

# Title: Effect of an Educational Video on Racial Disparities in Neuraxial Labor Analgesia: An Impact Study

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## Introduction

- Racial disparities in neuraxial labor analgesia have been previously reported.<sup>1</sup>
- We hypothesized that an **educational video would decrease racial disparities** in neuraxial labor analgesia at our hospital.

## Methods

- **January 1, 2021 to April 30, 2021:** control group
- **January 1, 2022 to April 30, 2022:** video **intervention** in English and Spanish accessed via **QR codes** printed on flyers.
- **White or Caucasian** was the reference race
- **Black or African American and Hispanic** were compared to the White or Caucasian race

Results

Demographic and clinical Data

| Variable                                                         | White or Caucasian (N=581) | Hispanic (N=282) | P value (White or Caucasian vs Hispanic) | Black or African American (N=155) | P value (White or Caucasian vs Black or African American) |
|------------------------------------------------------------------|----------------------------|------------------|------------------------------------------|-----------------------------------|-----------------------------------------------------------|
| Health insurance                                                 |                            |                  | <0.001*                                  |                                   | <0.001*                                                   |
| Commercial                                                       | 215 (37.0%)                | 61 (21.6%)       |                                          | 26 (16.8%)                        |                                                           |
| Medicaid                                                         | 163 (28.1%)                | 123 (43.6%)      |                                          | 78 (50.3%)                        |                                                           |
| Tricare                                                          | 44 (7.6%)                  | 12 (4.3%)        |                                          | 7 (4.5%)                          |                                                           |
| None listed                                                      | 159 (27.4%)                | 86 (30.5%)       |                                          | 44 (28.4%)                        |                                                           |
| Age (years) (median (IQR <sup>1</sup> ))                         | 27 (24-31)                 | 27 (22-31)       | 0.025*                                   | 24 (22-29)                        | <0.001*                                                   |
| Gravidity (median (IQR))                                         | 2 (1-3)                    | 2 (1-3)          | 0.154                                    | 2 (1-3)                           | 0.035*                                                    |
| Parity (median (IQR))                                            | 1 (0-1)                    | 1 (0-2)          | 0.026*                                   | 1 (0-2)                           | 0.032*                                                    |
| Anxiety listed on problem list in admission history and physical | 136 (23.4%)                | 49 (17.4%)       | 0.043*                                   | 18 (11.6%)                        | 0.001*                                                    |
| Indication for admission                                         |                            |                  | 0.003*                                   |                                   | 0.876                                                     |
| Elective scheduled induction                                     | 204 (35.1%)                | 77 (27.3%)       |                                          | 51 (32.9%)                        |                                                           |
| Medically indicated induction                                    | 164 (28.2%)                | 68 (24.1%)       |                                          | 45 (29.0%)                        |                                                           |
| Spontaneous labor                                                | 213 (36.7%)                | 137 (48.6%)      |                                          | 59 (38.1%)                        |                                                           |
| Received neuraxial labor analgesia                               | 524 (90.2%)                | 241 (85.5%)      | 0.040*                                   | 132 (85.2%)                       | 0.074                                                     |
| Neuraxial labor analgesic technique                              |                            |                  | 0.492                                    |                                   | 0.669                                                     |
| Regular epidural                                                 | 484 (92.4%)                | 217 (90.0%)      |                                          | 120 (90.9%)                       |                                                           |
| Dural puncture epidural                                          | 1 (0.2%)                   | 0                |                                          | 0                                 |                                                           |
| Combined spinal epidural                                         | 39 (6.7%)                  | 24 (10.0%)       |                                          | 12 (9.1%)                         |                                                           |
| First labor epidural catheter replaced                           | 9 (1.9%)                   | 3 (1.4%)         | 0.763                                    | 2 (1.5%)                          | 1.0                                                       |

Labor Epidural Utilization

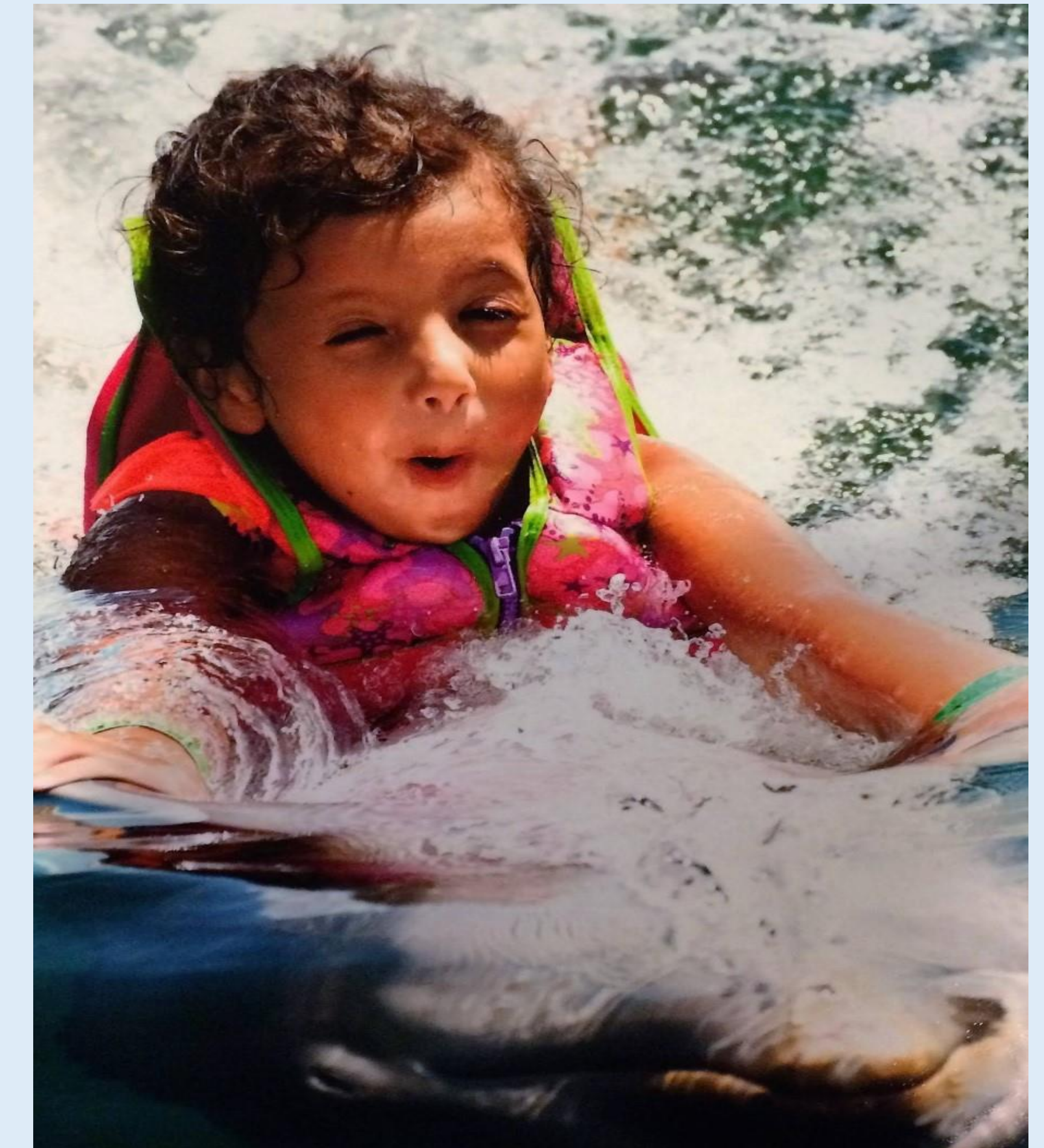
|      | White or Caucasian | Hispanic    | Black or African American |
|------|--------------------|-------------|---------------------------|
| Pre  | 251 (87.5%)        | 117 (87.3%) | 70 (94.6%)                |
| Post | 273 (92.9%)        | 124 (83.8%) | 62 (81.6%)                |

Compared to the reference race, the **odds ratio** of a **Black or African American** patient receiving neuraxial labor analgesia were **1.116** (95% CI 0.513, 2.426; p=0.783) and **0.341** (95% CI 0.164, 0.707; p=0.004) before and after the implementation of the educational video, respectively.

Compared to the reference race, the **odds ratio** of a **Hispanic** patient receiving neuraxial labor analgesia were **0.987** (95% CI 0.533, 1.830; p=0.967) and **0.397** (95% CI 0.213, 0.741; p=0.004) before and during the implementation of the educational video, respectively.

## Discussion

- **Racial disparities in neuraxial labor analgesia appeared to worsen after the implementation of our educational video.**
- There was a statistically significant **increase in labor epidural utilization for White or Caucasian patients in the post-implementation cohort** and this partially explains the increase in racial disparities.
- Likely that flyers were not distributed widely and the QR codes were not utilized
- A limitation of this study is that there are likely **unmeasured variables** that contributed to racial disparities.



## References

1. Toledo P, et al. Racial and ethnic disparities in neuraxial labor analgesia. Anesth Analg 2012;114:172-8

