

# CTE, Media Presence, & NFL Player Deaths

## Trends of Public Interest of Chronic Traumatic Encephalopathy (CTE) from 2004-2022.



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### INTRODUCTION

- Chronic Traumatic Encephalopathy (CTE) is a progressive neurodegenerative brain condition thought to be caused by numerous forceful blows to the head and repeated sports-related concussions.
- Previously termed Dementia Pugilistica until 2005 when Dr. Omalu Bennet published the first autopsy report.
- Public interest has increased due to publicised sports injuries and media presence.
- Google Trends was used to explore events that have increased public interest in CTE.

### METHODS

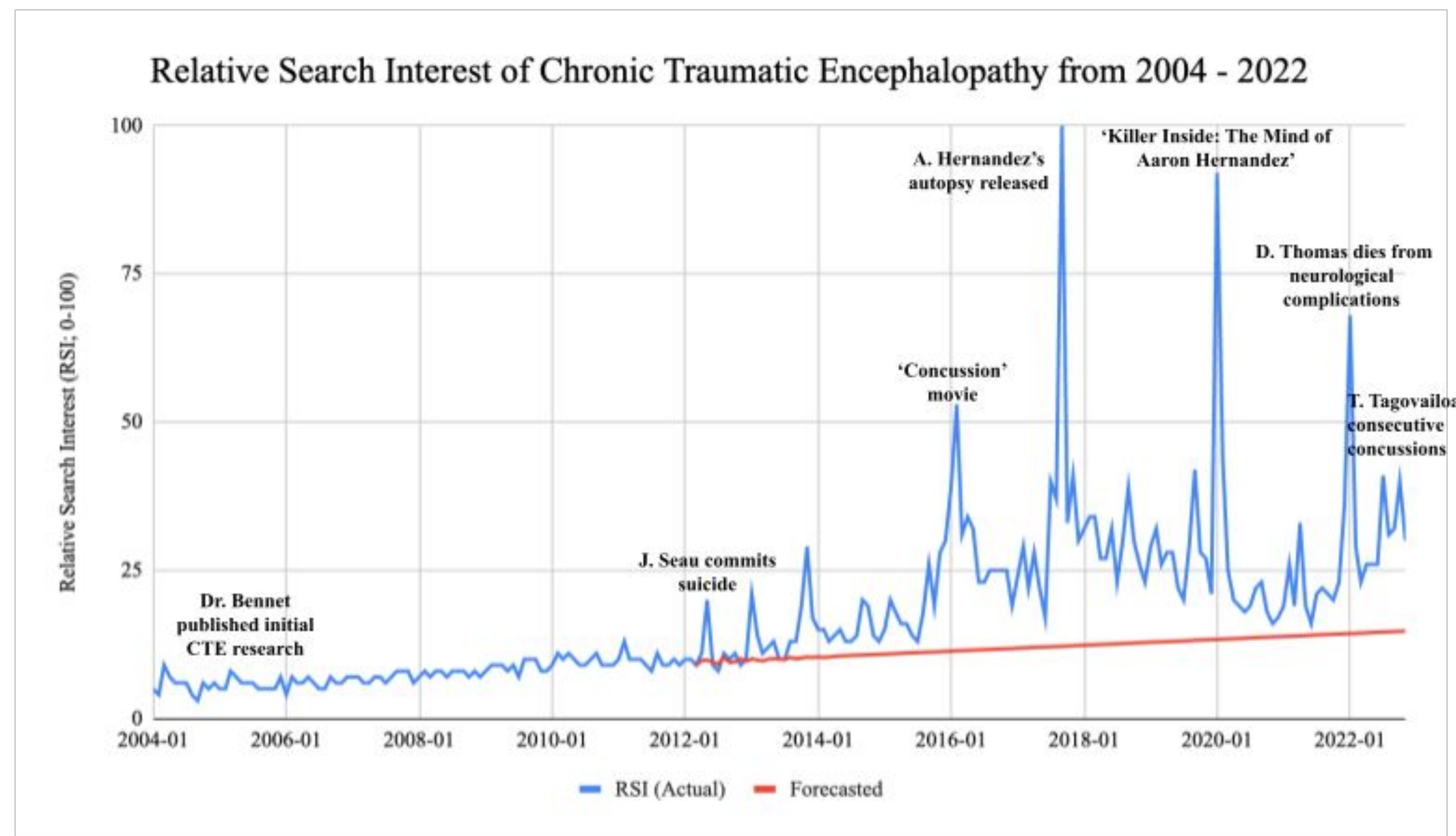
- Data was obtained using an RSI in Google Trends between 1/01/2004 and 10/31/2022.
- Major events displayed in Table 1 used to assess the increase in RSI starting in 2012.

**Table 1:** Major media events resulting in increased public interest in CTE.

Date	Event
07-2005	Dr. Omalu Bennet publishes initial CTE research
05-2012	J. Seau commits suicide
01-2013	Autopsy confirms J. Seau's CTE Diagnosis
11-2013	T. Dorsett: Documented symptoms indicate CTE
02-2016	'Concussion' movie popularity rises
09-2017	A. Hernandez's autopsy gains media attention
09-2018	D. Te'o-Nesheim's autopsy gains media attention
09-2019	Increased exposure for CTE within the NFL
01-2020	'Killer Inside: The Mind of Aaron Hernandez'
04-2021	Autopsy: P. Adams' CTE diagnosis, Stage II
01-2022	D. Thomas dies from neurological complications
07-2022	Autopsy confirms D. Thomas' CTE diagnosis
10-2022	T. Tagovailoa's consecutive concussions

### RESULTS

- The release of Aaron Hernandez's autopsy results in 2017 was the highest peak in RSI (100)--this was 87.81 (95%CI: 8.72-15.66) higher than forecasted, showing a 720.26% increase in RSI.
- There is a gradual increase in RSI of CTE from 2004 to 2022.
- Noticeable trends with significance to events occurring within a given month and year.
- Noticeable trends with significance to events occurring after increased media coverage such as movies (02-2016), autopsy reports (09-2017, 09-2018, 04-2021, and 07-2022), and documentaries (01-2020).



**Figure 1:** Google trends search interest in the topic 'Chronic Traumatic Encephalopathy' from 1/01/2004 - 10/31/2022.

### DISCUSSION

- Increased media attention involving NFL players and traumatic events can lead to increased funding for agencies to continue CTE research.
- Screening abilities made available earlier in order to educate the players of the NFL, and the public.
- Given the increased media exposure, clinicians should be aware of ongoing, fast-paced research regarding concussions and CTE among football players, and other athletes exposed to sports with increased risk of head trauma.

### CONCLUSION

- Following the initial publishing of CTE research in 2005, there has been an increase in public interest in CTE.
- Search interest surged following well-known media events such as: the 'Concussion' movie, and media publications after Aaron Hernandez and Demaryius Thomas' deaths.
- Already established concussion protocols should be followed prior to further testing
- We recommend increased research funding for CTE, ongoing trials regarding repetitive concussions from combat sports, enforcement and amendment of sporting rules, and more protective equipment to prevent earlier onset of CTE.

### REFERENCES

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- Omalu, Bennet L., Steven T. DeKosky, Ryan L. Minster, M. Ilyas Kamboh, Ronald L. Hamilton, and Cyril H. Wecht. 2005. "Chronic Traumatic Encephalopathy in a National Football League Player." *Neurosurgery* 57 (1): 128-34; discussion 128-34.