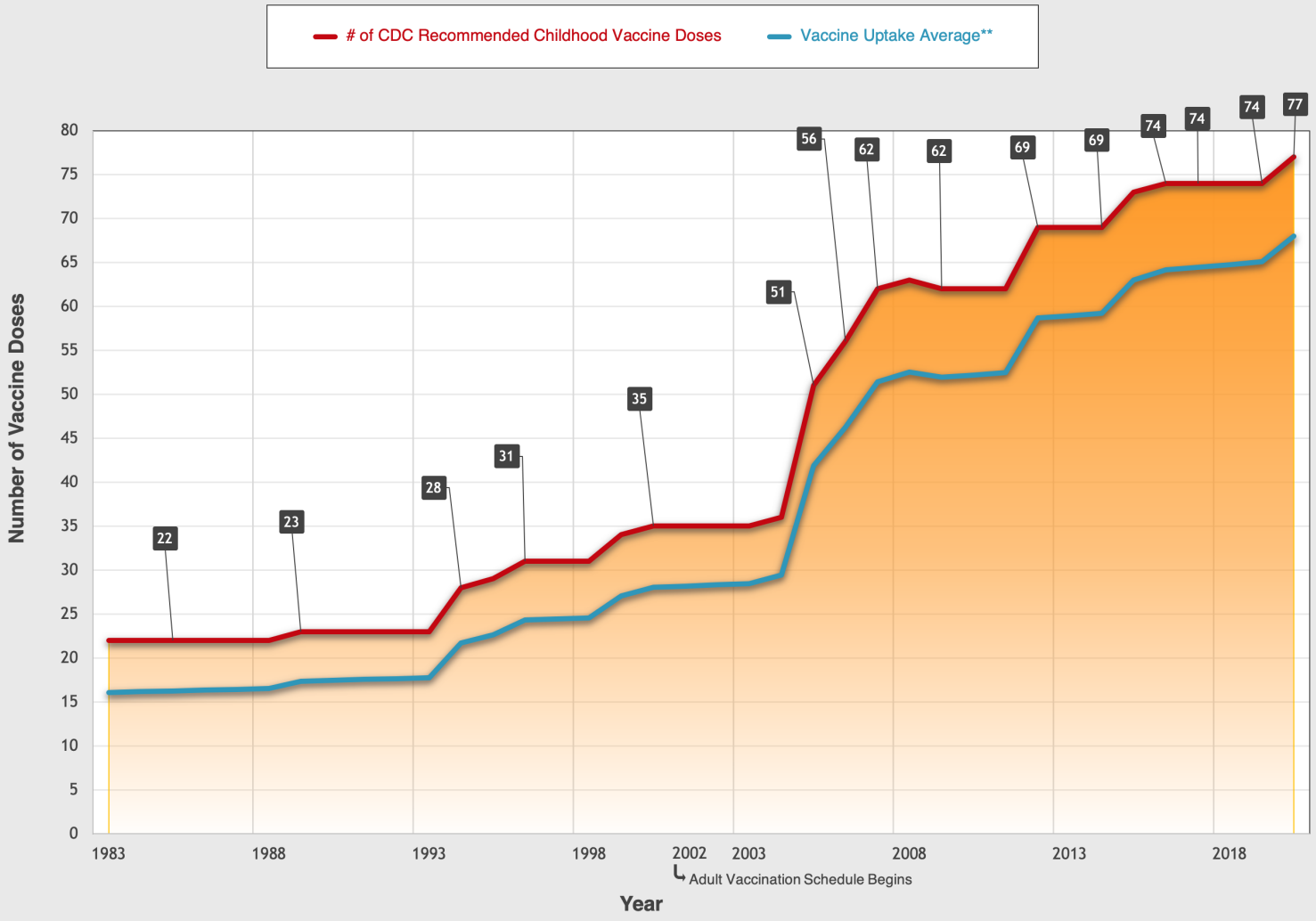
VACCINES ARE A REASONABLE SUSPECT IN AMERICA'S PANDEMIC OF CHRONIC DISEASES AND DISORDERS

Increase in the Number of Childhood Vaccine Doses



* CDC (2020). Prior immunization schedules. https://www.cdc.gov/vaccines/schedules/hcp/schedule-related-resources.html
** CDC (2018). Vaccine Coverage Levels – United States, 1962–2016. The Pink Book, 13th Edition, Appendix E. https://www.cdc.gov/vaccines/pubs/pinkbook/downloads/appendices/e/coverage-levels.pdf

CDC (1971). Immunization Survey – 1970. *Morbidity and Mortality* 20(13):114-115. www.jstor.org/stable/44069987
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CDC (2008). National, State, and Local Area Vaccination Coverage Among Children Aged 19–35 Months — United States, 2007. *MMWR* 57(35):961-966. https://www.cdc.gov/mmwr/preview/mmwrhtml/mm5735a1.htm
CDC (2012). National, State, and Local Area Vaccination Coverage Among Children Aged 19–35 Months — United States, 2011. *MMWR* 61(35):689-696. https://www.cdc.gov/mmwr/preview/mmwrhtml/mm6135a1.htm
CDC (2013). National, State, and Local Area Vaccination Coverage Among Children Aged 19–35 Months — United States, 2012. *MMWR* 62(36):733-740. https://www.cdc.gov/mmwr/preview/mmwrhtml/mm6236a1.htm
CDC (2018). Vaccination Coverage Among Children Aged 19–35 Months — United States, 2017. *MMWR* 67(40):1123–1128. https://www.cdc.gov/mmwr/volumes/67/wr/mm6740a4.htm

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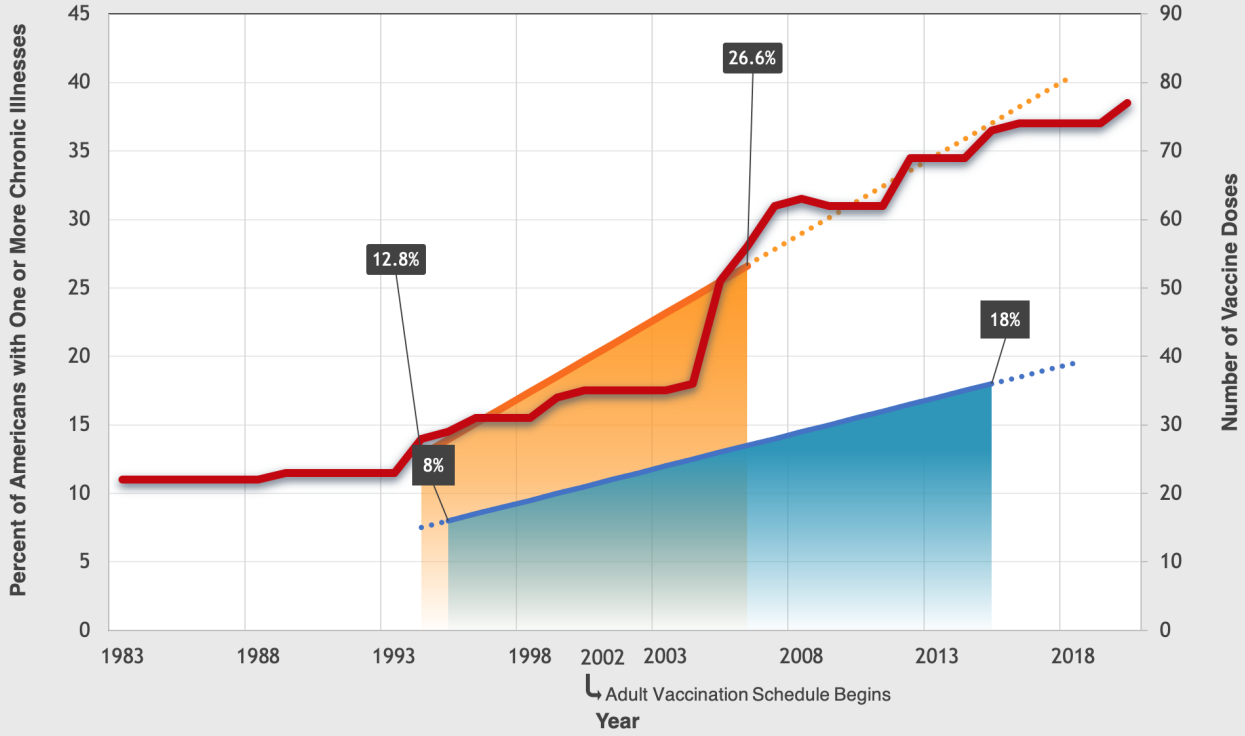
VACCINES ARE A REASONABLE SUSPECT IN AMERICA'S PANDEMIC OF CHRONIC DISEASES AND DISORDERS

Increase in Chronic Disease Rates in the U.S. Population



Pearson Correlation Coefficient†

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1.0	Perfect Correlation
0.99 – 0.90	Very High Correlation
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0.79 – 0.60	Moderately High Correlation
0.59 – 0.40	Moderate Correlation
0.39 – 0.20	Low Correlation
0.19 – 0.10	Negligible Correlation
< 0.09	No Correlation

Child Chronic Illnesses*

Adult Chronic Illnesses**

# of CDC Recommended Childhood Vaccine Doses

† Correlation between Number of Vaccine Doses and Chronic Illnesses in Children: Correlation Coefficient = 0.99 (includes origin)
† Correlation between Number of Vaccine Doses and Adult Chronic Illnesses: Correlation Coefficient = 0.90 (includes origin)

* Van Cleave *et al.* (2010). Dynamics of obesity and chronic health conditions among children and youth. *JAMA* 303(7):623–630. https://doi.org/10.1001/jama.2010.104
** Aspen Health Strategy Group (2019). Reducing the Burden of Chronic Disease. Washington DC: The Aspen Institute. https://assets.aspeninstitute.org/content/uploads/2019/02/AHSG-Chronic-Disease-Report-2019.pdf
*** CDC (2020). Prior immunization schedules. https://www.cdc.gov/vaccines/schedules/hcp/schedule-related-resources.html

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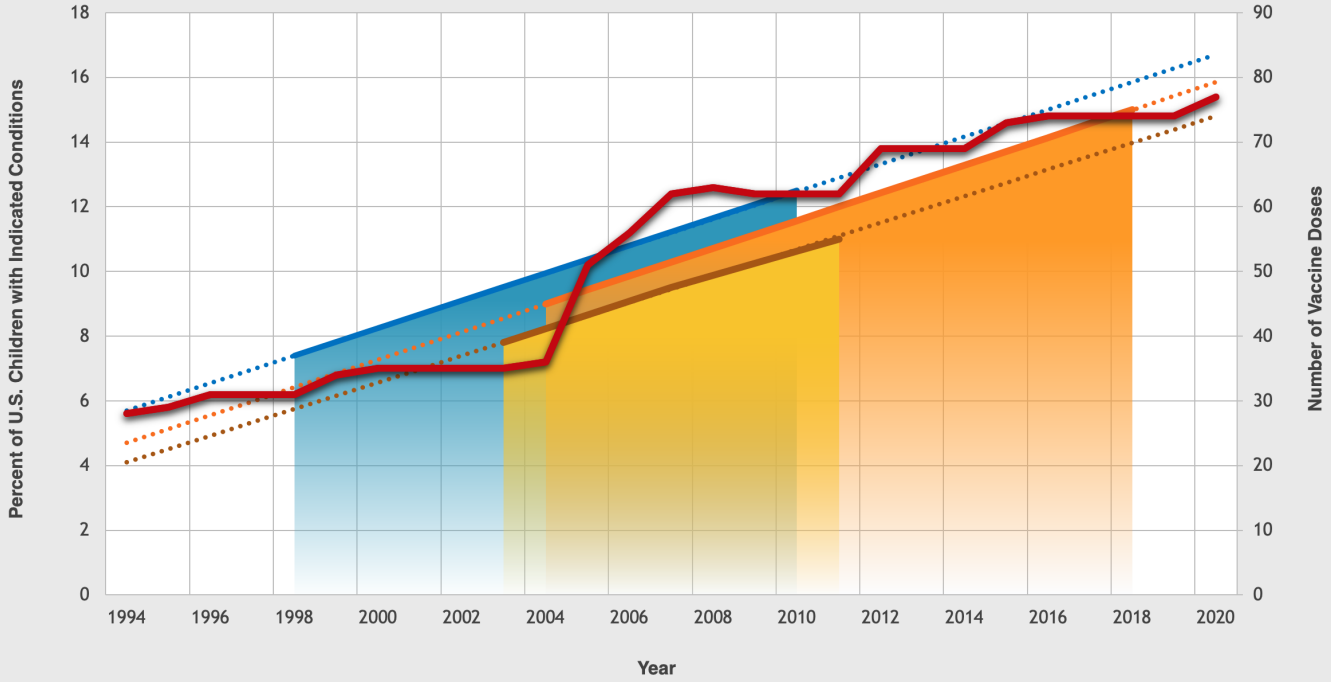
VACCINES ARE A REASONABLE SUSPECT IN AMERICA'S PANDEMIC OF CHRONIC DISEASES AND DISORDERS

Increase in Miscellaneous Disease/Disorder Rates in U.S. Children



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- Children with Skin Allergies*
- MDE (Major Depressive Episode) Age 12–17**
- Children with ADHD***
- # of CDC Recommended Childhood Vaccine Doses****

† Correlation between Number of Vaccine Doses and Skin Allergies: Correlation Coefficient = 0.99 (includes origin)
† Correlation between Number of Vaccine Doses and MDE: Correlation Coefficient = 0.99 (includes origin)
† Correlation between Number of Vaccine Doses and ADHD: Correlation Coefficient = 0.99 (includes origin)

* CDC (2013). Trends in Allergic Conditions Among Children: United States, 1997–2011. *NCHS Data Brief 121*. https://www.cdc.gov/nchs/data/databriefs/db121.pdf United States Centers for Disease Control (CDC), *Trends in the Parent-Report of Health Care*

** SAMHSA (2018). *Key Substance Use and Mental Health Indicators in the United States: Results from the 2018 National Survey on Drug Use and Health.* https://www.samhsa.gov/data/sites/default/files/cbhsq-reports/NSDUHNationalFindingsReport2018/NSDUHNationalFindingsReport2018.pdf

*** CDC, *Attention-Deficit / Hyperactivity Disorder (ADHD)*. https://www.cdc.gov/ncbddd/adhd/features/key-findings-adhd72013.html

**** CDC (2020). Prior immunization schedules. https://www.cdc.gov/vaccines/schedules/hcp/schedule-related-resources.html

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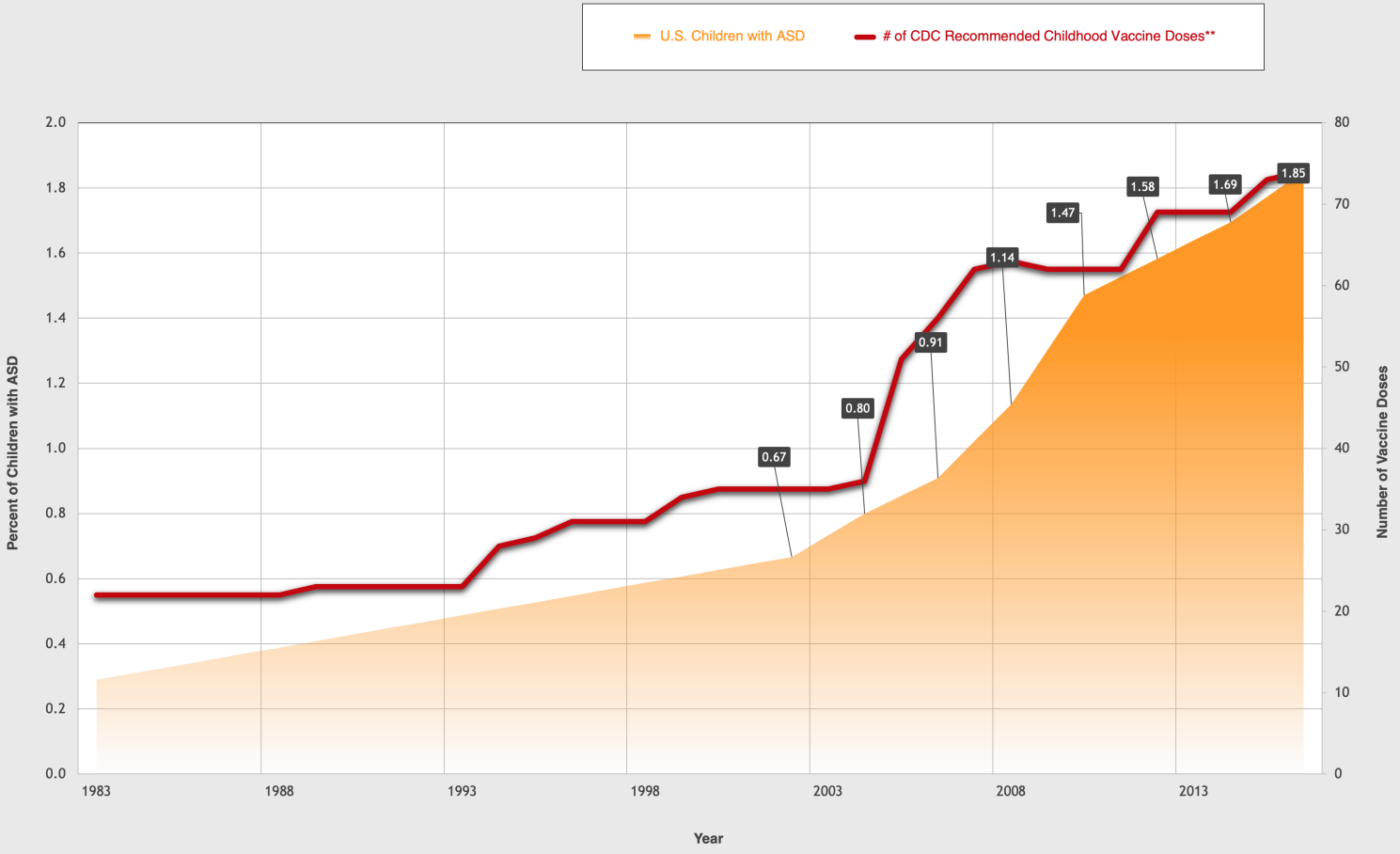
VACCINES ARE A REASONABLE SUSPECT IN AMERICA'S PANDEMIC OF CHRONIC DISEASES AND DISORDERS

Increase in Autism Spectrum Disorder (ASD) in U.S. Children



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0.19 – 0.10	Negligible Correlation
< 0.09	No Correlation

† Correlation between Number of Vaccine Doses and ASD: Correlation Coefficient = 0.91

* Nevison *et al.* (2018). California autism prevalence trends from 1931 to 2014 and comparison to national ASD data from IDEA and ADDM. *Journal of Autism and Developmental Disorders* 48:4103–4117. https://doi.org/10.1007/s10803-018-3670-2
CDC, *Autism Spectrum Disorder (ASD)*. https://www.cdc.gov/ncbddd/autism/data.html

** CDC (2020). Prior immunization schedules. https://www.cdc.gov/vaccines/schedules/hcp/schedule-related-resources.html

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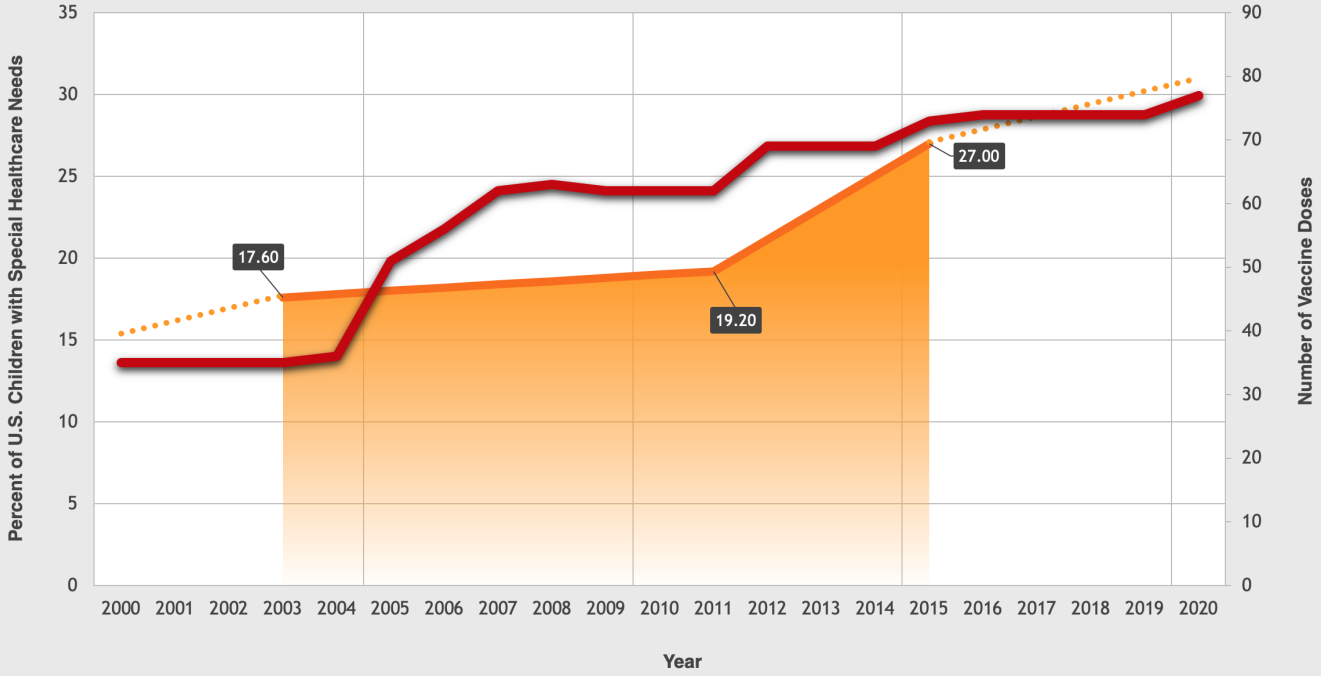
VACCINES ARE A REASONABLE SUSPECT IN AMERICA'S PANDEMIC OF CHRONIC DISEASES AND DISORDERS

Increase in U.S. Children with Special Healthcare Needs



Pearson Correlation Coefficient†		
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	< 0.09	No Correlation

U.S. Children with Special Healthcare Needs*

# of CDC Recommended Childhood Vaccine Doses**

† Correlation between Number of Vaccine Doses and Percent of U.S. Children with Special Healthcare Needs: Correlation Coefficient = 0.96 (includes origin)

* Bethell *et al.* (2011). A national and state profile of leading health problems and health care quality for US children: key insurance disparities and across-state variations. *Academic Pediatrics* 11(3 Suppl):S22–S33. https://doi.org/10.1016/j.acap.2010.08.011
CDC, *Preventing Chronic Disease*. https://www.cdc.gov/pcd/issues/2015/14_0397.htm

** CDC (2020). Prior immunization schedules. https://www.cdc.gov/vaccines/schedules/hcp/schedule-related-resources.html

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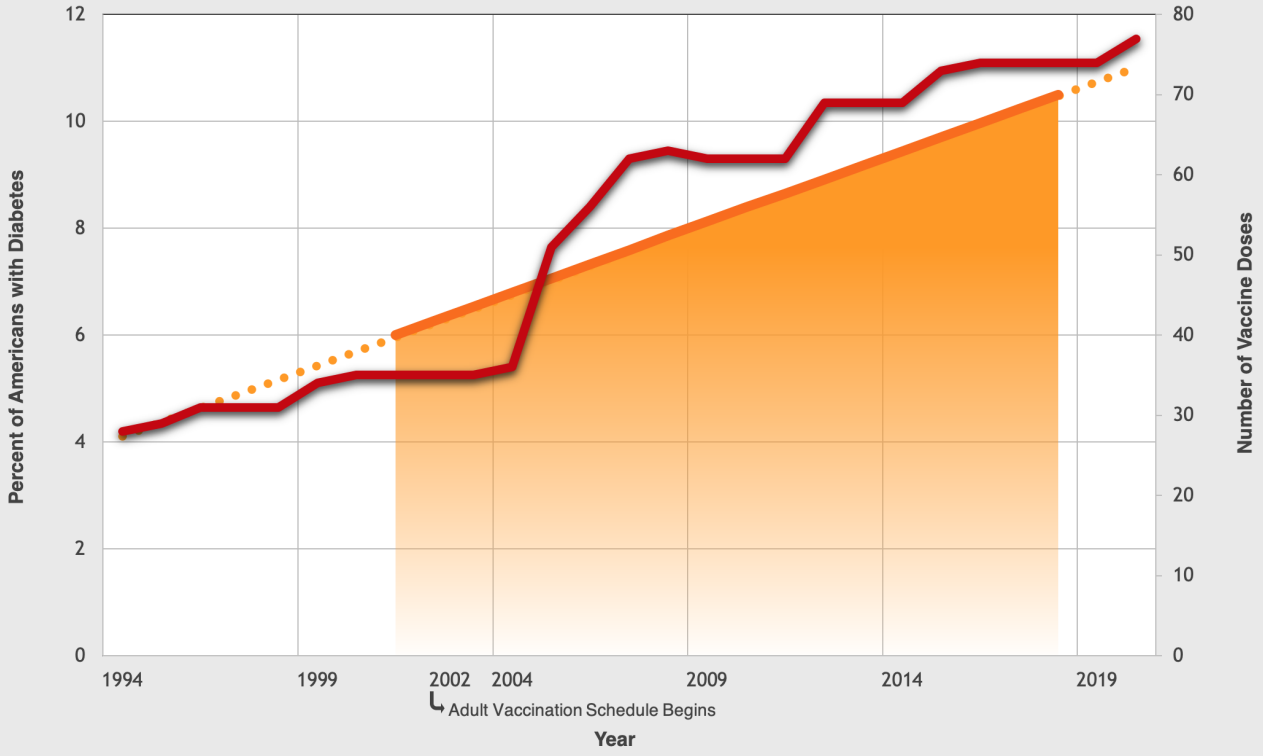
VACCINES ARE A REASONABLE SUSPECT IN AMERICA'S PANDEMIC OF CHRONIC DISEASES AND DISORDERS

Diabetes Increasing In Americans



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< 0.09	No Correlation

Diabetes *

# of CDC Recommended Childhood Vaccine Doses**

† Correlation between Number of Vaccine Doses and Percent of Americans with Diabetes: Correlation Coefficient = 0.98 (includes origin)

* American Diabetes Association, *Statistics About Diabetes*. https://www.diabetes.org/resources/statistics/statistics-about-diabetes
Dabelea *et al.* (2014). Prevalence of type 1 and type 2 diabetes among children and adolescents from 2001 to 2009. *JAMA* 311(17):1778–1786. https://doi.org/10.1001/jama.2014.3201

** CDC (2020). Prior immunization schedules. https://www.cdc.gov/vaccines/schedules/hcp/schedule-related-resources.html

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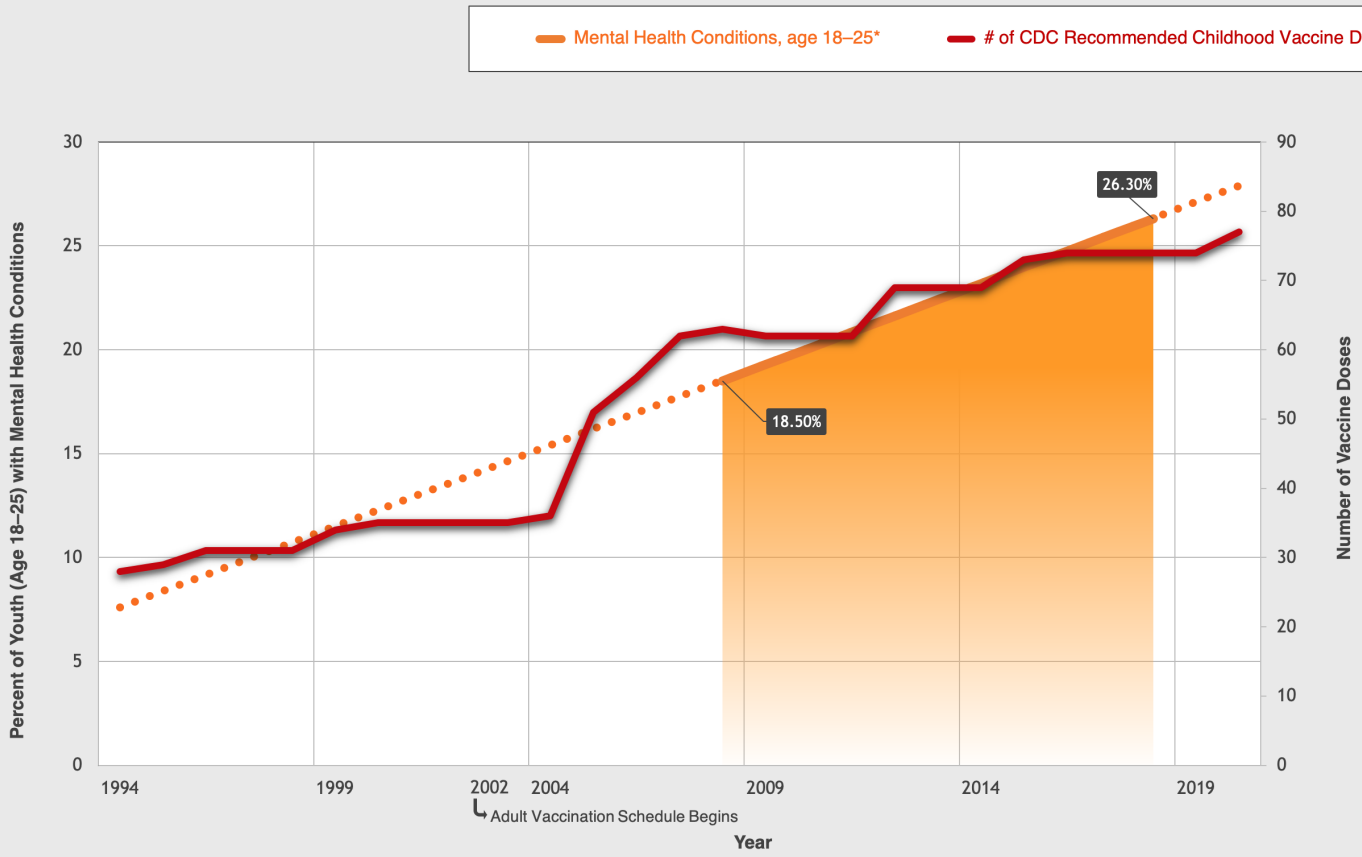
VACCINES ARE A REASONABLE SUSPECT IN AMERICA'S PANDEMIC OF CHRONIC DISEASES AND DISORDERS

Increase in Mental Health Conditions, age 18–25 in the U.S.



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0.19 – 0.10	Negligible Correlation
< 0.09	No Correlation

† Correlation between Number of Vaccine Doses and Percent of Americans with Mental Health Conditions: Correlation Coefficient = 0.99 (includes origin)

* SAMHSA (2018). *Key Substance Use and Mental Health Indicators in the United States: Results from the 2018 National Survey on Drug Use and Health.* https://www.samhsa.gov/data/sites/default/files/cbhsq-reports/NSDUHNationalFindingsReport2018/NSDUHNationalFindingsReport2018.pdf

** CDC (2020). Prior immunization schedules. https://www.cdc.gov/vaccines/schedules/hcp/schedule-related-resources.html

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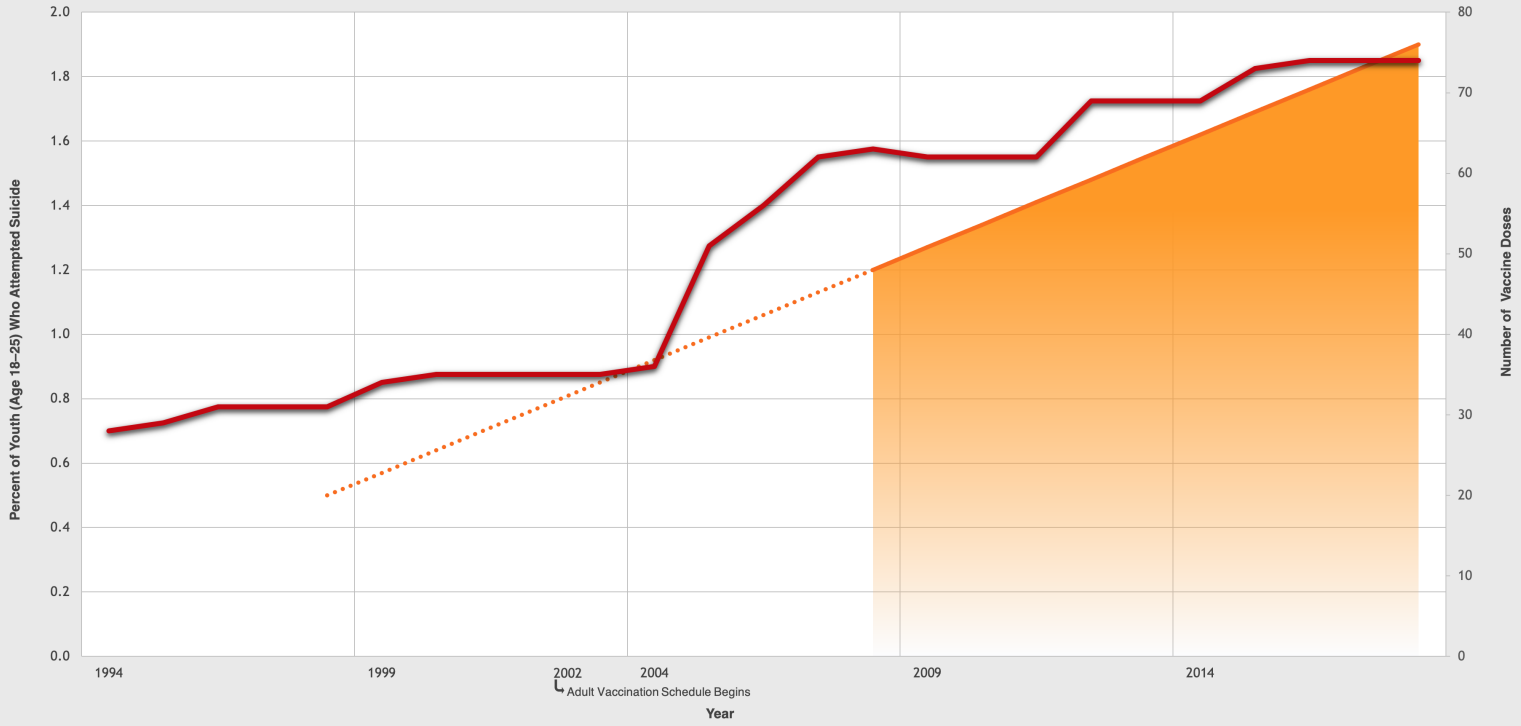
VACCINES ARE A REASONABLE SUSPECT IN AMERICA'S PANDEMIC OF CHRONIC DISEASES AND DISORDERS

A Bellwether for Mental Health

Increase in Attempted Suicide, Age 18–25 in the U.S.



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< 0.09	No Correlation

Attempted Suicide*

# of CDC Recommended Childhood Vaccine Doses**

† Correlation between Number of Vaccine Doses and Attempted Suicide, age 18–25: Correlation Coefficient = 0.97 (includes origin)

* SAMHSA (2018). *Key Substance Use and Mental Health Indicators in the United States: Results from the 2018 National Survey on Drug Use and Health.* https://www.samhsa.gov/data/sites/default/files/cbhsq-reports/NSDUHNationalFindingsReport2018/NSDUHNationalFindingsReport2018.pdf

** CDC (2020). Prior immunization schedules. https://www.cdc.gov/vaccines/schedules/hcp/schedule-related-resources.html

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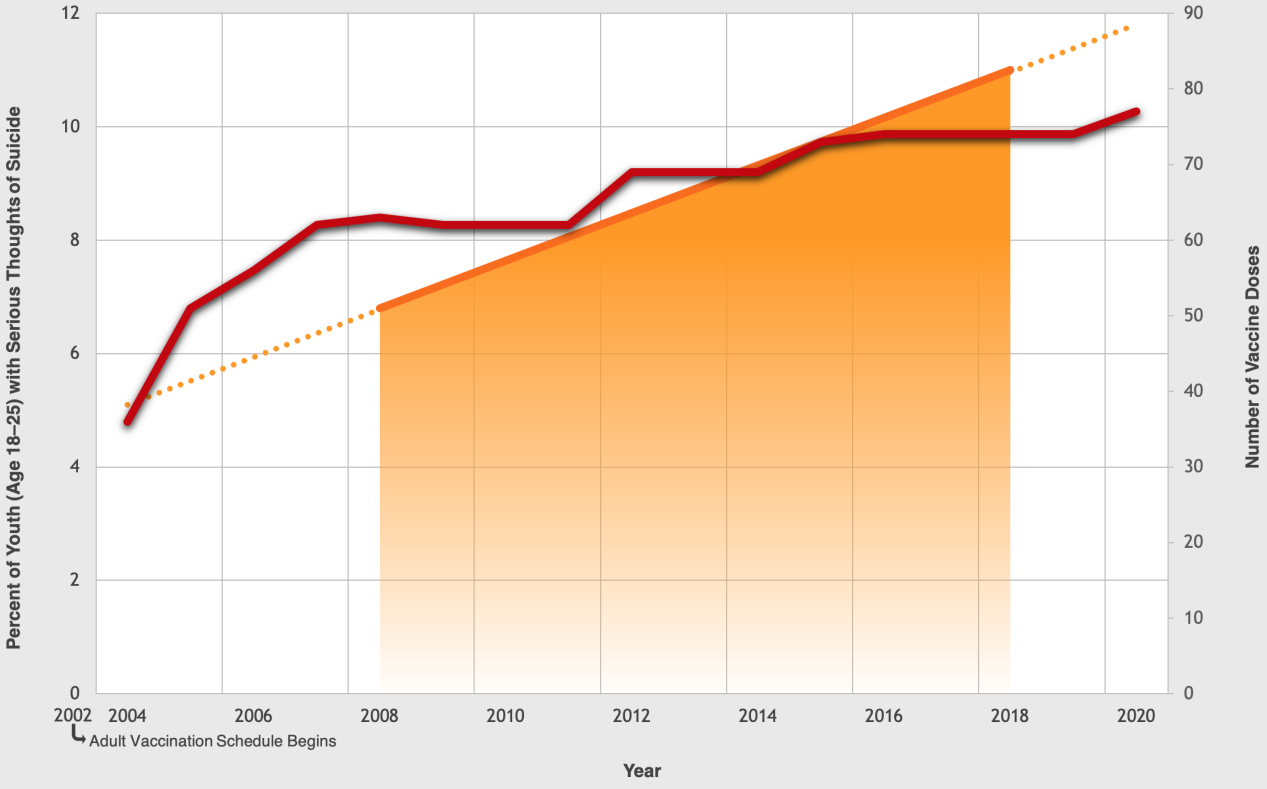
VACCINES ARE A REASONABLE SUSPECT IN AMERICA'S PANDEMIC OF CHRONIC DISEASES AND DISORDERS

A Bellwether for Mental Health

Serious Thoughts of Suicide, Age 18–25 in the U.S.



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	0.19 – 0.10	Negligible Correlation
	< 0.09	No Correlation

Serious Thoughts of Suicide*

# of CDC Recommended Childhood Vaccine Doses**

† Correlation between Number of Vaccine Doses and Percent of Americans with Serious Thoughts of Suicide: Correlation Coefficient = 0.97 (includes origin)

* SAMHSA (2018). *Key Substance Use and Mental Health Indicators in the United States: Results from the 2018 National Survey on Drug Use and Health.* https://www.samhsa.gov/data/sites/default/files/cbhsq-reports/NSDUHNationalFindingsReport2018/NSDUHNationalFindingsReport2018.pdf

** CDC (2020). Prior immunization schedules. https://www.cdc.gov/vaccines/schedules/hcp/schedule-related-resources.html

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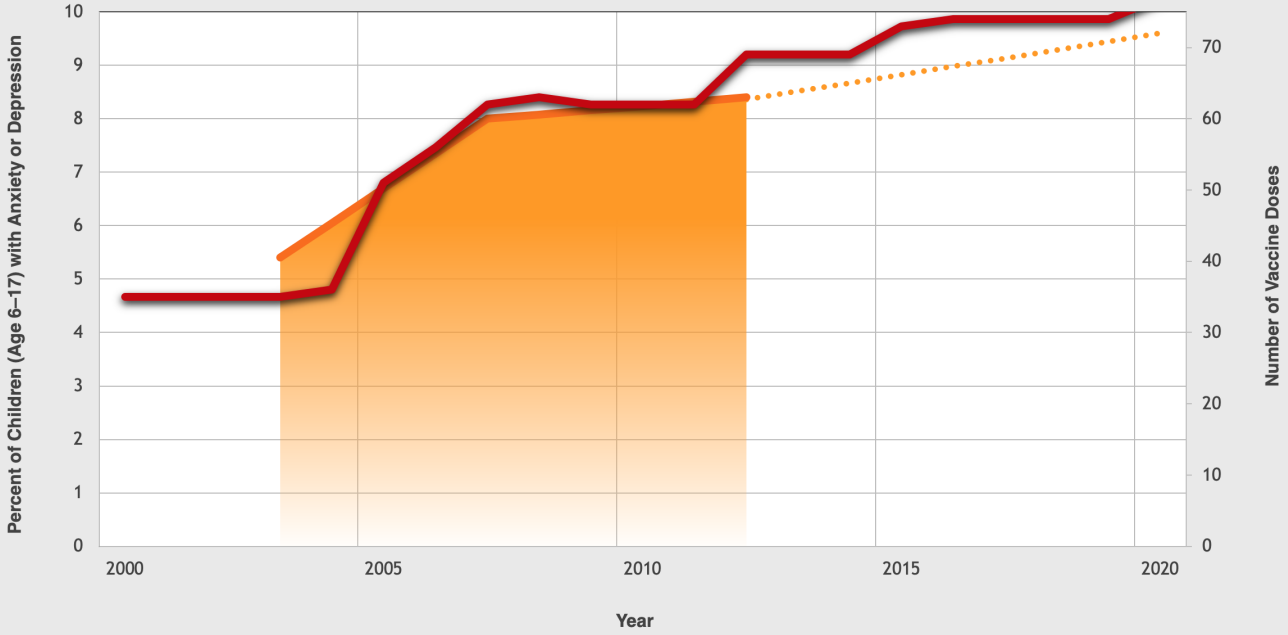
VACCINES ARE A REASONABLE SUSPECT IN AMERICA'S PANDEMIC OF CHRONIC DISEASES AND DISORDERS

A Bellwether for Mental Health

Increase in Anxiety or Depression in U.S. Children, Age 6–17



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0.39 – 0.20	Low Correlation
0.19 – 0.10	Negligible Correlation
< 0.09	No Correlation

Anxiety or Depression*

# of CDC Recommended Childhood Vaccine Doses**

† Correlation between Number of Vaccine Doses and Percent of Children with Anxiety or Depression: Correlation Coefficient = 0.99 (includes origin)

* CDC, *Children's Mental Health*. https://www.cdc.gov/childrensmentalhealth/features/anxiety-depression-children.html

** CDC (2020). Prior immunization schedules. https://www.cdc.gov/vaccines/schedules/hcp/schedule-related-resources.html

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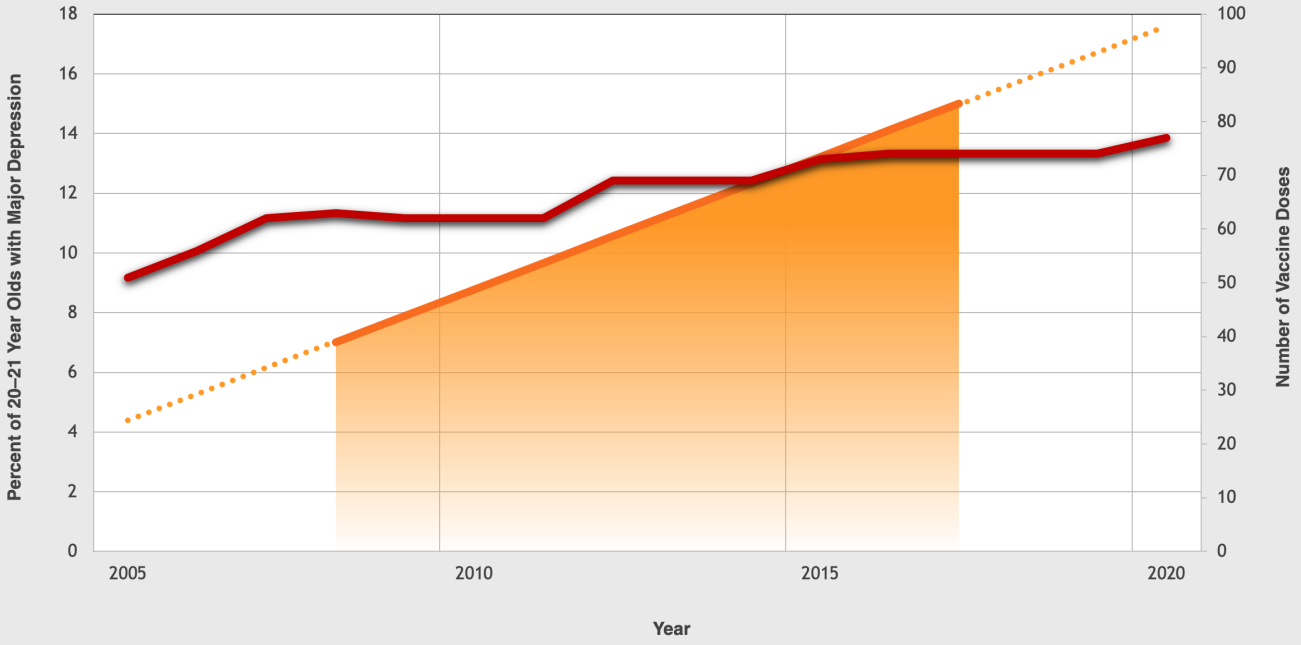
VACCINES ARE A REASONABLE SUSPECT IN AMERICA'S PANDEMIC OF CHRONIC DISEASES AND DISORDERS

A Bellwether for Mental Health

Increase in Major Depression among 20–21 Year-olds in the U.S.



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< 0.09	No Correlation

Major Depression*

# of CDC Recommended Childhood Vaccine Doses**

† Correlation between Number of Vaccine Doses and Percent of 20–21 Year Olds with Major Depression: Correlation Coefficient = 0.91 (includes origin)

* SAMHSA (2017). National Survey on Drug Use and Health, 2017. https://www.datafiles.samhsa.gov/study-dataset/national-survey-drug-use-and-health-2017-nsduh-2017-ds0001-nid17939

** CDC (2020). Prior immunization schedules. https://www.cdc.gov/vaccines/schedules/hcp/schedule-related-resources.html

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