

# Time Before Use of Epinephrine Injectable Devices and Triggers Driving Use: A Patient/Caregiver Survey

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## RATIONALE

- Epinephrine is recognized as the only first-line, lifesaving therapy in the treatment of patients with severe allergic reactions (Type I) including anaphylaxis.<sup>1</sup>
- Multiple studies have highlighted a common theme that epinephrine is underused in the treatment of anaphylaxis, demonstrating a need for improvement.<sup>2</sup> Delayed epinephrine administration leads to worse outcomes, including increased risk of hospitalizations and fatalities.<sup>1,3,4</sup>
- Despite the association between early treatment and decreased hospitalization/fatality, epinephrine injectable devices are often under-used because of patient lack of readiness, hesitancy to use, and lack of understanding regarding allergic reaction progression.

## AIMS

To gain an in-depth understanding of the reasons why people hesitate to use epinephrine auto-injectors (EAI) after symptoms develop and the triggers that drive use.

## METHODS

The study used data from a self-reported patient/caregiver survey.

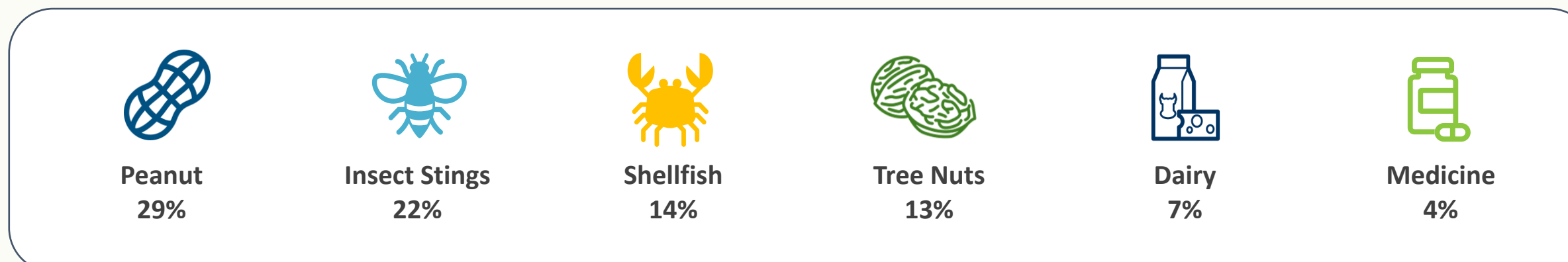
- 20-minute double-blinded web-based survey of 100 patients and 100 caregivers who used an epinephrine injectable device within the 12 months prior to participating in the survey (exempt from IRB approval).
- To explore usage of epinephrine, including questions about their or their child's allergy, current treatment, the last allergic reaction, the number of minutes they waited before using the device, the reasons that drove use, and reasons for possible hesitation to use.

Table 1: Selected Demographic Characteristics of Respondents

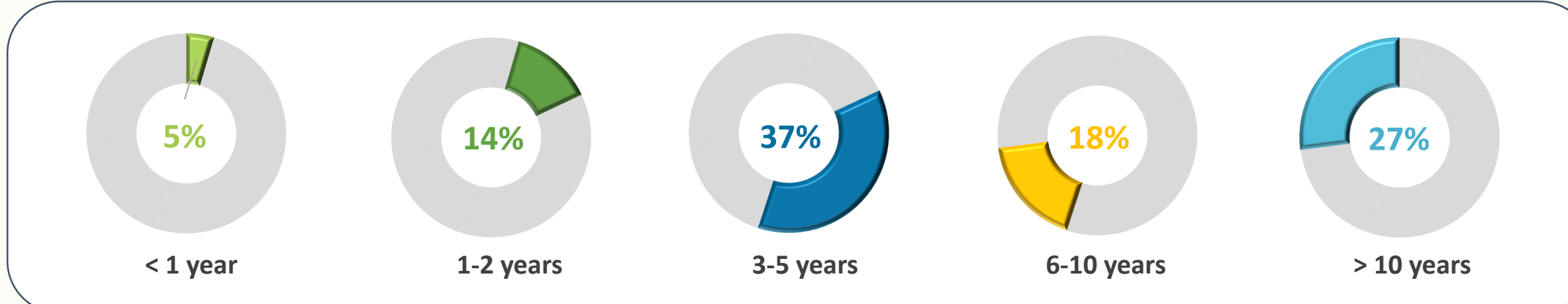
Respondent	N	Median Age Range	Median Household Income	% with EAI Currently Filled
Caregivers	100	26-45 Years Old	\$50,000 - \$99,999	97%
Patients: Adult Males	50	26-45 Years Old	\$50,000 - \$99,999	98%
Patients: Adult Females	50	26-45 Years Old	\$25,000 - \$49,999	84%

## RESPONDENT BACKGROUND

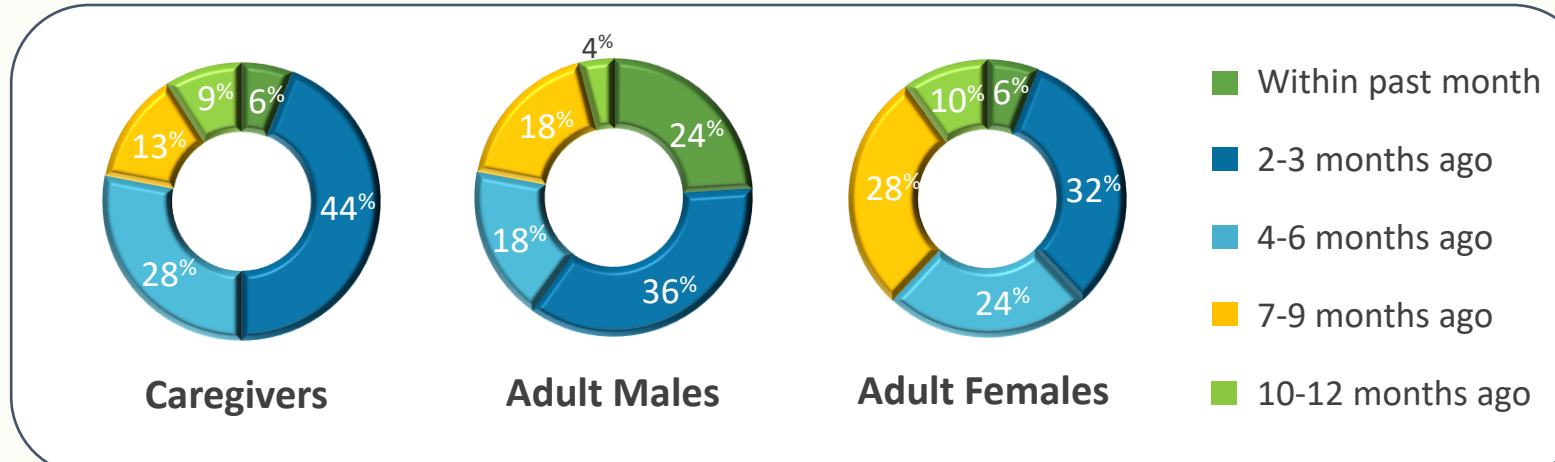
### Allergy Type



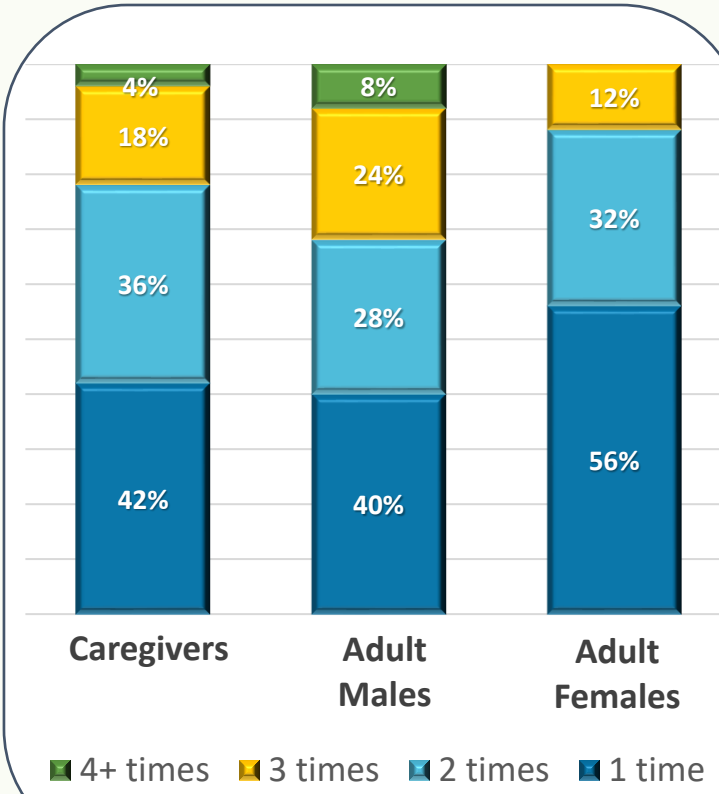
### Time Allergy has been Known



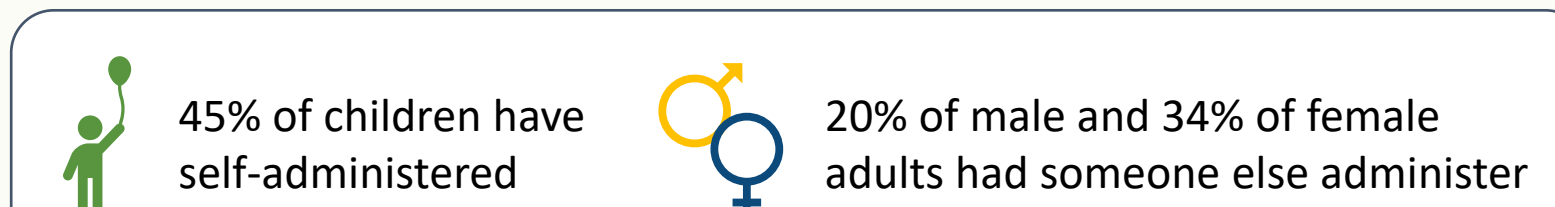
### Time Since Last EAI Injection



### Past Year EAI Usage

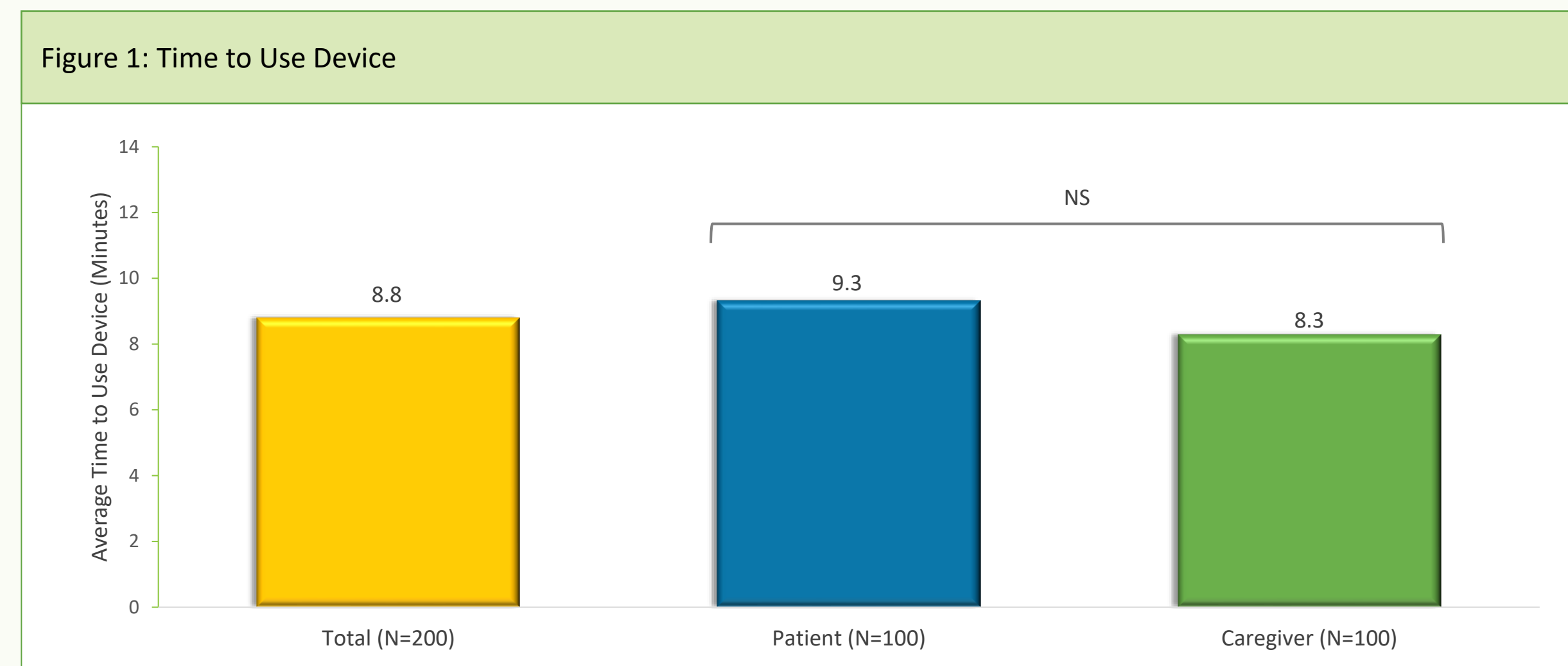


### EAI Administration Among Adults and Children

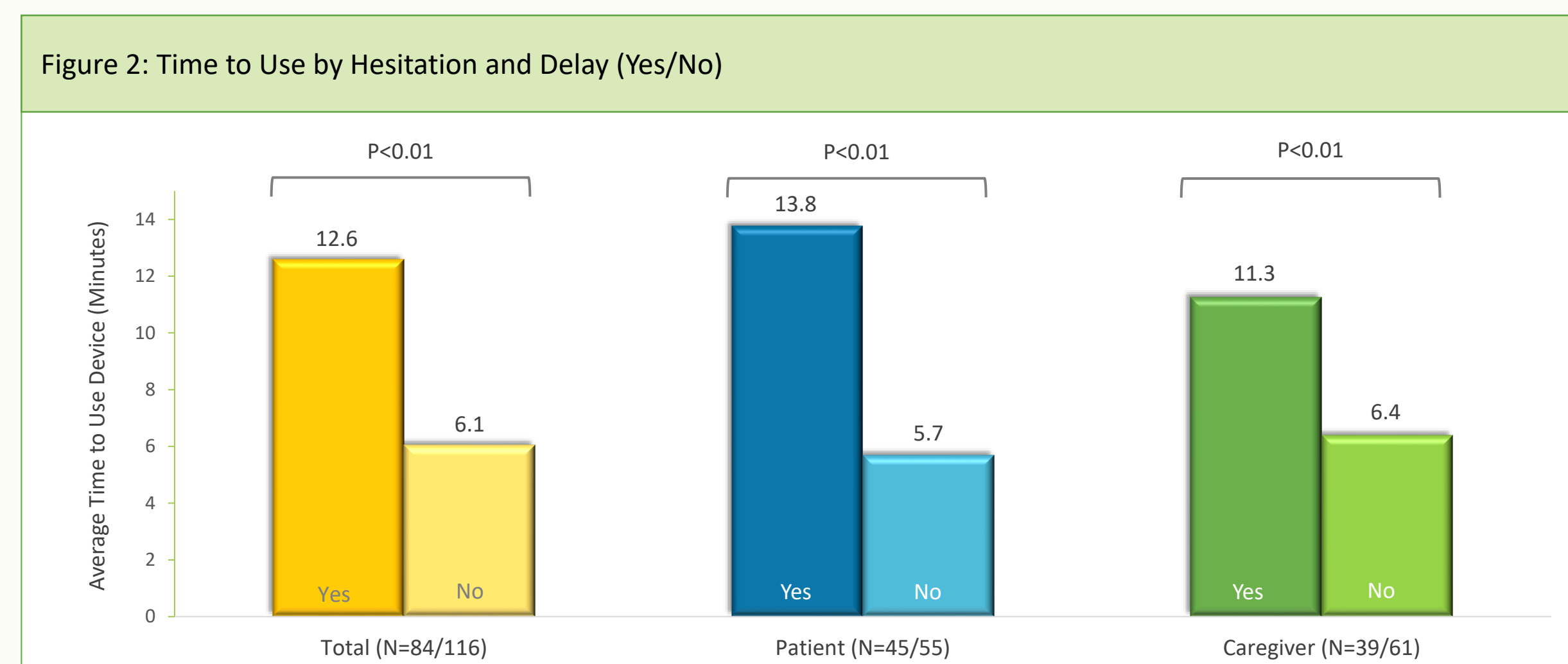


## RESULTS

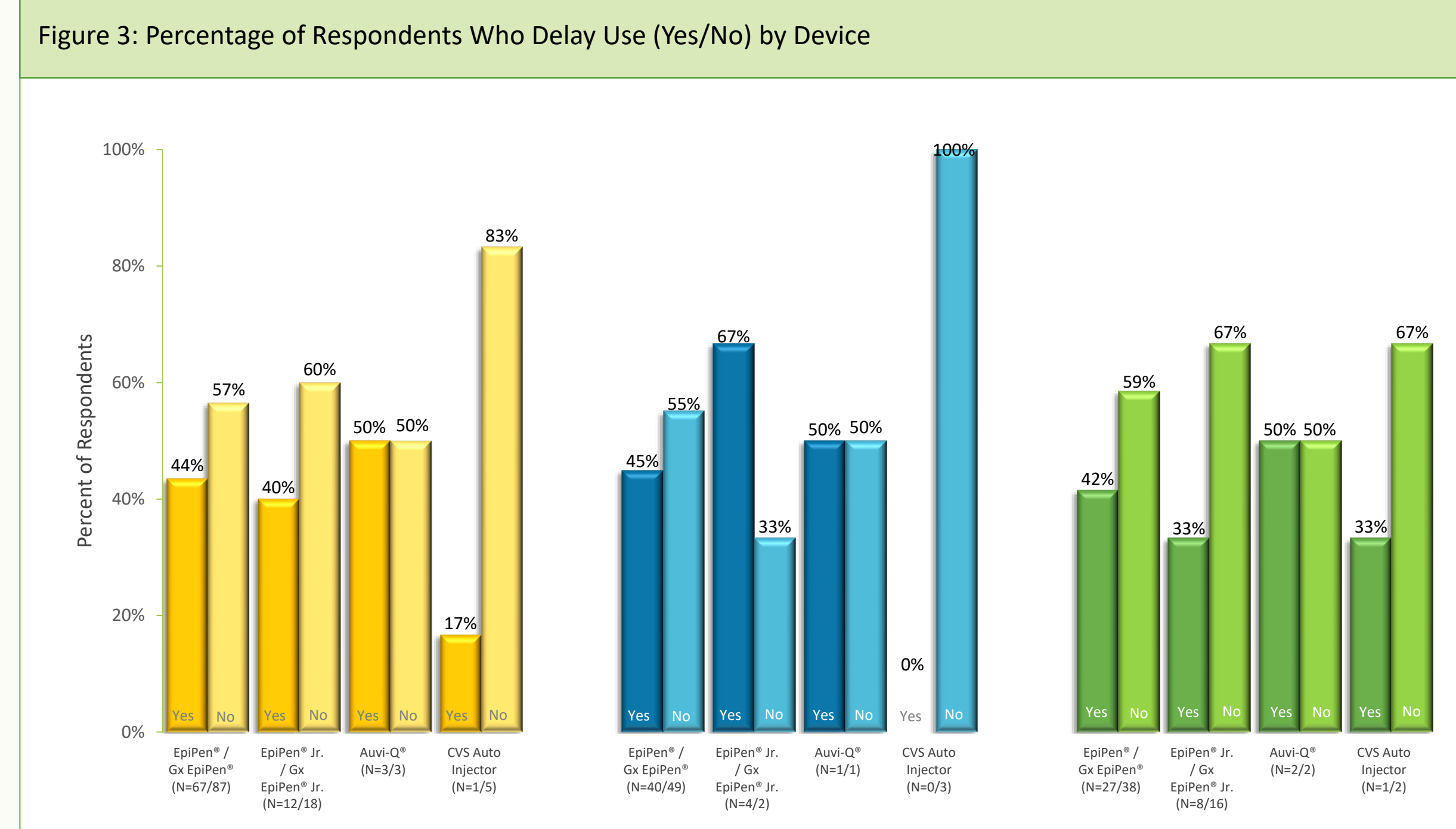
- Average time between development of symptoms and device use was 8.8 minutes. There were no significant differences in time to use between patients and caregiver. (Figure 1)



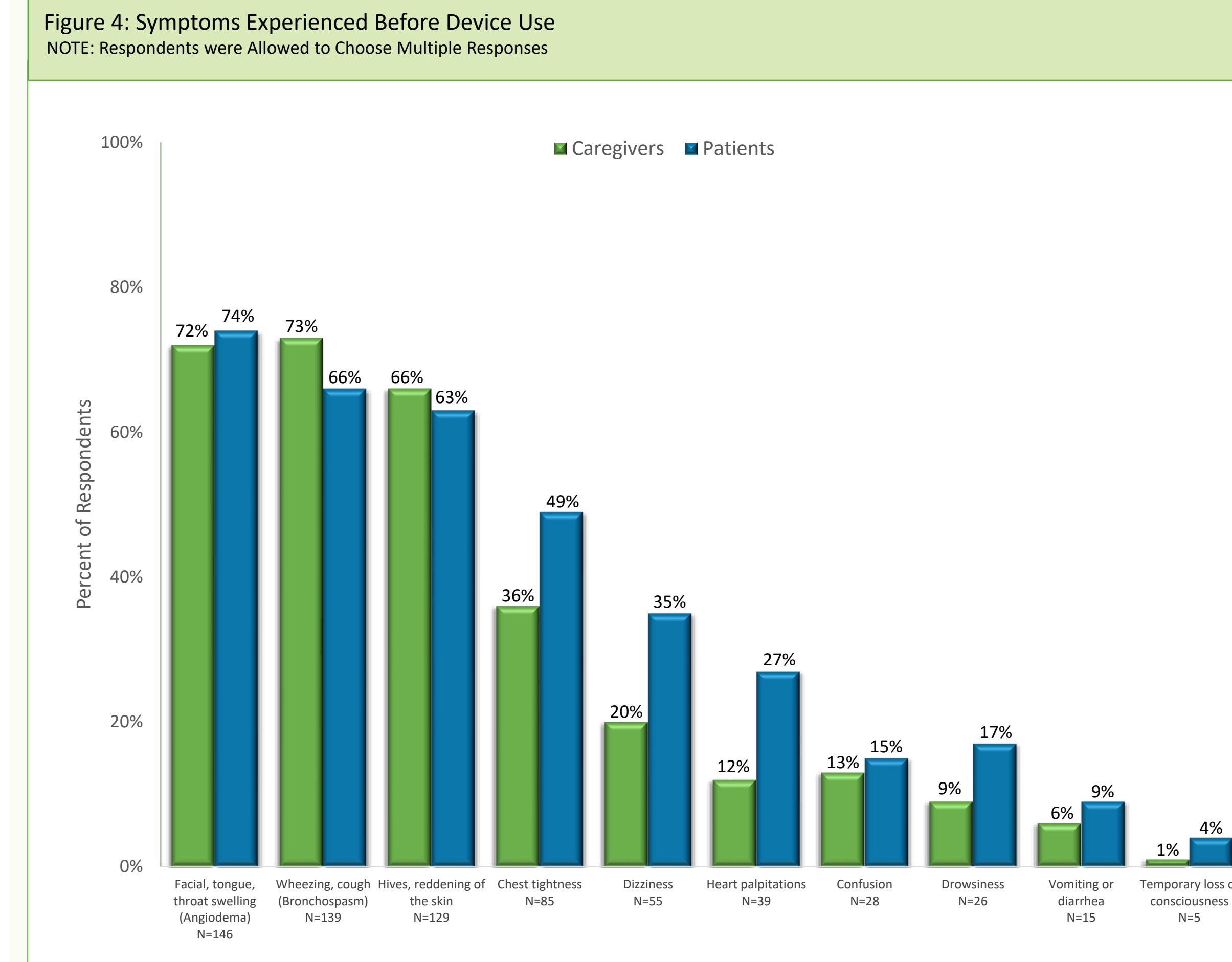
- Respondents were asked if they delayed or hesitated to use their or their child's EAI after initial symptoms of the reaction began for the last allergic reaction. There were significant differences in time to use device among those who self-reported as delaying vs. those who said they did not delay. (Figure 2)



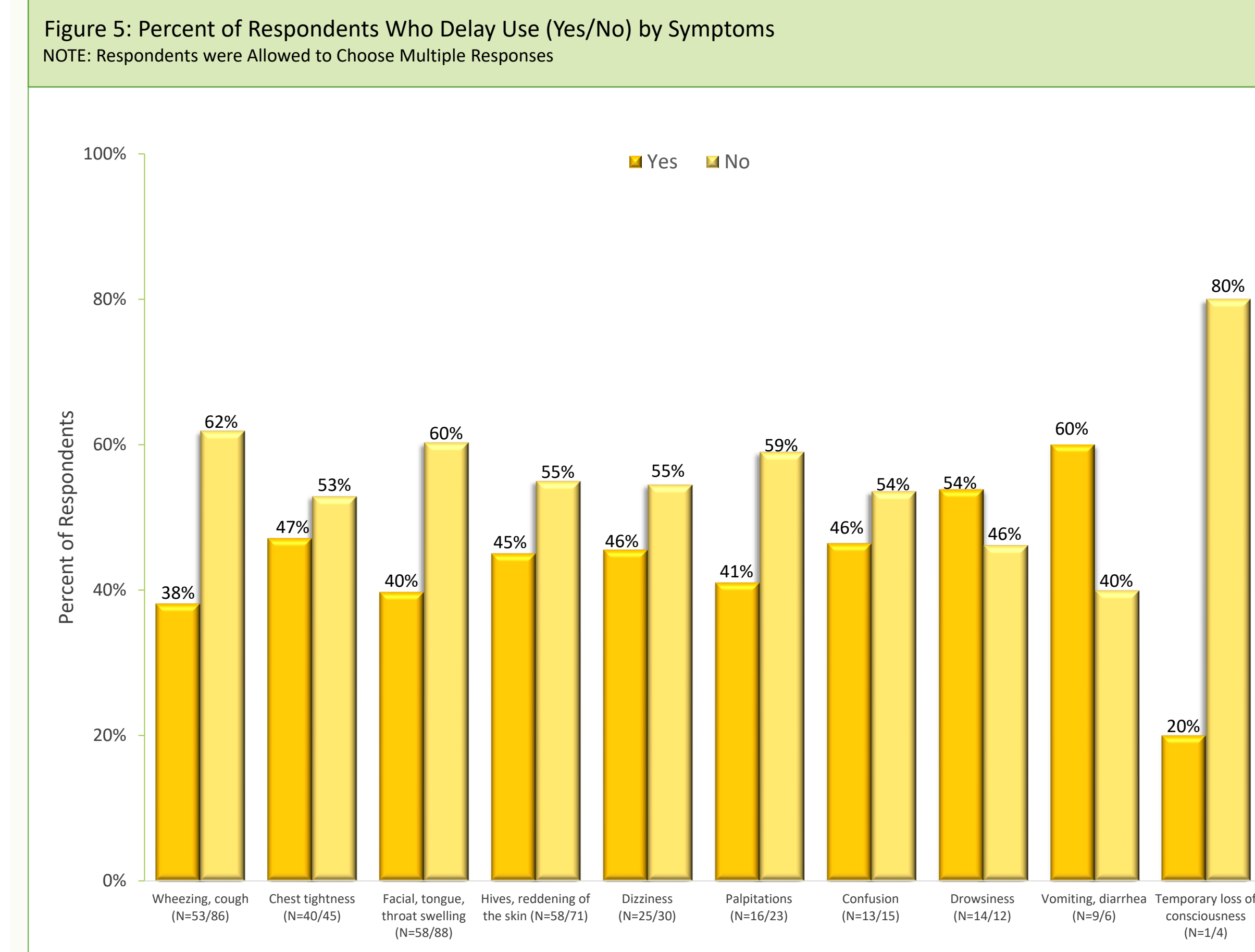
- Most of the respondents use EpiPen® or EpiPen® Jr. Approximately 40% delay or hesitate to use their/their child's device. (Figure 3)



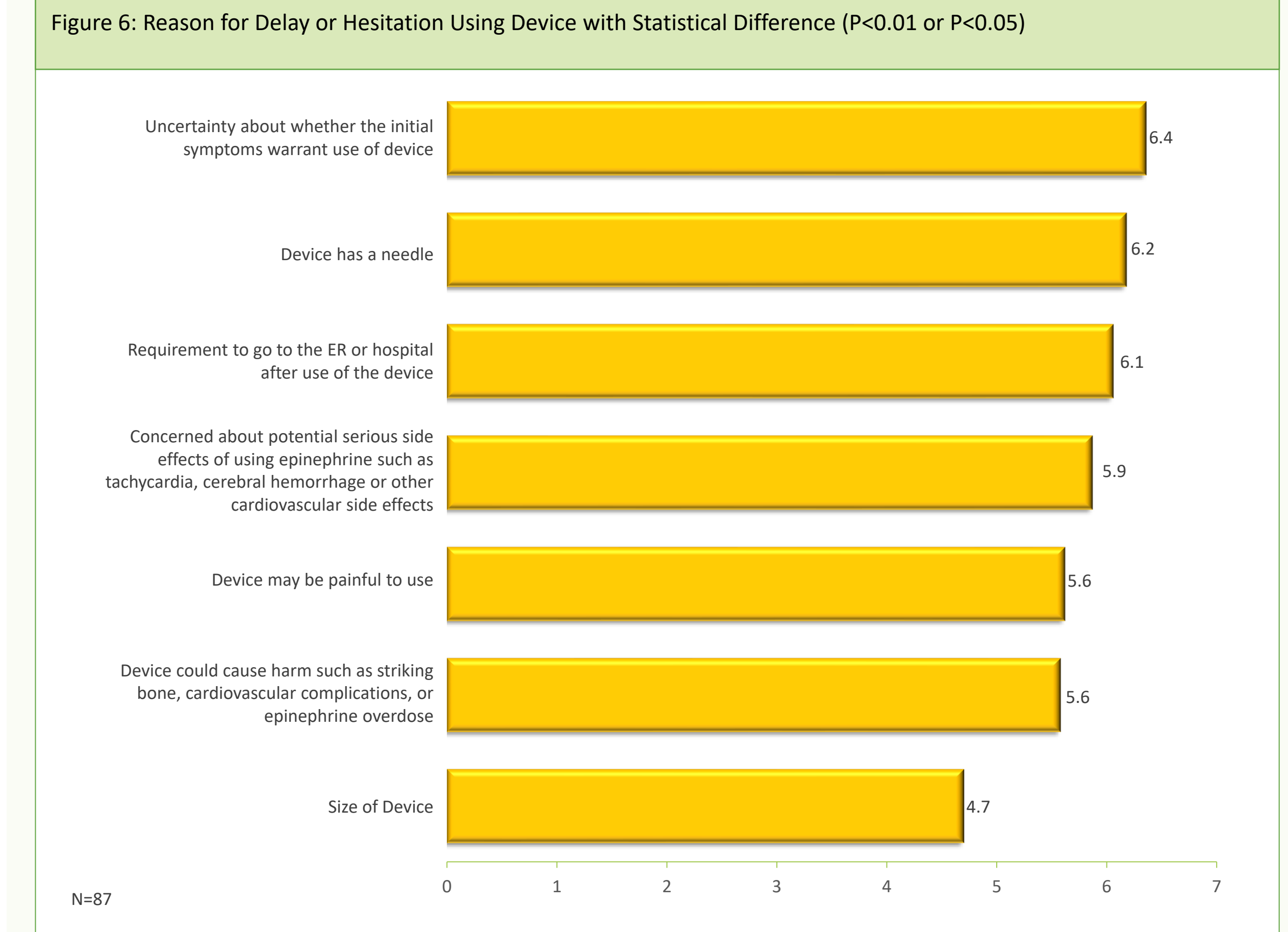
- Symptoms that precipitated device use included facial, tongue, and throat swelling (72% - 74%); wheezing and cough (66% - 73%); hives, reddening of skin (63% - 66%); and chest tightness (36% - 49%). (Figure 4)



- It appears that 40% - 50% of respondents delay or hesitate regardless of the type of symptoms. (Figure 5)



- The reasons for the delay in use of an epinephrine injectable device had significant relationship with needle, requirement to go to ER, uncertainty about the symptom being warranted for injection, potential side effects, fear to use (p<0.01), pain, and size of device (p<0.05). (Figure 6)



## CONCLUSION

- The reasons for the delay in use of an epinephrine injectable device had a significant relationship with needle, requirement to go to ER, uncertainty about the symptom being warranted for injection, potential side effects, fear to use (p<0.01), pain, and size of device (p<0.05).
- The results suggest that a device that addresses the reasons for delay and hesitation may help patients and caregivers to use the device without hesitation.

## REFERENCES

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