Top 5 Articles

NEMOURS
CHILDREN'S HEALTH

Article #1

Short- vs Standard-Course Outpatient Antibiotic Therapy for Community-Acquired Pneumonia in Children

The SCOUT-CAP Randomized Clinical Trial

Williams DJ, Creech CB, Walter EB, et al. Short- vs Standard-Course Outpatient Antibiotic Therapy for Community-Acquired Pneumonia in Children: The SCOUT-CAP Randomized Clinical Trial. *JAMA Pediatr.* 2022;176(3):253–261.

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5-year-old child presents with uncomplicated community-acquired pneumonia (CAP).

Based on the SCOUT-CAP clinical trial, among children responding to initial treatment for outpatient CAP, the most appropriate duration of antibiotics is:

a. 3 days
b. 5 days
c. 7 days
d. 10 days
e. 2 weeks

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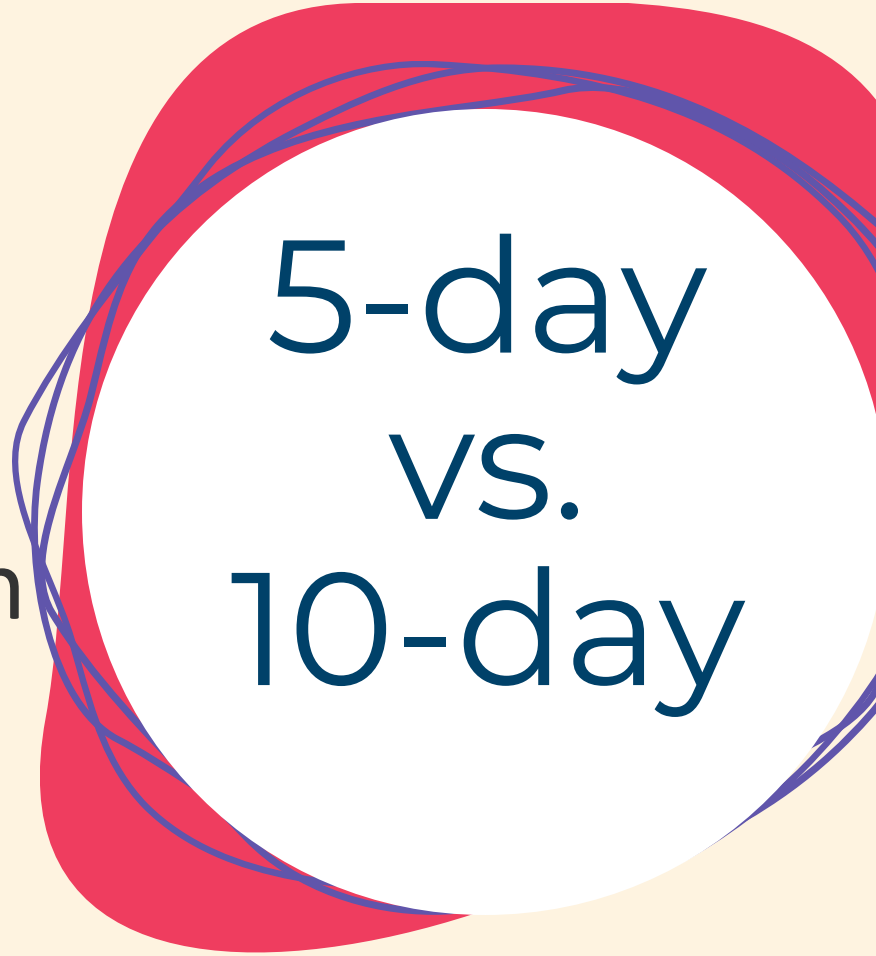
Why is this important?

Objective:

To compare a short (5-day) vs. standard (10-day) antibiotic treatment strategy for CAP in children

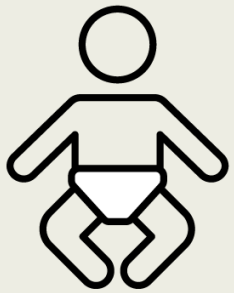


JAMA Pediatrics

RCT: Short- vs standard-course outpatient antibiotic therapy for community-acquired pneumonia in children

POPULATION

194 Boys, 186 Girls



Outpatient children with nonsevere pneumonia who demonstrate early clinical response

Mean age, 36 mo

SETTINGS / LOCATIONS

Clinic, urgent care, or emergency settings in 8 US cities

INTERVENTION

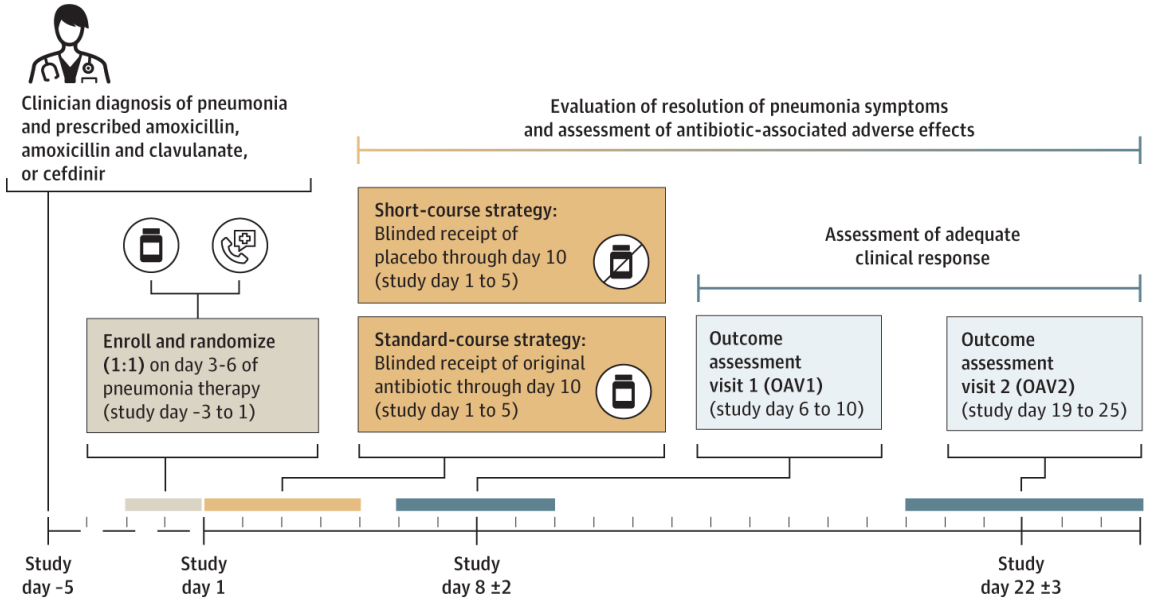
385 Individuals randomized

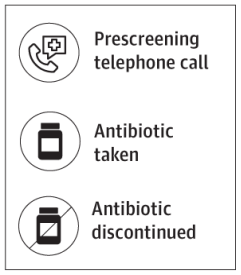
192 Short-course strategy
5 d of antibiotics, plus 5 additional d of matching placebo

193 Standard-course strategy
10 d of antibiotics

PRIMARY OUTCOME

End-of-Treatment Response Adjusted for Duration of Antibiotic Risk (RADAR): composite end point that takes into account each child's clinical response, resolution of symptoms, antibiotic adverse effects, and the duration of treatment





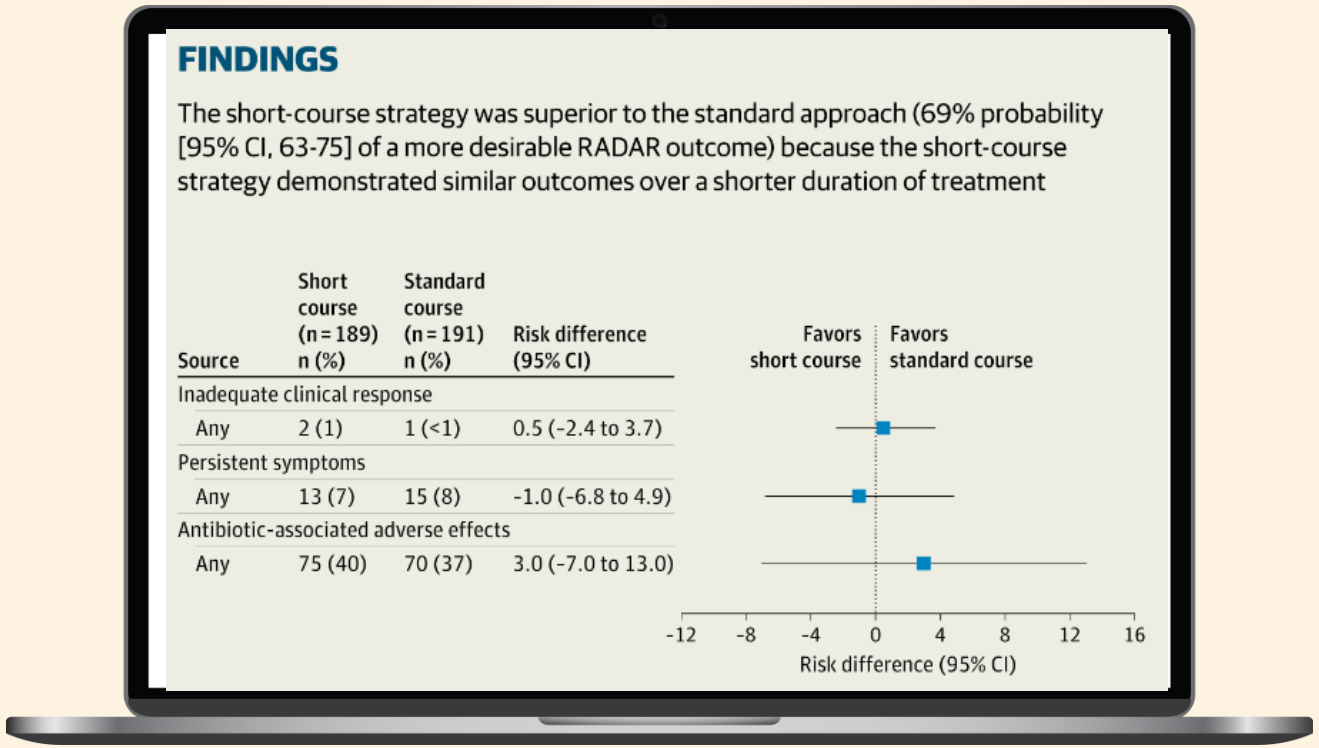
Assessments at OAV1 and OAV2			
Rank	Adequate clinical response	Resolution of pneumonia symptoms	Maximal antibiotic-associated adverse effects
1	Yes	Resolved	None
2	Yes	Resolved	Mild
3	Yes	Resolved	Moderate
4	Yes	Resolved	Severe
5	Yes	Persistent symptoms	Any
6	No, ED/clinic visit only	Any	Any
7	No, hospitalization	Any	Any
8	Death from any cause	Any	Any

Williams DJ, Creech CB, Walter EB, et al; DMID 14-0079 Study Team. Short- vs standard-course outpatient antibiotic therapy for community-acquired pneumonia in children: the SCOUT-CAP randomized clinical trial. *JAMA Pediatr*. Published online January 18, 2022. doi:10.1001/jamapediatrics.2021.5547

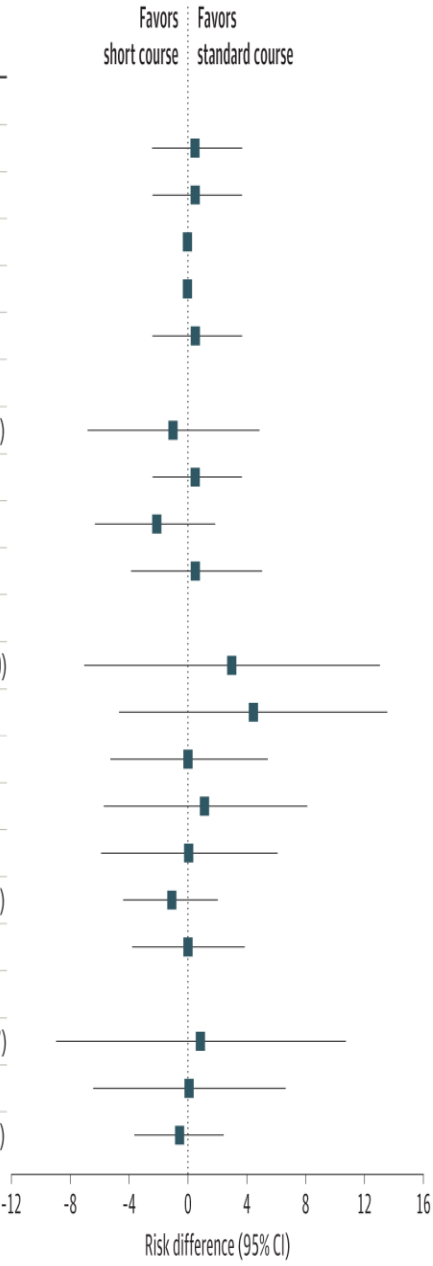
Results

5-day strategy resulted in **similar treatment response** with fewer antibiotic days compared with a 10-day strategy.

5-day strategy was associated with a 69% probability of a **more desirable outcome & significantly lower antibiotic resistance genes**.



Source	Short course (n = 189) n (%)	Standard course (n = 191) n (%)	Risk difference (95% CI)
Inadequate clinical response			
Any	2 (1)	1 (<1)	0.5 (-2.4 to 3.7)
ED or clinic visit	2 (1)	1 (<1)	0.5 (-2.4 to 3.7)
Hospitalization	0	0	NA
Surgical procedure	0	0	NA
Receipt of nonstudy antibiotic	2 (1)	1 (<1)	0.5 (-2.4 to 3.7)
Persistent symptoms			
Any	13 (7)	15 (8)	-1.0 (-6.8 to 4.9)
Fever	2 (1)	1 (<1)	0.5 (-2.4 to 3.7)
Elevated respiratory rate	3 (2)	7 (4)	2.1 (-6.3 to 1.9)
Cough	7 (4)	6 (3)	0.6 (-3.8 to 5.1)
Antibiotic-associated adverse effects			
Any	75 (40)	70 (37)	3.0 (-7.0 to 13.0)
Irritability	53 (28)	45 (24)	4.5 (-4.7 to 3.6)
Vomiting	11 (6)	11 (6)	0.1 (-5.3 to 5.4)
Diarrhea	23 (12)	21 (11)	1.2 (-5.7 to 8.1)
Allergic reaction	15 (8)	15 (8)	0.1 (-5.9 to 6.1)
Stomatitis	1 (<1)	3 (2)	-1.0 (-4.4 to 2.0)
Candidiasis	4 (2)	4 (2)	0.0 (-3.8 to 3.9)
Severity of antibiotic adverse effects			
Mild	66 (35)	65 (34)	0.9 (-9.0 to 10.7)
Moderate	19 (10)	19 (10)	0.1 (-6.4 to 6.7)
Severe	1 (<1)	2 (1)	-0.5 (-3.6 to 2.4)



JAMA Pediatr. 2022;176(3):253-261. doi:10.1001/jamapediatrics.2021.5547

Conclusions…

Among children responding to initial treatment for outpatient CAP:

5-day antibiotic strategy was superior to a 10-day strategy

The **5-day antibiotic strategy:**

- similar clinical response
- similar antibiotic-associated adverse effects
- while reducing antibiotic exposure and resistance.

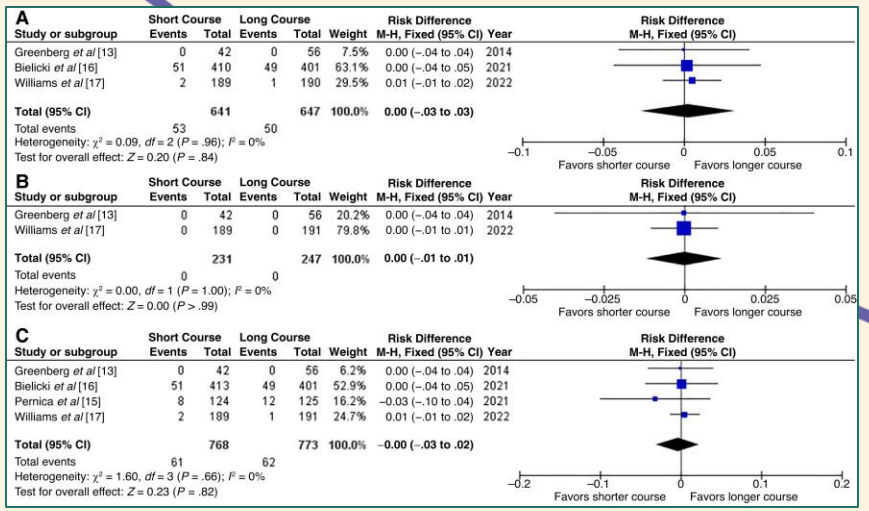
JAMA Pediatr. 2022;176(3):253-261. doi:10.1001/jamapediatrics.2021.5547

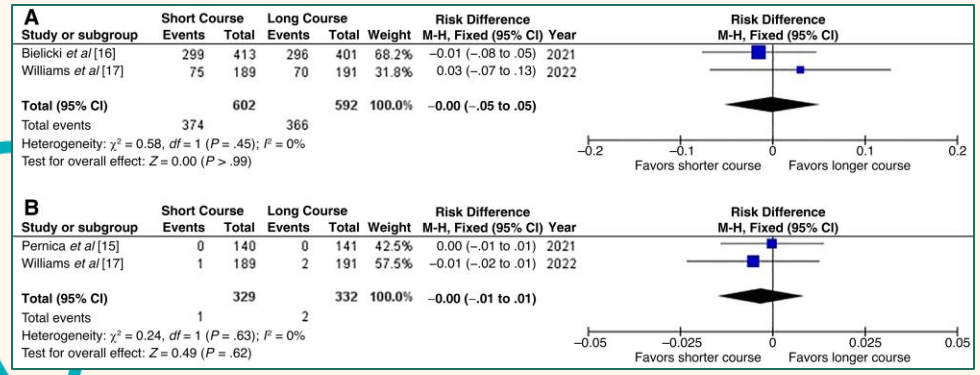
More evidence...

Antibiotic Treatment Duration for Community-Acquired Pneumonia in Outpatient Children in High-Income Countries

—A Systematic Review and Meta-Analysis

Kuitunen I, Jääskeläinen J, Korppi M, Renko M. Antibiotic treatment duration for community acquired pneumonia in outpatient children in high-income countries - a systematic review and meta-analysis. Clin Infect Dis. 2022 May 17:ciac374. doi: 10.1093/cid/ciac374. Epub ahead of print. PMID: 35579504.





A **short antibiotic treatment** duration of 3–5 days **was equally effective and safe** compared with the longer recommendation of 7–10 days in children aged ≥6 months with CAP.

5-year-old child presents with uncomplicated community-acquired pneumonia (CAP).

Based on the SCOUT-CAP clinical trial, among children responding to initial treatment for outpatient CAP, the most appropriate duration of antibiotics is:

a. 3 days
b. 5 days
c. 7 days
d. 10 days
e. 2 weeks

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Also, remember for Acute Otitis Media (AOM)….

First-line treatment for AOM is high-dose amoxicillin :

- Children younger than 24 months: 10-day course
- Children **2 to 5 years** of age: **7-day course**
- Children **older than 5 years**: **5-day course**

Article # 2

Risk of Mental Health Problems in Children and Youths Following Concussion

Ledoux A, Webster RJ, Clarke AE, et al. Risk of Mental Health Problems in Children and Youths Following Concussion. *JAMA Netw Open.* 2022;5(3):e221235. doi:10.1001/jamanetworkopen.2022.1235

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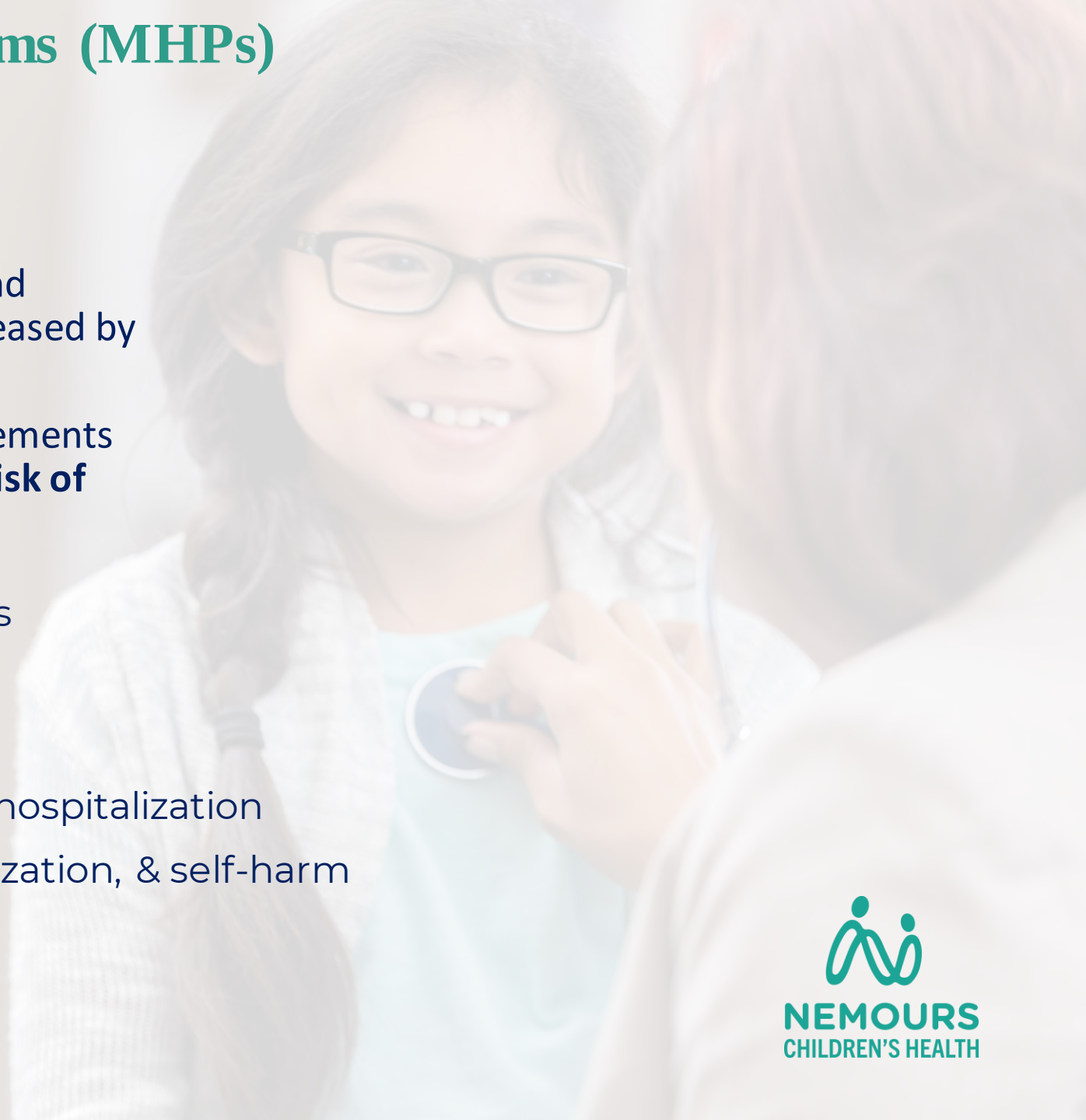
Concussion & Mental Health Problems (MHPs)



From 2008 to 2013, rates of pediatric visits to EDs and primary care practitioners for concussions have increased by as much as 4-fold in the United States and Canada.

Based on a recent study, which of the following statements regarding the association between concussion and **risk of mental health problems(MHPs)** is true?

a. No association between concussion & MHPs
b. Same risk as orthopedic injuries
c. Increased risk of MHPs, but not self-harm
d. Increased risk of MHPs, but not psychiatric hospitalization
e. Increased risk of MHPs, psychiatric hospitalization, & self-harm

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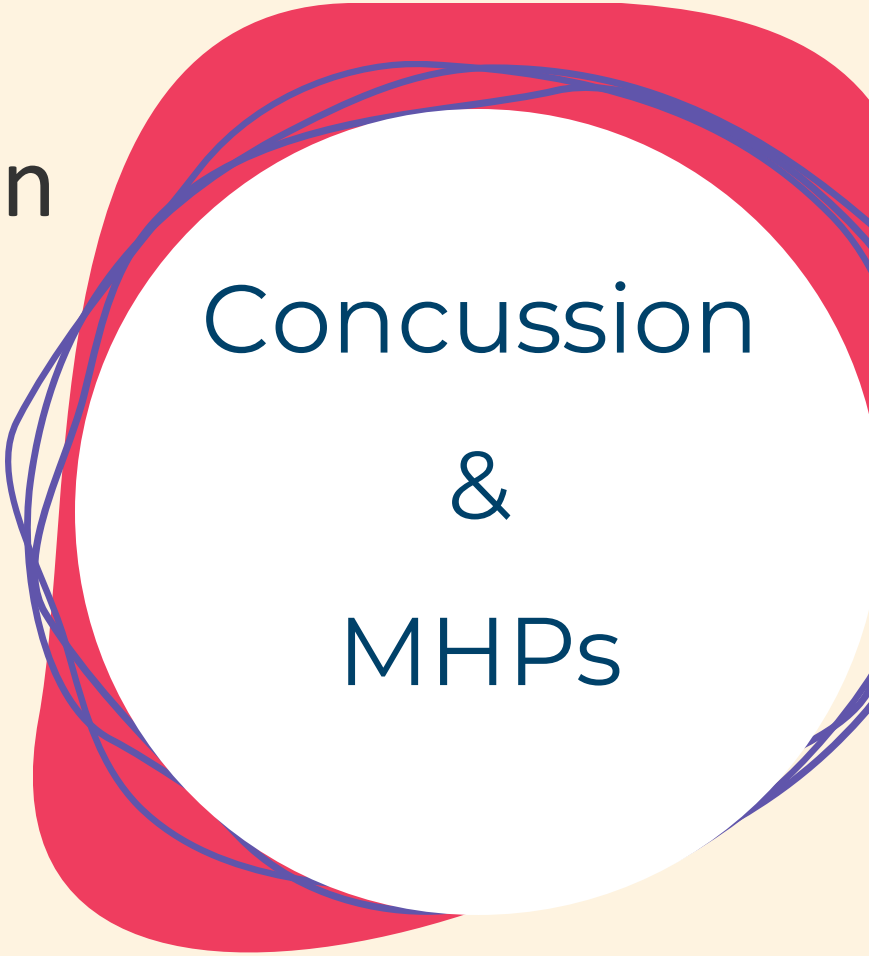
Why is this important?

Objective:

To investigate the association between **Concussion** and risk of subsequent **Mental Health Problems** (MHPs) among children & youths.



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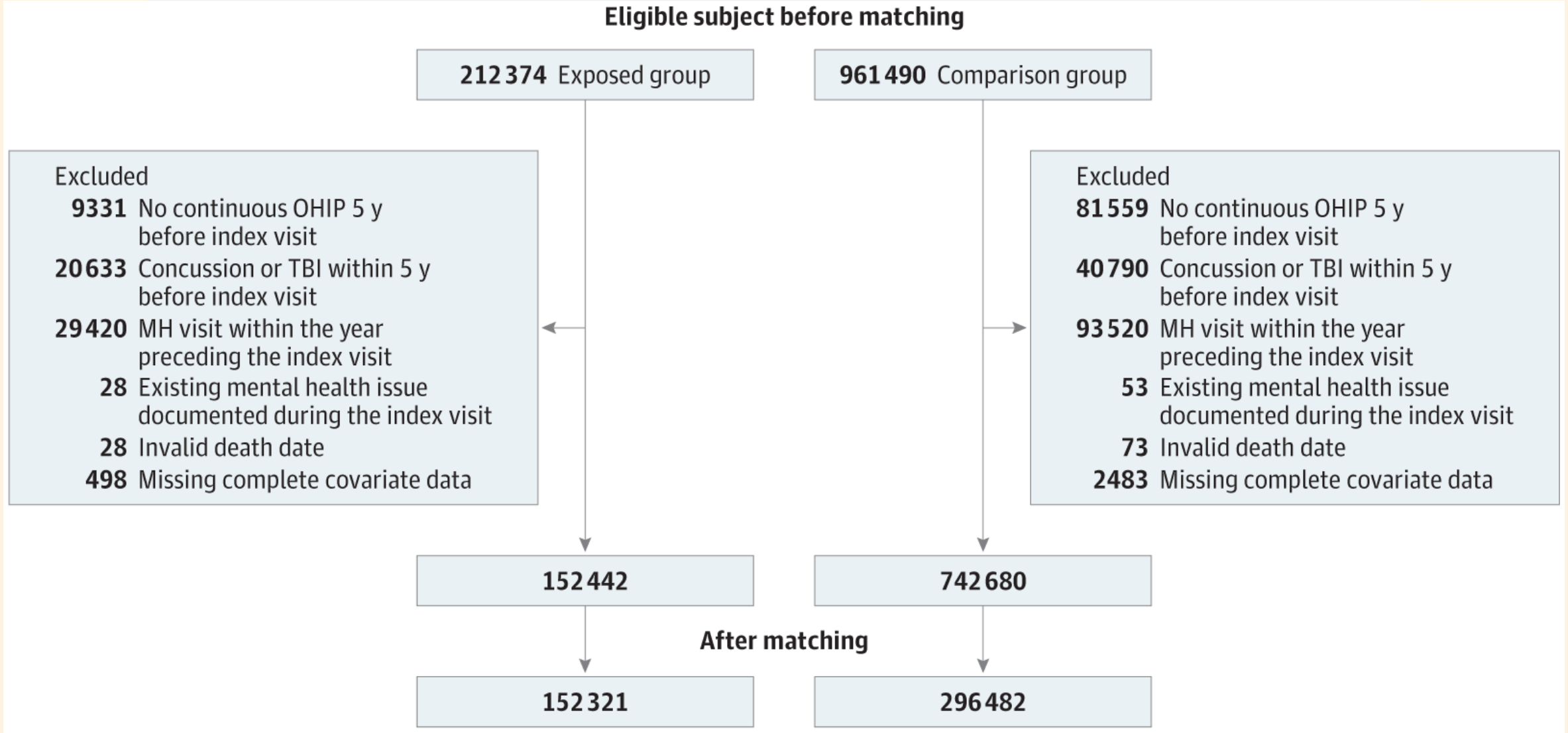

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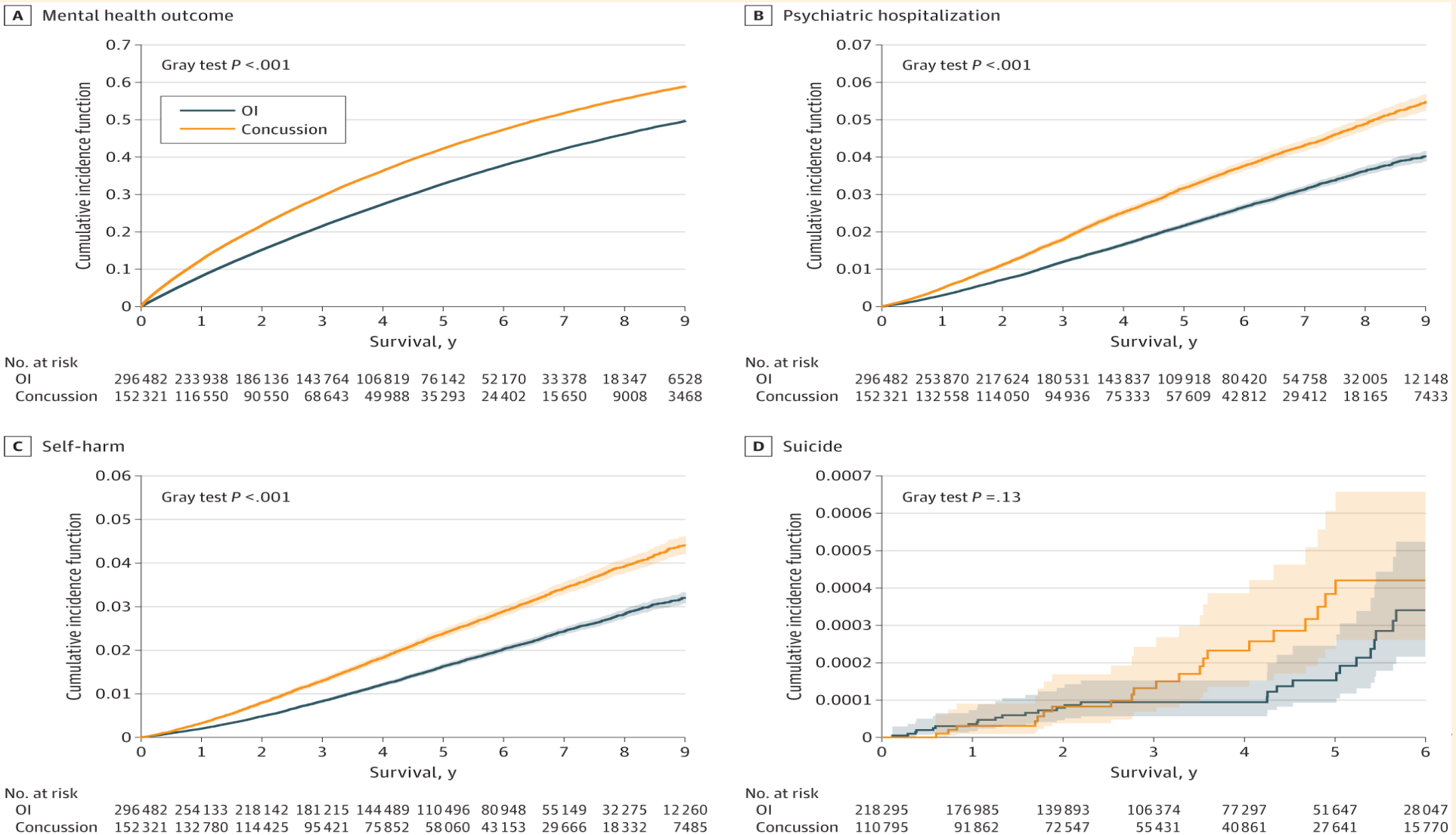

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Table 2. Incidence Rates of MHPs, Self-harm, Psychiatric Hospitalization, and Suicide Outcomes

Outcome	Matched exposed group		Matched comparison group		Rate difference per 100 000 person-years (95% CI)	Hazard ratio (95% CI)	
	Events, No.	Incidence rate per 100 000 person-years (95% CI)	Events, No.	Incidence rate per 100 000 person-years (95% CI)		Crude[a]	Adjusted[b]
MHP	53 863	11 141 (11 048 to 11 236)	80 076	7960 (7905 to 8015)	3181 (3073 to 3291)	1.39 (1.37 to 1.40)	1.39 (1.37 to 1.40)
Self-harm	3072	475 (459 to 492)	4064	327 (317 to 337)	148 (128 to 168)	1.44 (1.37 to 1.51)	1.49 (1.42 to 1.56)
Psychiatric hospitalization	4013	623 (604 to 643)	5371	434 (442 to 446)	190 (167 to 212)	1.43 (1.37 to 1.49)	1.47 (1.41 to 1.53)
Death by suicide	24	7 (4 to 10)	30	4 (3 to 6)	2 (−1 to 5)	1.51 (0.88 to 2.58)	1.53 (0.90 to 2.61)

Abbreviation: MHP, mental health problem.

[a] The matched sample was used to compute the crude hazard ratio.

[b] Time to event analysis adjusting for residential neighborhood income quintile, child abuse or neglect, migraine history, organic mental disorders or developmental disorders, and pediatric complex chronic conditions. The rate differences were calculated prior to rounding.

Limitations/Considerations…

- Retrospective observational design
- May be prone to misclassification of exposure (concussion) or outcome (mental health condition)
- Potential confounding environmental and treatment factors
- Is the risk for increased MHPs following concussion long-term or transient?

Babikian T. Contextual Considerations for the Increased Risk of Mental Health Problems Following Concussion in Youth. JAMA Netw Open. 2022 Mar 1;5(3):e221242. doi: 10.1001/jamanetworkopen.2022.1242. PMID: 35254435.

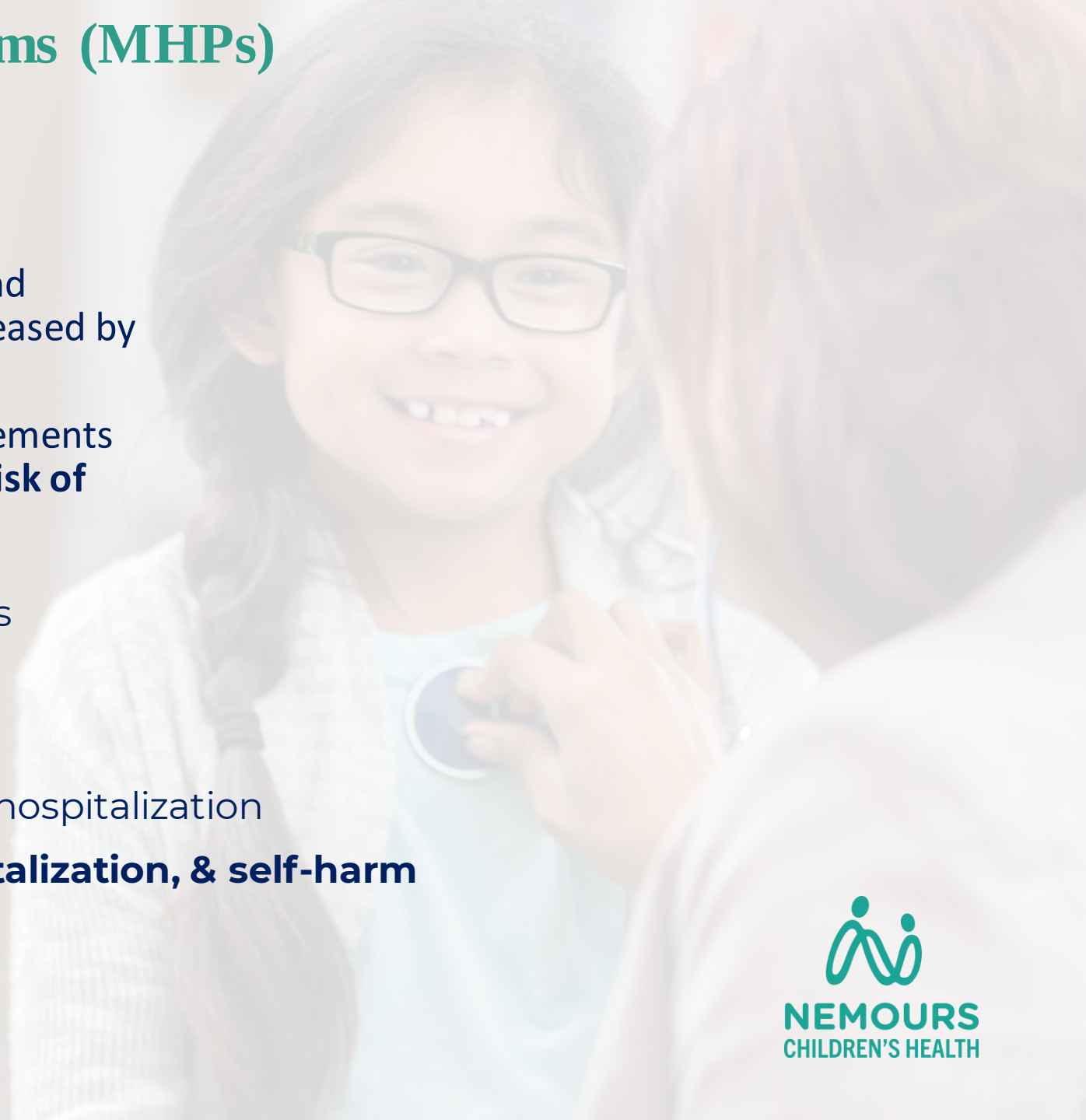
Conclusions…

Among children and youths aged 5 to 18 years, concussion was associated with an increased risk of:

- Mental Health issues
- Psychiatric Hospitalization
- Self-harm

Ledoux A, Webster RJ, Clarke AE, et al. Risk of Mental Health Problems in Children and Youths Following Concussion. *JAMA Netw Open.* 2022;5(3):e221235. doi:10.1001/jamanetworkopen.2022.1235

Concussion & Mental Health Problems (MHPs)



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Implications for best practice...

- Routinely screen for mental health problems (MHPs)
- Concussion can predate or exacerbate MHPs
- Closely monitor high-risk youth
- Intervene early with psychological support

Babikian T. Contextual Considerations for the Increased Risk of Mental Health Problems Following Concussion in Youth. JAMA Netw Open. 2022 Mar 1;5(3):e221242. doi: 10.1001/jamanetworkopen.2022.1242. PMID: 35254435.

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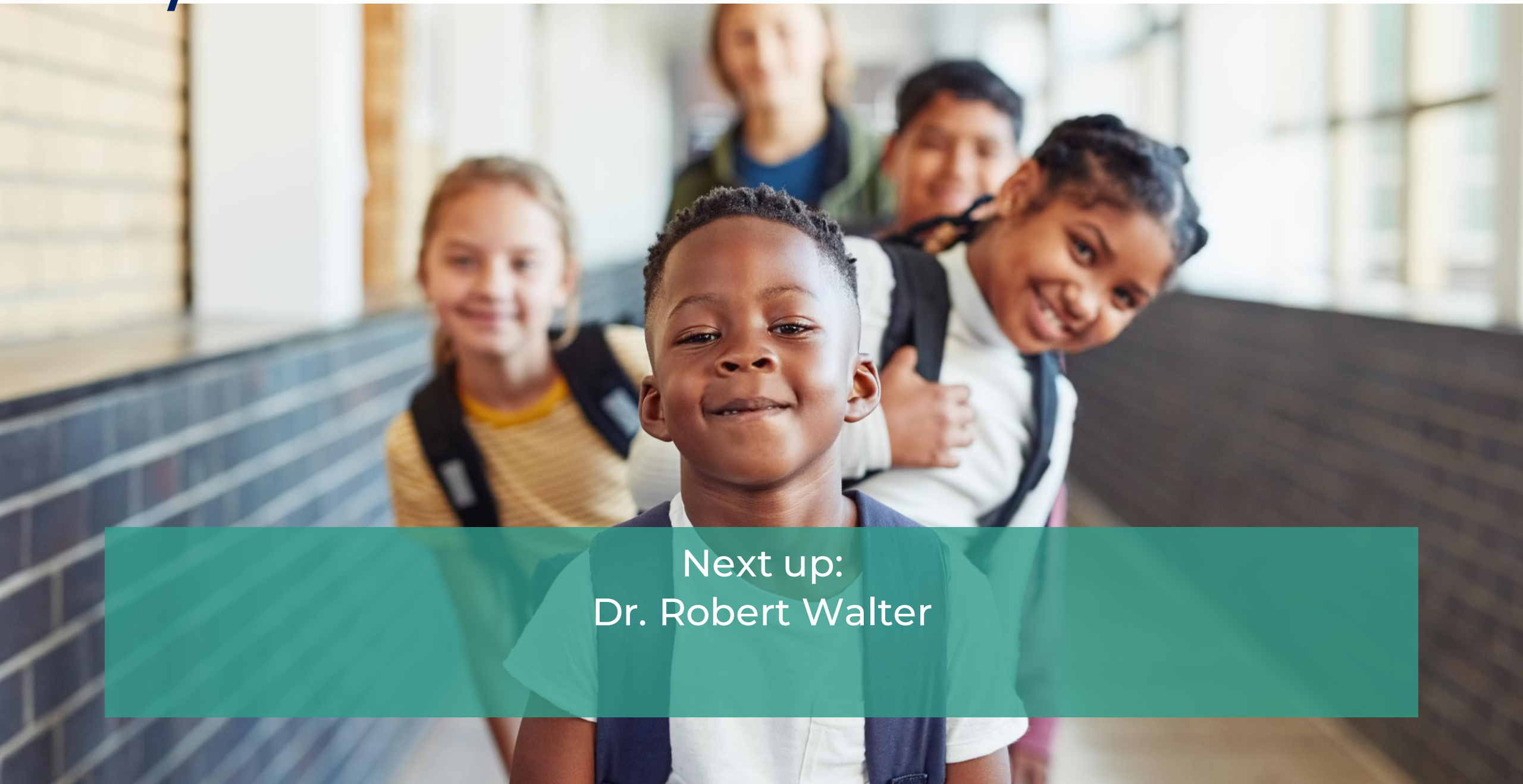

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