

# Helping Parents Quit Smoking in Pediatric Settings

## Statement of Problem

Secondhand smoke exposure is a significant public health problem. More than 40% of children in the U.S. are exposed to secondhand smoke, increasing their risk of respiratory infections, asthma flare-ups and premature death. When parents quit smoking, they not only increase their own life expectancy by an average of 10 years and eliminate the majority of their children's secondhand smoke exposure, they also decrease the likelihood of their children becoming smokers later in life.

Pediatricians are uniquely positioned to deliver [intergenerational family services](#) to educate and motivate parents to protect their children from secondhand smoke. Yet, very few parents who smoke and accompany their child to the pediatrician's office are [offered treatment](#) or given advice to help them quit. Electronic health records (EHRs) and clinical decision support (CDS) systems may improve the quality and standardization of clinical interventions for tobacco cessation. In pediatric settings, outpatient-based multilevel interventions are emerging to address these barriers; the interventions combine pediatric clinician advice and behavioral counseling with navigation to pharmacologic cessation aids approved by the U.S. Food and Drug Administration (FDA).

## Description

To help pediatricians provide smoking cessation treatment to parents, Dr. Jenssen and colleagues developed a CDS tool that embeds in the electronic health record and prompts clinicians to ask about secondhand smoke exposure at all visits. For parents who smoke, the tool assists physicians in prescribing nicotine replacement therapy and coordinating referral to an adult tobacco treatment program. The tobacco treatment programs offered included the [PA Free Quitline](#), a free, evidence-based tobacco cessation service available to all Pennsylvanians.

### *Phase One*

In the first phase of this work, Dr. Jenssen tested and subsequently evaluated the CDS tool among pediatricians and pediatric clinicians in two settings: an urban pediatric [primary care](#) site and a pediatric [inpatient unit](#). He found that at the primary care site, 80% of eligible pediatric clinicians used the CDS tool at 2,286 (76%) out of 3,023 visits. Ninety-four percent of clinicians surveyed were satisfied with the tool and rated its usability good to excellent. Additionally, follow-up surveys found that the majority of parents were advised to quit and offered nicotine replacement therapy, and 25% of parents were using medication to help them quit.

In the inpatient unit, clinicians used the tool for 49% (52 of 109) of patients. All clinicians surveyed found the tool acceptable and rated its usability good to excellent. 32% of parents were referred to the PA Free Quitline through the CDS tool's discharge instructions, and 14% of parents were prescribed nicotine replacement therapy.

These data demonstrate that the CDS tool to help pediatric residents and physicians/clinicians provide smoking cessation counseling is feasible, acceptable and usable in both hospital and primary care settings. The CDS tool also influenced clinical care in the primary care setting.

### *Phase Two*

With these findings in mind, Dr. Jenssen and his team next sought to address a knowledge gap in pediatric preventive services by informing how to best implement parent referral to tobacco quitlines into real-world clinical practice. They [compared](#) quitline enrollment using an electronic referral (eReferral) process (parent information sent electronically to the quitline and a quitline representative directly calling the parent) to the current standard manual process (giving the parent the quitline phone number).

They found that of the parents in the eReferral group, 10% enrolled in the quitline, compared with 2% in the group who were simply given the quitline phone number—a fivefold increase in parents starting evidence-based treatment. While parents in the eReferral group were more likely to connect to the Quitline initially, once contact was made, there was no difference in the overall number of calls to the Quitline between the eReferral group and the standard process control group.

The findings in this second phase demonstrate that a “warm-handoff” using the eReferral process is effective in helping parents engage in treatment at a higher rate. However, more research is needed to gain insight into how to increase engagement for the large portion of parents (90%) who did not engage with the quitline despite pediatric clinicians more directly connecting them to treatment.

## **Next Steps**

While these results are promising, Dr. Jenssen plans to improve the design and effectiveness of the CDS intervention and the overall approach to treating parents that smoke.

For the next phase, building upon preliminary work with the support of a multidisciplinary mentoring team, Dr. Jenssen and his team will develop carefully framed messages using a theory-based approach in order to encourage initiation of tobacco cessation treatment for parent smokers. The underlying hypothesis is that messages that leverage parents’ concern for their child’s health and that are delivered by pediatric clinicians will increase the number of caregivers who start tobacco cessation treatment. The project is funded through a career development award from the National Cancer Institute. More details can be found on the [Parents Quit IT](#) PolicyLab project page.

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## **Suggested Citation**

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## **PolicyLab Leads**

# **Brian Jenssen**

## **MD, MSHP**

### **Faculty Member**

Brian Jenssen is a faculty member at PolicyLab at Children's Hospital of Philadelphia (CHOP), an Assistant Professor in the Department of Pediatrics at the University of Pennsylvania, a practicing primary care pediatrician at CHOP, and Medical Director, Value-Based Care for CHOP's Care Network (a primary care network for 260,000 pediatric patients in Pennsylvania and New Jersey). Dr. Jenssen's research involves the use of clinical decision support systems and population health management techniques to protect children from secondhand smoke exposure and tobacco use. Current efforts include helping parents quit smoking in clinical settings and clinical and policy research to protect adolescents and youth from e-cigarettes/vaping. More broadly, he focuses on leveraging health information technology to engineer and implement novel approaches and products to improve care for children and their parents.

Previously, Dr. Jenssen was a Clinical and Translational Science Institute Student Fellow through the National Institutes of Health, conducting research in tobacco policy, smoking cessation, and adolescent use of social media. Furthermore, he has worked extensively with the American Academy of Pediatrics (AAP) and the Julius B. Richmond Center of Excellence on a variety of tobacco policy efforts, and currently serves as an executive member of the newly formed AAP Section on Tobacco Control.

He holds a bachelor's degree from Davidson College and received his medical degree from the University of Rochester School of Medicine and Dentistry and is board certified in pediatrics. He both completed a residency in pediatrics and recently served as chief resident at CHOP. From 2014 to 2016, Dr. Jenssen was a Robert Wood Johnson Foundation Clinical Scholar at the University of Pennsylvania where he also earned his Masters in Health Policy Research.



Brian Jenssen  
MD, MSHP

Email: [JenssenB@chop.edu](mailto:JenssenB@chop.edu)

### **Team**

## **Alexander Fiks**

### **MD, MSCE**

### **Faculty Member**

Alex Fiks is a faculty member at PolicyLab at Children's Hospital of Philadelphia (CHOP), an urban primary care pediatrician at CHOP, director of Clinical Futures at CHOP and an associate professor of pediatrics at the Perelman School of Medicine at the University of Pennsylvania. He is also the director of the American Academy of Pediatrics (AAP) Pediatric Research in Office Settings (PROS), a national research network, medical director for the Pediatric Research Consortium (PeRC), CHOP's practice-based research network and co-director of the Possibilities Project, an initiative to innovate primary care delivery. Additionally, Dr. Fiks is a founding member of the hospital's Department of Biomedical and Health Informatics.

Board certified in clinical informatics, Dr. Fiks' research is aimed at improving outcomes for ambulatory pediatric patients through practice-based research with a focus on improving health and health care decision-making through health information technology. To achieve these goals, much of Dr. Fiks' research is focused on fostering shared decision making between clinicians and families, especially in the setting of behavioral health conditions. He is also especially interested in how electronic health record data may best be used to improve primary care, medication use and child health more broadly. As Director of AAP PROS, Dr. Fiks has been involved in building the Collaborative Electronic Reporting for Comparative Effectiveness Research (CER<sup>2</sup>), an electronic health record database designed to support pharmacoepidemiologic and other comparative effectiveness studies that currently includes >2 million U.S. children from across multiple health systems.

Dr. Fiks received his medical degree from Harvard University, and received a Master's of Science in Clinical Epidemiology (MSCE) degree from the University of Pennsylvania. He has received additional training in clinical informatics.



Alexander Fiks  
MD, MSCE  
Email: [Fiks@chop.edu](mailto:Fiks@chop.edu)

## **Mary Kate Kelly**

### **MPH**

#### **Clinical Research Coordinator**

Mary Kate Kelly (she/her) is a clinical research coordinator at PolicyLab and Clinical Futures at Children's Hospital of Philadelphia (CHOP). Ms. Kelly works with Dr. Alexander Fiks and Dr. Brian Jenssen on multiple primary care-based projects aiming to improve pediatric care and health outcomes. Much of this research focuses on the incorporation of health information technology.

Ms. Kelly received her Master of Public Health in Epidemiology from Drexel University. Her research at Drexel focused on the association between gender and inflammation in the context of chronic pain and depression. She also worked with a team of researchers on a project evaluating the status of behavioral health in Philadelphia. Before attending graduate school, Ms. Kelly worked as a direct support specialist for children and

adults with intellectual and developmental disabilities.



Mary Kate Kelly

MPH

Email: [KELLYM17@chop.edu](mailto:KELLYM17@chop.edu)

Bob Grundmeier

Naveen Muthu

## Funders of Project

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## Project Contact

**Brian Jenssen**

[JenssenB@email.chop.edu](mailto:JenssenB@email.chop.edu)

## Related Tools & Publications

- [Clinical Decision Support Tool for Parental Tobacco Treatment in Primary Care Article](#)  
Apr 2016
- [Clinical Decision Support Tool for Parental Tobacco Treatment in Hospitalized Children Article](#)  
Aug 2016
- [Electronic Nicotine Delivery Systems Article](#)  
Nov 2015
- [Tobacco Control and Treatment for the Pediatric Clinician: Practice, Policy, and Research Updates Article](#)  
Mar 2017

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[Adolescents and E-cigarettes: Trends and What Pediatricians Need to Know](#)  
[Webinars](#)

Dec 2017

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[Parent Preferences for Pediatric Clinician Messaging to Promote Smoking Cessation Treatment](#)  
[Article](#)

Jun 2020

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[Pediatrician Delivered Smoking Cessation Messages for Parents: A Latent Class Approach to Behavioral](#)  
[Phenotyping](#)

[Article](#)

Jul 2020