liabilities, initial expense for purchasing seats, cleaning and storage of child safety seats, and training personnel to provide education and distribute child safety seats. In addition, some child safety seats might be incompatible with certain vehicles.

MyCRS offers collaboration with distributors and retailers that are registered with MIROS and have at least one certified Child Occupant Safety Advisor (COSA) (Paiman et al., 2021). The advisors play an important role in advising parents to choose the right CRS according to their child's age and size. In addition, the COSA is responsible for educating parents on the right installation for the CRS. Ultimately, MIROS will run a CRS check to ensure parents are using and installing the CRS correctly.

## **3. METHODOLOGY**

Data for this study were gathered from two data sources. The MyCRS recipient's database was examined to see whether subsidies encourage the uptake of CRS. Descriptive analyses were carried out to assess several parameters related to the selection and adoption of CRS.

Meanwhile, a cross-sectional observational survey on CRS usage was conducted near kindergartens to assess the effect of subsidies on CRS usage. The observation took place at two different locations in the Klang Valley. At each site, trained field workers observed and recorded child restraint use in all passing motor vehicles with at least one child passenger.

Statistical analyses such as inferential analysis and odds ratio were performed using the Statistical Package for The Social Sciences (SPSS) software. The findings of the analyses were used to conclude this study.

## **4. RESULTS AND DISCUSSION**

### **4.1 Parents' Acceptance of the CRS Subsidy Program**

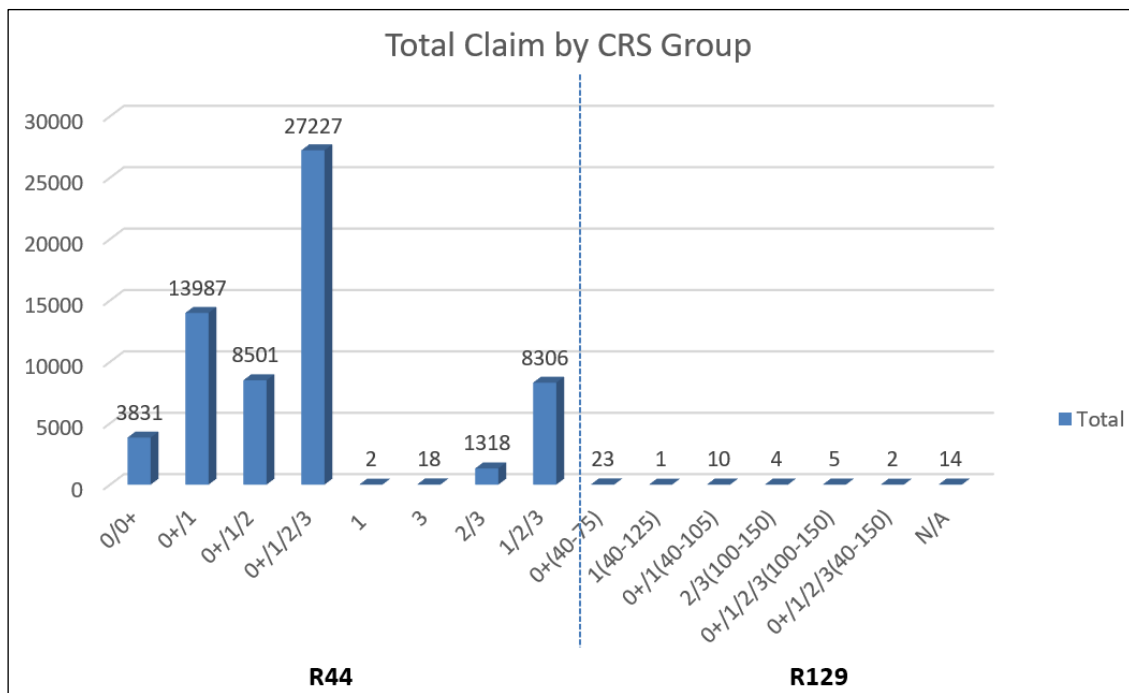
The MyCRS subsidy program commenced in March 2022. Parents' acceptance of this initiative was overwhelming. The initial budget was allocated for 188,000 beneficiaries but it turned out that more than 500,000 parents registered for the subsidy. After data filtering, 277,050 households were eligible for the subsidy. The program was carried out for 6 months. A total of 63,395 CRS was sold under this program. Table 1 summarizes MyCRS subsidy achievements.

**TABLE 1:** MyCRS subsidy achievement summary

NO	ELEMENT	COUNTS / AMOUNT
1	Number of applicants	527,104
2	Eligible subsidy recipient	277,050
3	Number of appeals	34,130
4	Number of claims	<b>RM 9,037,906.64 (30.13%)</b>
5	Number of recipients of subsidies	<b>63,395 (33.72%)</b>

#### 4.2 Parents' Selection of CRS Type

From the claims made, we analyzed the total purchase for each CRS group as shown in Figure 1. Per Figure 1, most parents purchased the combination type CRS for group 0+/1/2/3 with a total of 27,227 units selected. The combination seats were a popular choice due to their convenience, cost-efficiency, and long-term use. These seats could accommodate children from infancy (group 0+) to the booster seat stage (group 3), making them a cost-effective option. The seats were often designed to have adjustable features such as adjustable harness heights and headrests, making them suitable for children of different ages and sizes. Instead of purchasing multiple seats as the child grows, parents could make a single investment in a versatile seat that lasts for several years. In addition, only one CRS for one household was eligible for the parents to claim the subsidies. Thus, parents needed to choose wisely according to their affordability to purchase the CRS. Despite that, the 13,987 units of convertible CRS type in groups 0+/1 were selected, which was the second-highest among all types. The lowest number of CRS purchased were the CRS in groups 3 and 1 with only a total of 18 and 2, respectively.



**FIGURE 1:** Parents' selection of CRS group type

### 4.3 Preferred Price Range

Apart from having the CRS in group 0+/1/2/3 as the preferred choice, parents also had a preferred price range for the CRS according to their budget. Table 2 shows the top 10 purchased CRS from the collected data.

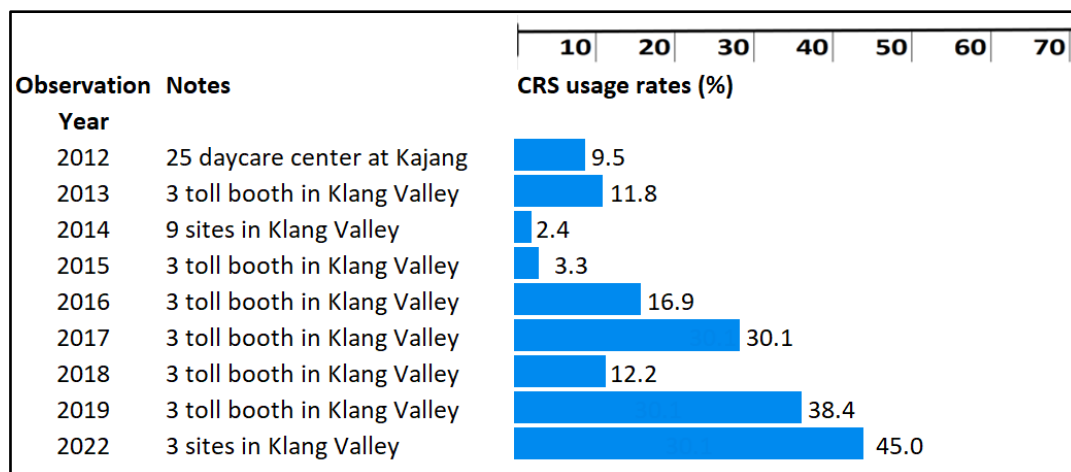
**TABLE 2:** Top 10 CRS products sold

Product Name (Brand – Model)	Group	SB	ISOFIX	Top Tether	Support Leg	R/F Facing	Price	Total Unit Sold
KOOPERS – LM309 (PAGO)	0+/1	/	N/A	N/A	N/A	R, F	RM299.00	7,943
KOOPERS – LM218 (LEVI)	1/2/3	/	N/A	N/A	N/A	F	RM299.00	4,363
CROLLA – AY373 (ALPHA)	0+/1/2	/	N/A	N/A	N/A	R, F	RM299.00	4,316
KOOPERS – 906A (LAMBADA)	0+/1/2/3	/	N/A	N/A	N/A	R, F	RM399.00	3,437
SWEET CHERRY – AY913	0+/1/2/3	/	N/A	N/A	N/A	R, F	RM389.00	2,735
LITTLE ONE BABY – GM0932 (SPIN)	0+/1/2/3	/	/	/	N/A	R, F	RM399.00	2,288
LITTLE ONE – YC06 (CROWN ISOFIX 360)	0+/1/2/3	/	/	/	N/A	R, F	RM329.00	2,286
SWEET CHERRY – AY373A	0+/1/2	/	N/A	N/A	N/A	R, F	RM339.00	2,260
CROLLA – AY518 (NEXUS)	0+/1/2/3	/	N/A	N/A	N/A	R, F	RM459.00	2,224
SWEET CHERRY – LB-N03	0+/1	/	N/A	N/A	N/A	R, F	RM259.00	2,110

According to Table 2, the most expensive CRS for parents in the low-income category to purchase was RM459 while the cheapest was RM259. However, most of them opted for the median price of RM299 which went to the design for group 0+/1. This contradicted the results obtained from the total buyer for each group where the CRS in group 0+/1/2/3 recorded the highest purchase number. Nevertheless, this had been expected because the CRS in group 0+/1/2/3 offered a variety of choices compared to the CRS in group 0+/1.

### 4.4 CRS Usage in Malaysia

Since 2012, Malaysian researchers have conducted observation studies to assess the CRS usage rate at various study locations especially in the Klang Valley. This study also managed to measure the CRS usage rate through a roadside observational study method. The observations took place within a two-month interval following the conclusion of the MyCRS subsidy program. The findings, as depicted in Figure 2, affirmed a notable 6.6% increase in CRS usage in the Klang Valley compared to the preceding year.



**FIGURE 2:** Rate of CRS voluntary usage among parents in Malaysia by year

## 5. CONCLUSION

The Malaysian government's initiative to launch an incentive program to educate parents on the importance of CRS usage and children's safety in moving private vehicles had caught parents' attention and was a success. Through the program, the CRS price was subsidized and this helped parents with financial hardship as they received financial assistance and safety education. This success was also based on the number of purchased CRS within the seven months of program duration with a total of 63,395 units sold.

From 63,395 units sold, 27,227 units belonged to group 0+1/2/3. As discussed earlier, the reason might be because of the limited number of CRS that could be claimed through this program. Thus, parents made a wise choice to ensure that their child's safety was guaranteed for a long period with only one purchase of the CRS.

Nevertheless, the results obtained for the highest CRS unit sold came from group 0+1 with a total purchase of 7,943 units. However, the contradiction between this number and the highest number of purchased CRS group was explainable. This was because the CRS in group 0+1/2/3 offered a wide variety of choices compared to the CRS in group 0+1. Thus, the number of units sold was spread among CRS in group 0+1/2/3 while the number of units sold was focused on only a few designs in the 0+1 group according to parents' purchasing ability. In terms of price, it was confirmed that the parents opted to purchase the CRS in the price range from RM200 to RM500.

The program also increased CRS usage especially in the Klang Valley to 45% compared to the previous year 2019 which indicated a positive response from parents towards the program. However, the increase in CRS usage also could lead to the misuse of CRS that would endanger the child. Thus, a COSA must be available to educate the parents on CRS selection.

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