

Kao-Ping Chua, MD, PhD
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Education and Training

Education

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|-----------------|--|
| 08/1998-05/2002 | BS in Neuroscience, <i>summa cum laude</i> , Vanderbilt University, Nashville, TN |
| 08/2002-05/2007 | MD, Washington University School of Medicine, St. Louis, MO |
| 08/2011-05/2015 | PhD in Health Policy (Evaluative Sciences and Statistics concentration), Harvard University, Cambridge, MA. Dissertation title: "Effects of Clinical Practice Guidelines and Insurance Coverage among Children and Young Adults." Committee: Kathy Swartz (chair), J. Michael McWilliams, Benjamin Sommers |

Postdoctoral training

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| 07/2007-06/2010 | Residency in Pediatrics, Boston Combined Residency Program (Boston Children's Hospital and Boston Medical Center), Boston, MA |
| 07/2010-06/2010 | Postdoctoral Research Fellow, Harvard Pediatric Health Services Research Fellowship, Boston, MA |

Certification and Licensure

Certification

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| 10/2010-present | American Board of Pediatrics, Certificate #96996 |
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Licensure

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| 07/2010-06/2015 | State of Massachusetts, License #242746 |
| 06/2015-09/2017 | State of Illinois, License #036.138203 |
| 10/2017-present | State of Michigan, License #4301113525 |

Work Experience

Academic

- 07/2015-09/2017 Assistant Professor of Pediatrics and Public Health Sciences, University of Chicago, Chicago, IL
- 10/2017-present Assistant Professor of Pediatrics, University of Michigan Medical School, Ann Arbor, MI
- 08/2020-present Assistant Professor of Health Policy and Management, University of Michigan School of Public Health, Ann Arbor, MI

Clinical

- 07/2010-06/2015 Urgent Care Attending, Boston Children's Hospital Emergency Department, Boston, MA
- 07/2010-06/2015 Urgent Care Attending, South Shore Hospital Emergency Department, Weymouth, MA
- 07/2015-09/2017 Urgent Care Attending, Comer Children's Hospital Emergency Department, University of Chicago, Chicago, IL
- 10/2017-present Primary Care Physician, Department of Pediatrics, University of Michigan Medical School, Ann Arbor, MI

Research

- 07/2010-06/2012 Research Fellow, Boston Children's Hospital, Boston, MA

Non-Academic

- 07/2004-06/2005 Jack Rutledge Fellow, American Medical Student Association. Between my third and fourth year of medical school, I worked at the American Medical Student Association's national office in Reston, VA. I led the organization's efforts to ensure universal access to health care and to eliminate health care disparities.

Research Interests

I am a practicing primary care pediatrician with doctoral training in health policy. A major area of my research is opioid prescribing and policy. For example, using national administrative databases, I have identified opioid prescribing patterns associated with opioid overdose among adolescents and young adults, conducted national studies on the prescribers and safety of opioid prescribing to U.S. children and young adults, documented excessive opioid prescribing by dentists and the harms of this prescribing for patients and their families, and evaluated the effects of opioid prescribing limits for acute pain on prescribing.

A second area of my research is out-of-pocket spending. My studies have identified rising out-of-pocket spending on epinephrine auto-injectors, estimated the impact of insulin cost-sharing caps on insulin out-of-pocket spending among pediatric patients with type 1 diabetes, and

documented the magnitude of out-of-pocket spending and surprise bills for maternal deliveries and newborn hospitalizations among privately insured families. My work on out-of-pocket spending for COVID-19 hospitalizations has received national coverage by outlets such as the *New York Times* and *C-SPAN*.

A third area of my research is low-value care. For example, I translated recommendations from sources such as *Choosing Wisely* into 20 claims-based measures of low-value pediatric services. Using these measures and national claims data, I found that 9% of privately insured children and 11% of publicly insured children received at least one of the 20 low-value services in 2014. As another example, I created the first comprehensive ICD-10-CM-based system for assessing antibiotic overuse in administrative data. Using this scheme and 2016 national commercial claims data, I found that 23% of antibiotic prescriptions written to privately insured children and non-elderly adults were written for conditions that do not justify the use of antibiotics.

Grants

Current Grants

Agency for Healthcare Research and Quality

Opportunities to optimize the receipt of preventive services among children with sickle cell anemia: A Mixed Methods Approach

PI: Sarah Reeves

09/01/2021-08/31/2025

Role: Co-I

\$1,551,105

Susan B. Meister Child Health Evaluation and Research Center (University of Michigan)

Michigan COVID-19 Research Program in Pediatrics

PI: Kao-Ping Chua

03/2021-08/2022

Role: PI

\$132,500

Benter Foundation

U.S. Dental Opioid Prescribing: Epidemiology and Policy Interventions

PI: Chad Brummett

03/2020-02/2022

Role: Co-PI

\$1,095,045

National Institute on Drug Abuse (1K08DA048110-01)

Using Default Opioid Prescription Settings to Limit Excessive Opioid Prescribing to Adolescents and Young Adults

PI: Kao-Ping Chua

05/2019-04/2024

Role: PI

\$911,520

Gorman Scholar Award (University of Michigan)

Naloxone Prescribing to Adolescents and Young Adults at High Risk of Overdose

PI: Kao-Ping Chua
01/2019-10/2021
Role: PI
\$30,000

Past Grants

Janette Ferrantino Award (University of Michigan)

A National Profile of Opioid Prescribing to Children
PI: Kao-Ping Chua
05/2018-04/2020
Role: PI
\$40,000

Institute for Health Policy and Innovation (University of Michigan)

Views of Parents and Guardians of School-Age Children on Public School Opening During the COVID-19 Pandemic
PI: Kao-Ping Chua
06/2020-09/2020
Role: PI
\$9,990

Institute for Health Policy and Innovation (University of Michigan)

Design and Implementation Problems for Opioid Prescribing Limits for Acute Pain
PI: Kao-Ping Chua
11/2018-04/2019
Role: PI
\$10,000

Academic Pediatric Association Young Investigator Award

Predictors of Overuse in Pediatrics
PI: Kao-Ping Chua
03/2017-04/2019
Role: PI
\$8,697

Institute for Translational Medicine Pilot Grant (University of Chicago)

Use of Low-Value Pediatric Services in the Medicaid Population
PI: Kao-Ping Chua
06/2016-06/2017
Role: PI
\$32,575

NIH Loan Repayment Program (Health Disparities)

The Effect of Health Insurance Loss on Health Outcomes at Age 19
PI: Kao-Ping Chua
07-2011-06/2013
Role: PI

NRSA T32 training grant (NRSA T32-HS00063)

Harvard Pediatric Health Services Research Fellowship

PI: Jonathan Finkelstein

07/2011-06/2013

Role: Trainee

Fred Lovejoy Resident Research and Education Award (Boston Children's Hospital)

Effect of Implementing a Night Team System on Resident Sleep/Work Hours

PI: Kao-Ping Chua

07/2009-06/2010

Role: PI

\$5,000

Honors and Awards**Institutional**

1998-2002	Harold Stirling Vanderbilt Scholarship, Vanderbilt University (full-tuition academic scholarship)
2002	Runner-up for Founder's Medal, Vanderbilt University (award for the top student in the College of Arts & Sciences)
2002-2007	Distinguished Student Scholarship, Washington University School of Medicine (full-tuition academic scholarship)
2004	Harrison Scholar, Washington University School of Medicine (award for the top medical students in internal medicine)
2007	George F. Gill Prize in Pediatrics, Washington University School of Medicine (award for the top medical students in pediatrics)
2019	Faculty Award for Health Services Research, Department of Pediatrics, University of Michigan Medical School
2022	Chair's Rising Star Award, Department of Pediatrics, University of Michigan Medical School

National

2017	Academic Pediatric Association Young Investigator Award
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Memberships in Professional Societies

2007-present	American Academy of Pediatrics
2010-present	AcademyHealth
2014-present	Academic Pediatric Association
2020-present	Society for Pediatric Research

Editorial Positions, Boards, and Peer-Review Services

Editorial Board

2019-present *Medical Care Research and Review*

Journal Reviewer

2014-present *Milbank Quarterly*
2014-present *Journal of Adolescent Health*
2015-present *Health Services Research*
2015-present *The Journal of Pediatrics*
2016-present *Medical Care*
2017-present *Public Health Reports*
2017-present *American Journal of Public Health*
2018-present *Medical Care Research and Review*
2018-present *Academic Pediatrics*
2018-present *Pediatrics*
2018-present *Journal of Addictive Diseases*
2018-present *JAMA Network Open*
2019-present *JAMA*
2019-present *Addiction*
2019-present *BMJ*
2019-present *Journal of the American Academy of Child and Adolescent Psychiatry*
2019-present *JAMA Pediatrics*
2019-present *PLoS Medicine*
2020-present *BMC Health Services Research*
2020-present *Health Affairs*
2020-present *JAMA Internal Medicine*
2020-present *Clinical Infectious Diseases*
2021-present *Pain*
2021-present *Annals of Internal Medicine*
2021-present *JAMA Health Forum*
2021-present *American Journal of Preventive Medicine*
2021-present *Drug and Alcohol Dependence*
2021-present *Lancet*

Teaching

Trainees

2016 Elizabeth Tung, M.D., General Internal Medicine Fellow, Section of General Internal Medicine, Department of Medicine, University of Chicago. **Role:** Master's thesis advisor.

2016 Olga Kantor, M.D., General Surgery Resident, University of Chicago. **Role:** Master's thesis advisor.

2017-2019 Joyce Woo, M.D., Pediatrics Resident, Comer Children's Hospital, University of Chicago. **Role:** Master's thesis advisor.

2018-present

Anna Volerman, M.D., Assistant Professor, Department of Medicine and Department of Pediatrics, University of Chicago. **Role:** Master's thesis advisor.

2018-2020 Lauren Kimmel, BS, Law Student, University of Michigan School of Law. **Role:** Research mentor.

2019-present Amel Omari, Graduate Student, University of Michigan School of Public Health. **Role:** Research mentor.

2021-present Caitlin Priest, Medical Student, University of Michigan Medical School. **Role:** Research mentor.

2021-present Caroline Hogan, National Clinical Scholars Program Fellow, University of Michigan Medical School. **Role:** Research mentor.

Teaching Activities

2013 Harvard Kennedy School Teaching Fellow. Course: "Quantitative Analysis and Empirical Methods." One semester, 20 lectures, 50 Masters of Public Policy graduate students

2015-2017 Pritzker School of Medicine Guest Lecturer ("Health Insurance 101") Course: The American Health Care System. 1 lecture, 80 first-year medical students

2015-2017 Pritzker School of Medicine Guest Lecturer ("Regression Analysis") Course: Introduction to Medical Evidence. 2 lectures, 80 first-year medical students.

2019 Group Facilitator for University of Michigan Massive Open Online Course "Understanding and Improving the U.S. Health Care System." 1 session, 30 health professional students.

2019-present National Clinical Scholars Program core seminar series lectures ("Measuring and Improving the Quality of U.S. Opioid Prescribing"). 3 lectures, 12 master's students and postdoctoral fellows.

2019-present Core Faculty for CHEAR Health Services Research Fellowship, Department of Pediatrics, University of Michigan Medical School

2020 Why should we care about low-value pediatric care? University of Michigan Pediatric Fellowship Seminar Series. 1 lecture, 5 fellows

2021 Guest lecturer, HMP 601: Healthcare Quality, Performance Measurement, and Improvement ("Measuring and Improving the Quality of U.S. Opioid Prescribing"), University of Michigan School of Public Health. 1 session, 45 master's students.

2021 Guest lecturer, CHEAR Summer Internship Program ("Measuring and Improving the Quality of U.S. Opioid Prescribing"). 1 lecture, 3 college students

Committee, Organizational, and Volunteer Services

Committees/Boards

2017-present	Institute for Healthcare Policy and Innovation, University of Michigan, Member
2017-present	University of Michigan Injury Center, University of Michigan, Member
2018-present	Center for Study of Drugs, Alcohol, Smoking and Health, University of Michigan, Faculty Affiliate
2018-present	Institute for Research on Women and Gender, University of Michigan, Faculty Affiliate
2019-2020	Faculty Coordinator, CHEAR Health Services Research Seminar Series
2021-present	CHEAR Leadership Team
2021-present	Director, Michigan COVID-19 Research Program in Pediatrics

Volunteer services

2019-present	Abstract Reviewer, Pediatric Academic Societies Meeting
2019-present	Reviewer, Resident and Fellow Research Grant Program
2020-present	Abstract Reviewer, Pediatrics Research Day, University of Michigan Medical School
2020-present	Abstract Reviewer, AcademyHealth Annual Research Meeting

Seminars, Visiting Professorships, and Extramural Invited Presentations

Seminars

1. Why should we care about low-value pediatric care? University of Michigan Department of Pediatrics Grand Rounds, Ann Arbor, MI, April 2018.
2. Secondary data for pediatric health services research. Susan B. Meister Child Health Evaluation and Research Center, University of Michigan Medical School, October 2018.
3. Pediatric outpatient antibiotic appropriateness, University of Michigan Division of General Pediatrics monthly meeting, September 2020
4. Measuring and Improving the Quality of U.S. Opioid Prescribing. University of Michigan School of Public Health, WIDTH Forum, April 2021.

Extramural invited presentations

1. Differences in health care access and utilization between older adolescents and young adults with asthma. Transition to Adult Care Conference, Brigham and Women's Hospital, Boston, MA, May 2013.
2. Defining and measuring overuse in pediatrics. Dartmouth University Department of Pediatrics Grand Rounds, Hanover, NH, October 2017.
3. Why should we care about low-value pediatric care? University of Chicago Advancing Pediatric Quality Symposium, Chicago, IL, November 2018.
4. Improving the safety of opioid prescribing to adolescents and young adults. Symposium co-chair and speaker, Pediatric Academic Societies 2019 Annual Meeting, Baltimore, MD, April 2019.
5. Why should we care about low-value pediatric care? Boston University Institute for Health System Innovation and Policy, November 2020.
6. Why should we care about low-value pediatric care? University of Southern California Medical School, January 2021.
7. Measuring and Improving the Quality of Opioid Prescribing to Children and Young Adults. NIDA Clinical Trials Network Special Interest Group, November 2021.

Congressional testimony

1. Congressional testimony on H.R. 4712 (Fairness in Orphan Drug Exclusivity Act) before the U.S. House of Representatives House and Energy Committee, Health Subcommittee: "Improving Safety and Transparency in America's Food and Drugs", January 2020. <https://www.congress.gov/116/meeting/house/110423/witnesses/HHRG-116-IF14-Wstate-ChuaK-20200129.pdf>

Selected media coverage

1. Levey N. Young adults healthier after passage of Obamacare, study finds. *LA Times*, June 17, 2014.
2. Schencker L. 1 in 10 kids got unneeded medical services in 2014, U of C study says. *Chicago Tribune*, December 8, 2016.
3. Rapaport L. Another look at the surge in EpiPen costs. *Reuters Health*. March 27, 2017.
4. Cohen R. EpiPens should work at least a while past expiration dates. *Reuters Health*. May 8, 2017.
5. Bhattacharjee, P. Doctors are still prescribing codeine for kids after tonsillectomy, despite FDA warning. *CNN*. November 16, 2017.
6. Jochem G. Getting doctors to stop prescribing codeine to kids has taken years. *NPR*. November 16, 2017.

7. Newman K. Nearly 1 in 4 antibiotic prescriptions are inappropriate. *US News and World Report*, January 16, 2019.
8. Giardano R. Opioids are overprescribed for children who get their tonsils out, study finds. *Philadelphia Inquirer*. August 8, 2019.
9. Preidt R. Teen opioid users face same OD risks as adults. *US News and World Report*. December 16, 2019.
10. Jagannathan M. An alarming number of kids get unnecessary medical care, including antibiotics and cervical-cancer screenings. *MarketWatch*. Jan 8, 2020.
11. Henry M. EpiPens still costly despite generic alternatives, other reforms. *The Columbus Dispatch*. February 9, 2020.
12. Reinberg S. 2 in 3 Parents Would Send Kids to School in Fall: Survey. *US News and World Report*. June 30, 2020.
13. Werner A. Surprise COVID-19 costs? Loopholes and mix-ups are leading to bills for thousands of dollars. *CBS This Morning*, July 10, 2020 (TV interview).
14. Della Cava M. Online school? In-person? How parents are making their own fall 2020 decisions as COVID-19 squabbles continue. *USA Today*. July 13, 2020.
15. Kliff S. A hospital forgot to bill her coronavirus test. It cost her \$1,980. *New York Times*. August 3, 2020.
16. Kliff S. The vaccines are supposed to be free. Surprise bills could happen anyway. *New York Times*. December 17, 2020.
17. Health Day News. Poll Finds Most U.S. Young People Take COVID Threat Seriously. April 18, 2021
18. C-SPAN [TV appearance]. Dr. Kao-Ping Chua on Cost of COVID-19 Hospitalization and Treatment. *Washington Journal*, June 14, 2021
19. Murez C. \$10,000: What new parents might pay for childbirth, even with insurance. *Health Day News*. June 17, 2021.
20. LaMotte S. "Surprise" hospital bills after childbirth are common, study says, but here's what to do. *CNN*. July 2, 2021.
21. Avery T. COVID-19 pandemic made it harder for Americans to pay medical bills, survey finds. *USA Today*. July 20, 2021.
22. Kliff S. Covid medical bills are about to get bigger. *New York Times*. September 2, 2021.

Bibliography

Peer-Reviewed Publications

1. **Chua KP**, Chun MM. Implicit scene learning is viewpoint dependent. *Perception & Psychophysics*. 2003;65(1):72-80. PMID: 12699310
2. Kelley TA, Chun MM, **Chua KP**. Effect of scene inversion on change detection of targets matched for visual salience. *J Vis*. 2003;3(1):1-5. PMID: 12678620
3. **Chua KP**, Gordon MB, Sectish TC, Landrigan CP. Effects of a night team system on resident sleep and work hours. *Pediatrics*. 2011;128(6):1142-1147. PMID: 22123867
4. **Chua KP**, Schuster MA, McWilliams JM. Differences in health care access and utilization between older adolescents and young adults with asthma. *Pediatrics*. 2013;131(5):892-901. PMID: 23610211. PMCID: PMC4074656
5. **Chua KP**, Sommers BD. Changes in health and medical spending among young adults under health reform. *JAMA*. 2014;311(23):2437-2439. PMID: 24938568
6. **Chua KP**, Neuman MI, McWilliams JM, Aronson PL. Association between clinical outcomes and hospital guidelines for cerebrospinal fluid testing in febrile infants aged 29-56 days. *J Pediatr*. 2015; 167:1340-1346.e9. PMID: 26477870. PMCID: PMC5535778
7. Sommers BD, **Chua KP**, Kenney JM, Long SK, McMorrow S. California's early coverage expansion under the Affordable Care Act: a county-level analysis. *HSR*. 2016; 51(3):825-845. PMID: 26443883. PMCID: PMC4874826
8. Tung EL, Baig AA, Laiteerapong N, Huang ES, **Chua KP**. Racial and ethnic disparities in diabetes screening between Asian Americans and other adults. *J Gen Intern Med*. 2016;32(4):423-429. PMID: 27848187. PMCID: PMC5377880
9. **Chua KP**, Schwartz AL, Volerman A, Conti RM, Huang ES. Use of low-value pediatric services among the commercially insured. *Pediatrics*. 2016; 138(6): e20161809. PMID: 27940698. PMCID: PMC5127068
10. **Chua KP**, Conti RM. Out-of-pocket spending among commercially insured patients for epinephrine autoinjectors between 2007 and 2014. *JAMA Intern Med*. 2017; 177(5):736-739. PMID: 28346591. PMCID: PMC5377880
11. Trueger NS, **Chua KP**, Hussain A, Liferidge AT, Pitts SR, Pines JM. Incorporating alternative care site characteristics into estimates of substitutable ED visits. *Med Care*. 2017; 55(7):693-697. PMID: 28498199
12. **Chua KP**, Shrime MG, Conti RM. Effect of FDA investigation on opioid prescribing to children after tonsillectomy/adenoidectomy. *Pediatrics*. 2017;140(6): e20171765. PMID: 29146621
13. **Chua KP**, Conti RM. Out-of-pocket spending on orphan drug prescriptions among commercially insured adults in 2014. *J Gen Intern Med*. 2019;34(3):338-340. PMID: 30324293
14. McCabe SE, Wilens TE, Boyd CJ, **Chua KP**, Voepel-Lewis T, Schepis TS. Age-specific risk of substance use disorders associated with controlled medication use and misuse subtypes in the United States. *Addict Behav*. 2019; 90:285-293. PMID: 30472537

15. **Chua KP**, Fischer MA, Linder JA. Appropriateness of outpatient antibiotic prescribing among privately insured US patients: ICD-10-CM based cross sectional study. *BMJ*. 2019;364:k5092. PMID: 30651273. PMCID: PMC6334180
16. Harbaugh CM, Lee JS, **Chua KP**, Kenney B, Iwashyna TJ, Englesbe MJ, Brummett CM, Bohnert AS, Waljee JF. Association between long-term opioid use in family members and persistent opioid use after surgery among adolescents and young adults. *JAMA Surg*. 2019; Feb 27:e185838. PMID: 30810738
17. **Chua KP**, Brummett CM, Conti RM, Haffajee RL, Prosser LA, Bohnert ASB. Assessment of prescriber and pharmacy shopping in the family members of patients prescribed opioids. *JAMA Netw Open*. 2019; 2(5):e193673. PMID: 31074819.
18. **Chua KP**, Harbaugh CM, Brummett CM, Bohm LA, Cooper KA, Thatcher AI, Brenner MJ. Association of perioperative opioid prescriptions with risk of complications after tonsillectomy in children. *JAMA Otolaryngol Head Neck Surg*. 2019; 145(10):911-918. PMID: 31393537. PMCID: PMC6692671.
19. Woo JL, Anderson BR, Gruenstein D, Conti RM, **Chua KP**. Minimum travel distance among publicly insured infants with severe congenital heart disease: potential impact of in-state restrictions. *Pediatr Cardiol*. 2019; 40(8): 1559-1608. PMID: 31463514. PMCID: PMC6851488.
20. **Chua KP**, Brummett CM, Conti RM, Bohnert ASB. Association of opioid prescribing patterns with prescription opioid overdose in adolescents and young adults. *JAMA Pediatr*. 2020; 174(2): 141-148. PMID: 31841589. PMCID: PMC6990690
21. Agarwal S, Bryan JD, Hu HM, Lee JS, **Chua KP**, Haffajee RL, Brummett CM, Englesbe MJ, Waljee JF. Association of state opioid duration limits with postoperative opioid prescribing. *JAMA Netw Open*. 2019; 2(12):e1918361. PMID: 31880801. PMCID: PMC6991309.
22. **Chua KP**, Schwartz AL, Volerman A, Conti RM, Huang ES. Differences in the receipt of low-value services between publicly and privately insured children. *Pediatrics*. 2020; 145(2): e20192325. PMID: 31911477. PMCID: PMC6993279.
23. Schuiteman S, **Chua KP**, Chang T. Self-management of health care among youth: implications for policies on transition of care. *J Adol Health*. 2020; 66(5): 616-622. PMID: 32113903.
24. Harbaugh CM, Vargas G, Sloss KR, Bohm LA, Cooper KA, Thatcher AL, Zopf DA, **Chua KP**, Waljee JF, Gadepalli SK. Association of Opioid Quantity and Caregiver Education with Pain Control after Pediatric Tonsillectomy. *Otolaryngol Head Neck Surg*. 2020 May; 162(5): 746-743. PMID: 32204656
25. Kimmel L, Conti RM, Volerman A, **Chua KP**. Pediatric orphan drug indications: 2010-2018. *Pediatrics* 2020; 145(4):e20193128. PMID: 32127360. PMCID: PMC7111489.
26. **Chua KP**, Lee JM, Conti RM. Out-of-pocket spending for insulin and other health care services among privately insured patients with type 1 diabetes. *JAMA Intern Med*. 2020; 180(7):1012-1014. PMID: 32478819. PMCID: PMC7265118.

27. **Chua KP**, Linder JA. Prevalence of inappropriate antibiotic prescribing by antibiotic among privately and publicly insured non-elderly US patients, 2018. *JGIM*. 2020. Oct 2; doi: 10.1007/s11606-020-06198-z [Epub ahead of print]. PMID: 33006082
28. **Chua KP**, Conti RM. Trends in orphan drug spending and out-of-pocket spending among U.S. children, 2013-18. *Health Affairs*. 2020; 39(10): 1806-1811. PMID: 33017253; PMCID: PMC7968887
29. **Chua KP**, Lee JM, Conti RM. Potential changes in insulin out-of-pocket spending under cost-sharing caps among pediatric patients with type 1 diabetes. *JAMA Pediatr*. 2021; 175(1):90-92. PMID: 32716507; PMCID: PMC7385670.
30. **Chua KP**, Dejonckheere M, Reeves SL, Tribble AC, Prosser LA. Factors associated with school attendance plans and support for COVID-19 risk mitigation measures among parents and guardians. *Acad Ped*. 2021; 21(4): 684-693. PMID: 33249257.
31. **Chua KP**, Conti RM. Out-of-Pocket Spending for Influenza Hospitalizations in Medicare Advantage. *AJPM*. 2021; 60(4):537-541. PMID: 33612337; PMCID: PMC7890338.
32. **Chua KP**, Hu H, Waljee JF, Brummett CM, Nalliah R. Opioid prescribing patterns by dental procedure among US privately and publicly insured patients, 2013 through 2018. *JADA*. 2021; 152(4):309-317. PMID: 33637299
33. **Chua KP**, Kimmel L, Conti RM. Spending for orphan indications among top-selling orphan drugs approved to treat common diseases. *Health Affairs*. 2021; 40(3): 453-460. PMID: 33646878; PMCID: PMC8011952.
34. **Chua KP**, Hu H, Waljee JF, Nalliah RP, Brummett CM. Persistent opioid use associated with dental opioid prescriptions among publicly and privately insured US patients, 2014 to 2018. *JAMA Network Open*. 2021; 4(4):e216464. PMID: 33861332; PMCID: PMC8052591.
35. Dejonckheere M, Waselewski M, Frank A, Amaro X, **Chua KP**. Views on COVID-19 and use of face coverings among U.S. Youth. *J Adol Health*. 2021; 68(5): 873-881. PMID: 33896552; PMCID: PMC8061118.
36. **Chua KP**, Kenney B, Waljee JF, Nalliah RP, Brummett CM. Dental opioid prescriptions and overdose risk in patients and their families. *AJPM*. 2021; doi: 10.1016/j.amepre.2021.02.008 [Epub ahead of print]. PMID: 33975766. PMCID: PMC8319034.
37. Howard R, Brown CS, Lai Y-L, Gunaseelan V, **Chua KP**, Brummett CM, Engelsbe M, Waljee JF, Bicket MC. The association of postoperative opioid prescriptions with patient outcomes. *Annals Surg*. 2021; doi:10.1097/SLA.0000000000004965 [Epub ahead of print].
38. **Chua KP**, Fendrick AM, Conti RM, Moniz MM. Out-of-pocket spending for deliveries and newborn hospitalizations among the privately insured. *Pediatrics*. 2021 Jun 17;e2021050552. Doi: 10.154/peds.2021-050552 [Epub ahead of print]. PMID: 34140392

39. **Chua KP**, Fendrick AM, Conti RM, Moniz MM. Prevalence and magnitude of potential surprise bills for childbirth. *JAMA Health Forum*. 2021; 2(7):e211460. doi:10.001/jamahealthforum.2021.1460 [Epub ahead of print].
40. **Chua KP**, Volerman A, Conti RM. Prescription drug dispensing to U.S. children during the COVID-19 Pandemic. *Pediatrics*. 2021:e211460. doi:10.1542/peds.2021-049972 [Epub ahead of print].
41. **Chua KP**, Brummett CM, Ng S, Bohnert ASB. Association Between Receipt of Overlapping Opioid and Benzodiazepine Prescriptions from Multiple Prescribers and Overdose Risk. *JAMA Network Open*. 2021;4(8):e2120353. doi:10.1001/Jamanetworkopen.2021.20353. PMID: 34374769.
42. **Chua KP**, Brummett CM, Conti RM, Bohnert ASB. U.S. Opioid Prescribing to Children and Young Adults in 2019. *Pediatrics*. 2021:e2021051539. doi: 10.1542/peds.2021-051539 [Epub ahead of print].
43. **Chua KP**, Conti RM, Becker NV. Assessment of Out-of-Pocket Spending for COVID-19 Hospitalizations in the U.S. in 2020. *JAMA Network Open*. 2021;4(10):e2129894: doi:10.1001/Jamanetworkopen.2021.29894 [Epub ahead of print].
44. **Chua KP**, Conti RM. Prescriptions for Codeine or Hydrocodone Cough and Cold Medications to US Children and Adolescents Following US Food and Drug Administration Safety Communications. *JAMA Netw Open*. 2021; 1(4:11):e2134142. doi: 10.1001/jamanetworkopen.2021.34142. PMID: 34762115.
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