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## Articles



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**Articles**

# HEALTH LAW & POLICY BRIEF
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# Letter from the Editors

Dear Reader:

On behalf of the Editorial Board and staff, we proudly present Volume 12, Issue 1 of the *Health Law & Policy Brief* (HLPB). HLPB is an online publication run by law students at American University Washington College of Law (WCL). Since its formation in 2007, HLPB has published articles on a wide array of cutting-edge topics in the areas of health law, disability law, and food and drug law. Such topics include international and domestic issues of health care compliance, fraud and abuse enforcement, health insurance payment and reimbursement issues, intellectual property issues, international human rights issues, FDA initiatives and policies, and a host of other matters. HLPB also maintains a blog on current health law issues which can be found on our website at www.healthlawpolicy.org. Furthermore, each year, HLPB organizes an original symposium on an emerging health law topic. At this year's symposium in April 2018, distinguished speakers and moderators will discuss data privacy and security in healthcare.

This issue features a creative article by *Health Law & Policy Brief* alumna Raenetta Ellison. She recognizes that childhood obesity is a public health epidemic disproportionately affecting low-income families. She goes on to propose a mitigation plan for childhood obesity in the city of Baltimore, MD. The Curbside Cookhouse Program, Ellison's own brainchild, would provide accessible nutrition education and cooking classes to Supplemental Nutrition Assistance Households in the Baltimore community. Easily applicable to additional low-income communities, the Curbside Cookhouse program has the potential to reinvent the way communities approach obesity and nutrition.

Our second author, Margaret Reiney, analyzes the connection between two of today's most discussed health law topics: opioids and telemedicine. Recognizing that the opioid epidemic has reached epic proportions, she proposes increasing treatment access through expanded use of telemedicine. Reiney considers the legal implications of a telemedicine expansion and proposes solutions for overcoming potential legal barriers. Her evaluation cleverly applies America's growing technology infrastructure to one of the nation's most pressing public health issues.

We would like to thank our authors for their hard work and cooperation in writing, researching, and editing two important articles that are increasingly relevant to today's health law dialogue.

We would also like to thank HLPB's articles editors and staff members who worked diligently on this issue, the blog, and our programming throughout the year. They are greatly appreciated and should be proud of their work.

For questions or information about the *Health Law & Policy Brief*, or for questions on how to subscribe to our electronic publication, please visit our website at www.healthlawpolicy.org.

Sincerely,

Justine and Sandeep

Justine Deitz
*Editor-in-Chief*

Sandeep Purewal
*Executive Editor*

# Reducing the Prevalence of Childhood Obesity in Households Receiving Supplement Nutrition Assistance Program Benefits in Baltimore City, Maryland through Interactive Nutrition Education

*Raenetta L. Ellison, JD, MPH**

## INTRODUCTION

Childhood obesity is a public health problem that disproportionately affects children in low-income families. Obesity is a condition characterized by excessive fat on the body that can cause serious health implications.[1] Approximately 17% of children in the United States are obese.[2] Health professionals use the body mass index (BMI) calculation to determine if a child is obese. A high BMI is indicative of high body fat, with obesity characterized as having the highest range of body fat.[3]

Because weights and heights of children change frequently during growth and development in relation to body fat, a child's BMI is an interpretation relative to other children of the same sex and age.[4] Therefore, researchers use percentiles to express BMI for children. These percentiles are standardized percentages that indicate the value

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[1] *Media Centre*, Obesity and Overweight, World Health Organization [hereinafter WHO] (May 13, 2016, 2:49 AM), http://www.who.int/mediacentre/factsheets/fs311/en/.

[2] *Childhood Obesity Facts*, Centers for Disease Control and Prevention [hereinafter CDC] (2014), https://www.cdc.gov/obesity/data/childhood.html.

[3] *Healthy Weight*, About Child & Teen BMI, CDC (2015), https://www.cdc.gov/healthyweight/assessing/bmi/childrens_bmi/about_childrens_bmi.html.

[4] *Id.*

above or below which a given range of body fat occurs. A group of experts recommends the percentiles for a given area of health under study. A child aged two through nineteen years old is obese when his or her BMI is above the 95th percentile.[5]

Obese children suffer from immediate and delayed health problems.[6] For example, children may initially suffer only from sleep apnea and respiratory problems.[7] Some of these early problems persist into adulthood, becoming long-term issues. Obese children tend to become obese adults, which can lead to other chronic conditions in adulthood. For instance, the persistence of obesity from childhood into adulthood is a precursor for the onset of hypertension, cardiovascular disease, cancer, bone disease, and early death.[8]

A significant amount of research finds that the prevalence of obesity among children ages two to nineteen directly correlates with the race and ethnicity of the households where the children reside.[9] According to the Centers for Disease Control and Prevention (CDC), the presence of obesity is greatest among children who belong to households at or below the poverty level.[10]

Similarly, some focus group studies show that children in low-income households tend to ingest unhealthy foods because of many barriers.[11] Ingestion of unhealthy foods, such as processed items and foods high in sugar, contributes to the high prevalence of childhood obesity.[12] Fortunately, obesity is a disease with well-recognized causes. Therefore, communities have the opportunity to employ creative and far-reaching strategies to improve health behaviors in children.[13] Otherwise, individuals and society will sustain high economic costs from the growing presence of childhood obesity. According to research published in the American Journal of Community Psychology, "a recent estimate projects that obesity will account for more than 16% of all health care expenditures by 2030."[14]

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[5] *Div. of Nutrition, Physical Activity, Overweight and Obesity*, Defining Childhood Obesity, CDC (May 13, 2016, 2:56 AM), http://www.cdc.gov/obesity/childhood/defining.html.

[6] *Div. of Nutrition, Physical Activity, Overweight and Obesity*, Childhood Obesity Causes & Consequences, CDC (Jan. 6, 2018, 11:31 PM), https://www.cdc.gov/obesity/childhood/causes.html.

[7] *Id.*

[8] *Id*.

[9] *Natl. Ctr. for Health Statistics*, Prevalence of Obesity Among Adults and Youth: U.S., 2011 -2014, CDC (Nov. 2015), page 4.

[10] CDC, *supra* note 2.

[11] Ann M. Davis et al., *The Nutrition Needs of Low-Income Families Living Healthier Lifestyles: Findings from a Qualitative Study*, 17 J. Child Health Care 53, 54 (2012).

[12] Lindsay A. Heidelberger and Chery Smith, *A Child's Viewpoint: Determinants of Food Choice and Definition of Health in Low-Income 8- to 13-year Old Children in Urban Minnesota Communities*, 9 J. Hunger & Envtl. Nutrition 388, 389 (2014).

[13] Leslie A. Lytle, *Examining the Etiology of Childhood Obesity: The IDEA Study*, 44 Am. J. Community Psychol. 338 (2009).

[14] *Id.*

This paper discusses one conceptual intervention, the Curbside Cookhouse program. This potential program is an innovative and targeted strategy to address childhood obesity among children living in Baltimore City households who receive Supplemental Nutrition Assistance Program (SNAP) benefits. The high prevalence of obesity among children residing in Baltimore City highlights the need for effective interventions within the city. The 2013 Baltimore Youth Risk Behavior Survey revealed that 17% of Baltimore City's high-school-aged children were obese.[15] In the Baltimore City Community Health Survey 2014: Summary Results Report, 32% of the adult respondents, who were residents of Baltimore City, reported themselves as obese.[16]

While the Curbside Cookhouse program targets SNAP households, the program is easily adaptable to any low-income subpopulation. Many households eligible for the receipt of SNAP benefits have not applied for assistance even though they face exactly the same challenges of SNAP households.[17] Therefore, this program can be beneficial to all low-income households. The Curbside Cookhouse program will provide live, interactive nutrition education and cooking classes in Baltimore City neighborhoods with a high concentration of households receiving SNAP benefits. Providing convenient access to the program within various communities in Baltimore City removes resource barriers such as travel and childcare costs that may otherwise prevent residents from participating. The goal of the program is to educate parents and children on healthy and timesaving meal preparation strategies, and empower them to apply the learned techniques regularly at home.

Successful implementation of this program requires accompanying legal interventions. This paper discusses how indirect legal regulations can effectively aid in the implementation of the Curbside Cookhouse program and help reduce childhood obesity in Baltimore City. tilizingCurbside Cookhouse .

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[15] *Div. of Adolescent and School Health*, The Obesity Epidemic and Baltimore Students, CDC (May 13, 2016, 3:23 AM), http://www.cdc.gov/HealthyYouth/yrbs/pdf/obesity/baltimore_obesity_combo.pdf.

[16] Community Health Survey 2014: Summary Results Rpt., Balt. City Health Dept. (May 13, 2016, 3:27 AM), http://health.baltimorecity.gov/sites/default/files/BCHD%20CHS%20Report%20Sept%2016%202015.pdf.

[17] *Food and Nutrition Serv.* [hereinafter FNS], Reaching Those in Need: Estimates of State Supplemental Nutrition Assistance Program Participation Rates in 2013, USDA p.6 (May 13, 2016, 3:33 AM), http://www.fns.usda.gov/sites/default/files/ops/Reaching2013.pdf.

## I. BACKGROUND ON TARGET POPULATION

In the United States, nearly one-third of 3.7 million low-income children are obese before they reach the age five.[18] There were 203,153 SNAP participants from Baltimore City in February 2015, constituting the largest number of recipients among counties in Maryland.[19] Although studies do not definitively conclude that there is direct association between living in a SNAP-receiving household and childhood obesity, some studies suggest there is a link.[20]

To support these conclusions, the National Longitudinal Survey of Youth assessed how access to SNAP benefits impacted childhood obesity in a 1979 cohort of youth.[21] The cohort included 12,686 respondents between the ages of 14 and 21. Researchers recorded the weights of respondents between 1981 and 2000. The results showed that rates of childhood obesity increased when a child's household participated in the food stamp program, which was the predecessor to the SNAP benefit program. For example, 28.1% of children from food stamp recipient households were obese, while 17.5% of children from non-SNAP households were obese.[22]

Another study conducted by the United States Department of Agriculture (USDA) that examined data from the National Nutrition Examination Survey showed more insight into the diets of SNAP child beneficiaries. The study found that children from SNAP households were more likely to consume higher amounts of saturated fat and sugary drinks than children who live in non-SNAP households. Conversely, they consumed fewer pure fruit juice beverages and vegetables.[23] Although both SNAP and non-SNAP participating children had diet qualities below the dietary guidelines for Americans, SNAP participants fell much shorter of the recognized dietary goals than non-SNAP participants did.[24]

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[18] *Nat'l Ctr. for Chronic Disease Prevention and Health Promotion*, Obesity Among Low-Income Preschool Children, CDC (Jan. 7, 2018, 12:53AM), https://www.cdc.gov/obesity/downloads/pednssfactsheet.pdf.

[19] *Documents*, Data and Reports, 2015 Statistical Reports, Maryland Department of Human Resources (May 23, 2016, 3:42 AM), http://www.dhr.state.md.us/documents/Data%20and%20Reports/FIA/Statistical%20Reports/Statistical-Reports-2015.pdf.

[20] Charles L. Baum, The Effects of Food Stamps on Obesity, 77 S. Econ. J. 623, 624-25 (2011).

[21] *Id*. at 625-26.

[22] *Id*. at 644.

[23] FNS, *Diet Quality of Americans by SNAP Participation Status: Data from the Natl. Health and Nutrition Examination Survey, 2007-2010 Summary*, USDA (May 13, 2016, 3:56 AM), http://www.fns.usda.gov/sites/default/files/ops/NHANES-SNAP07-10-Summary.pdf.

[24] *Id*.

## II. CAUSAL PATHWAYS FOR CHILDHOOD OBESITY IN LOW-INCOME ENVIRONMENTS

While the dominant cause of obesity is an excessive intake of calories in relation to the amount of calories expended, other factors influence the occurrence of obesity through many pathways. Genetic, behavioral, environmental, and social determinants are among the contributors to obesity.[25] However, genetic determinants address the propensity of a person to store fat, and do not affect significantly the widespread increase in obesity. For example, although genetic mutations can lead to severe obesity, genetic determinants are not the leading cause of the global obesity epidemic.[26]

With childhood obesity levels continuing to remain at alarming levels, the focus of reducing the prevalence of childhood obesity centers on environmental and social determinants.[27] Using these determinants will assist in understanding the effect of physical environment on the dietary health of children. Consequently, these impacts allow the communities who are interested in reducing obesity in low-income children to construct feasible and sustainable interventions.[28]

Figure 1 illustrates the effects of environmental and social influences on a child's eating habits. Causal pathways exist within these determinants that map out the events that lead to childhood obesity. Multiple sites for intervention exist in the childhood obesity causal pathway. By intervening, the causal chain breaks, which creates an opportunity to reduce childhood obesity. On an individual level, a child (with the aid of a parent or caretaker) can resolve his or her obese condition through healthy eating habits and increased physical activity.

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[25] Lawrence O. Gostin & Lindsay F. Wiley, *Public Health Law: Power, Duty, Restraint* 26 (3d. ed. 2016).

[26] Sadaf I. Farooqi et al., *Clinical Spectrum of Obesity and Mutations in the Melanocortin 4 Receptor Gene*, 348 New Eng. J. Med. 1085, 1085-95 (2003).

[27] M. S. Jalali et al., *Social Influence in Childhood Obesity Interventions: A Systematic Review* (to appear in Obesity).

[28] Karina M. H. Christiansen, *Environmental Factors that Impact the Eating Behaviors of Low-Income African American Adolescents in Baltimore City*, 45 J. Nutrition Educ. and Behav. 652 (2013).

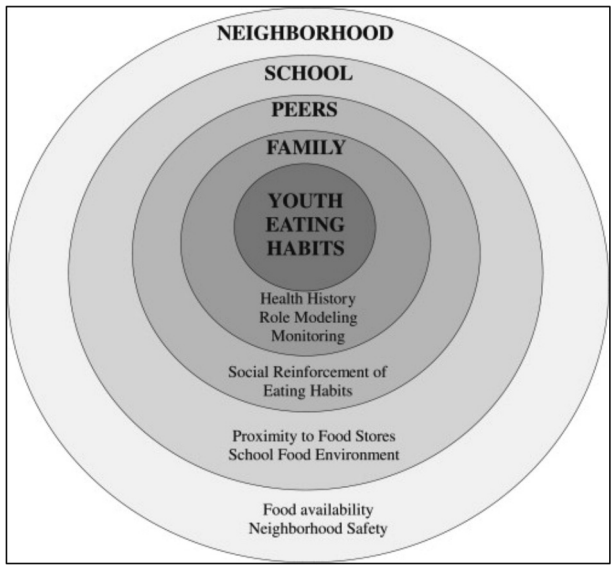


**Figure 1:** *Ecological framework of environmental influences on youth eating behaviors among African American adolescents aged 10-16 in Baltimore City. (Karina M. H. Christiansen, Env. Factors that Impact the Eating Behaviors of Low-Income African American Adolescents in Balt. City. 45 J. Nutrition Educ. and Behav. 652, 655 (2013)).*

Unlike adults, children live in environments chosen by their parents or caregivers. Children often have little to no choice in the decision of where to live or what foods they may consume. Furthermore, children have a limited understanding of nutrition and the long-term impacts of poor nutrition and eating habits.[29] Consequently, parents play a vital role in shaping the nutritional values and behaviors of their children.

To assist parents in improving the eating habits of their children, it is necessary to address unfavorable neighborhood determinants. Because the parent or caregiver's decisions are results of their environment, changes promoting healthy environments will directly affect their children. In low-income neighborhoods, the food environment is especially important in shaping the eating habits and weight status among both children and adults.[30]

Additionally, population-level changes in a child's environment play a vital role in helping the child reduce his or her obese status. Exposing children to an environment supportive of a healthy lifestyle makes them more likely to make better choices. According to the World Health Organization (WHO), "individual responsibility can have its full effect where people have access to a healthy lifestyle."[31] Thus, people are more likely to engage in beneficial behaviors when the environment is conducive to such change. For this reason, the WHO recommends that, at the population level, community leaders,

[29] *Global Strategy on Diet, Physical Activity, and Health*, What Are the Causes? WHO (May 13, 2016, 4:20 AM), http://www.who.int/dietphysicalactivity/childhood_why/en/.

[30] *Id.* at 652.

[31] WHO, *supra* note 1.

businesses, and members collaborate to sustain political commitment to promoting healthy living and to help make such a lifestyle more accessible.[32]

Therefore, an obesity-reducing intervention targeting the social and physical environments of children is a critical component in reducing obesity among them. According to Figure 1, a child's family has the most significant and direct influence on his or her eating habits. Because caregiving dynamics are closely associated with a child's behavior, an intervention aimed at both the caregiver and child, as opposed to the child alone, would be more effective in reducing childhood obesity. For these reasons, a socio-ecological model approach is likely the most effective way to address the multiple causal pathways that lead to childhood obesity. This model fosters a collaborative approach for communities in developing innovative and targeted interventions.

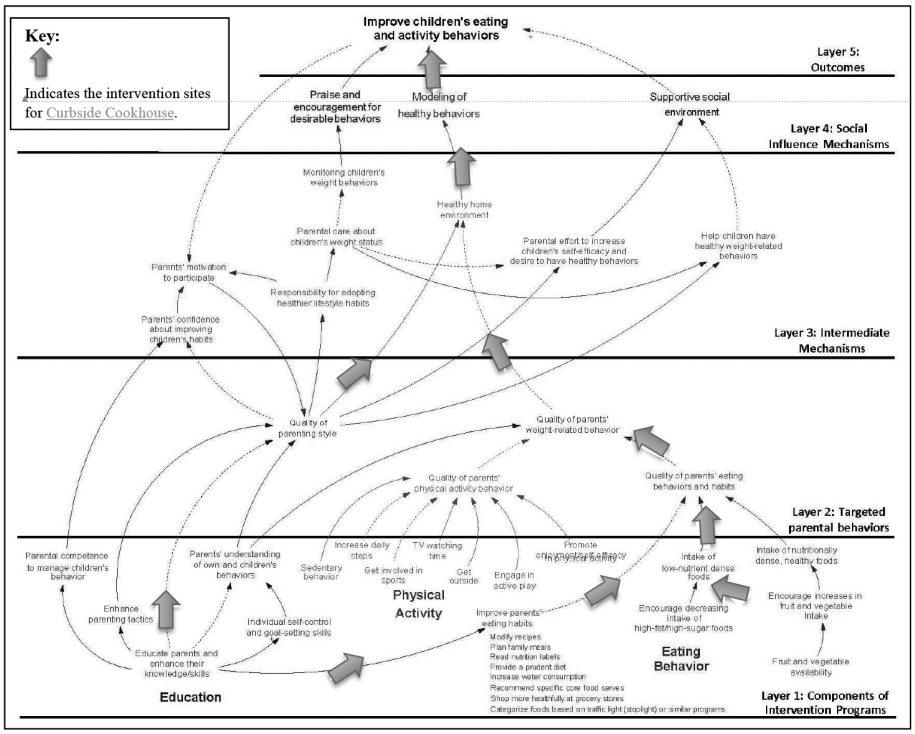


**Figure 2:** *Causal pathway relations for childhood obesity. (Adapted M. S. Jalali et al., Social Influence in Childhood Obesity Interventions: A Systematic Review (to appear in Obesity)).*

[32] *Id.*

## III. FRAMEWORK FOR MULTI-LAYERED INTERVENTION STRATEGIES

Based on the extensive causal pathway schematic in Figure 2, it is essential to address childhood obesity with a multi-faceted approach. The best approach for preventing childhood obesity is to address the individual, interpersonal, community, and government-level influences.[33] The WHO recognizes that the problem of childhood obesity is societal, thereby demanding a multi-level approach.[34] With a wide-range of factors causing childhood obesity, opportunities exist for several strategies with a single intervention.

Curbside Cookhouse includes a multi-layered approach with the aim of reducing childhood obesity through education and eating behavior. Through education, this program will inform parents about both healthy nutrition and meal preparation so that they can save time and feel confident about preparing nutritious meals. Children will observe the behavior of their parents and modify their own eating habits to mimic those of their parents. Through modeling, parents can improve both their own eating habits and those of their children.

Moreover, a secondary goal of the program is to motivate parents to participate actively in improving their child's eating habits. Through positive modeling of healthy eating habits, parents can create a healthy home environment. In Figure 2, the large blue arrows, starting with parental behavior, follow the path of the intervention sites that the Curbside Cookhouse program focuses on to reduce childhood obesity. Likewise, Figure 3 depicts the framework of how the individual, social, and policy determinants of childhood obesity interact. Curbside Cookhouse addresses the same determinants in its intervention. As shown in Figure 3, food preparation methods are just as important as the location of the food source and the behaviors involved in obtaining the food.

[33] *See* Lytle, *supra* note 13.

[34] WHO, *supra* note 1.

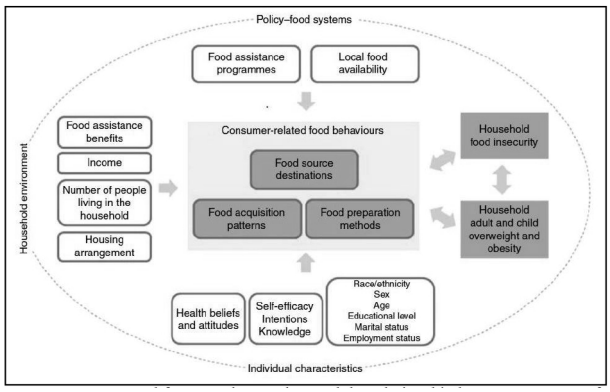


**Figure 3:** *Conceptual framework to understand the relationship between consumer food – related behaviors, household food insecurity and excess body weight. (Gabriella M. Vedovato, et al.,* Food insecurity, overweight and obesity among low-income African-American families in Baltimore City: associations with food-related perceptions*, 19(8) Public Health Nutrition 1405, 1409 (2015)).*

## IV. THE INTERVENTION: CURBSIDE COOKHOUSE PROGRAM

### A. Rationale

Curbside Cookhouse, a mobile or "pop-up" kitchen program, is a proposed multi-layered idea designed to address the nutritional needs and environmental challenges of low-income families with children who are obese, or at a high risk of becoming obese. Transportation to nutrition classes, and the costs associated with transportation, are barriers preventing parents from participating in educational programs not offered in close proximity to where they reside.[35] Curbside Cookhouse alleviates the transportation burden by making nutrition education conveniently accessible.

Parents who participated in other nutrition education programs cited that transportation was a major barrier to their participation. Although parents wanted to be involved, the travel to some sites made it difficult or impossible for them to participate. In an effort to make it easier for parents and caregivers to participate in nutritional programs, Curbside Cookhouse will bring nutritional programming to various locations within low-income communities to limit the transportation barrier. The program will utilize schools, recreation centers, and other neighborhood venues to host Curbside Cookhouse programming.

[35] *See* Wendelin Slusser et al., *Challenges to Parent Nutrition Education: A Qualitative Study of Parents of Urban Children Attending Low-Income Schools*, 14 Pub. Health Nutrition 1833, 1834 (2011); *see also* Rose, *supra* note 32, at 147, Davis, *supra* note 11, at 56-58.

The design of the Curbside Cookhouse program positions itself for implementation as a convenient nutrition education program for both parents and children. The goal of the program is to increase parent and child knowledge about what qualifies as healthy foods, and how to prepare food in a healthy manner. Additionally, the nutrition curriculum will provide participants with timesaving cooking methods and food storage tips.

The program name, Curbside Cookhouse, signals that the program aims to addresses the transportation needs of the community by making travel to the classes convenient. The transient nature of the program will allow it to be successful in reaching the targeted population. Additionally, this type of program delivery may illustrate more seriously the commitment to improving access to nutrition resources. The locations will rotate throughout neighborhoods with a high density of households receiving SNAP benefits. Currently, few nutritional programs equip parents with education on positive eating habits and food preparation skills.[36]

**B. Curriculum Design**

The Curbside Cookhouse program will consist of two weekly sessions with classes offered on both a weekday and a weekend. Each class will last 90 minutes. The first 30 minutes will consist primarily of lecture-style instruction, and the next 15 minutes will focus on the preparation stage of the cooking demonstration (i.e., measuring, slicing, and pre-heating). Next, the participants will spend 30 minutes cooking the meal. During this time, participants may also learn tips to initiate the cleanup and storage process while the food cooks. For instance, if food items are baking, participants will learn how to pack leftovers for easy storage and reheating, or how to pack for the next day's lunch. The program will allocate the final 15 minutes to families eating the meals they prepared. The program will provide families with the recipes and ingredients used in the meal preparation to take home for replication. Program staff will record each session and post it on the program's website. DVDs of each session will be available to households without Internet access.

The program will utilize literature published by health scientists, nutrition experts, health organizations, and agencies to develop the curriculum content and core competencies. The core competencies will be the specific information and skills that Curbside Cookhouse will deliver to its participants. Additionally, Curbside Cookhouse will collaborate with local nutritionists, restaurant chefs, and culinary school instructors to incorporate local culinary practices and flavors into the curriculum. Curbside Cookhouse will solicit these same partners to serve as instructors in the program. They will also make meals suitable for low-income families, including easy-to-find and low-cost ingredients.

Each class session will cover a specific topic that incorporates acquiring knowledge, building cooking skills, reading nutrition labels, analyzing nutrition label content, and planning meals. The team designing the curriculum will also establish content

[36] Angela M. Rose, *Determining the Feasibility and Acceptability of a Nutrition Educ. and Cooking Program for Preschoolers and their Families Delivered Over the Dinner Hour in a Low-Income Day Care Setting*. 6 Infant, Child, Adolescent Nutrition 144, 145 (2014).

parameters for meals. For instance, if the USDA recommends that a child's average daily fat intake remain under 30%, the design of the meals will adhere to this guideline. While meeting the USDA recommended nutritional standards, Curbside Cookhouse will plan meals with the help of local chefs to ensure meals are delicious and healthy. The class facilitator will encourage participants to talk about their current cooking experience and future cooking goals. Furthermore, participants will receive handouts on the nutrition topics presented during the lecture.

Curbside Cookhouse considers parents and children as a single-family unit, and each unit will have their own workstation. Each class will consist of no more than 15 workstations. The program will initially limit the class to 15 units to reserve the capacity to accommodate large families. For example, the program would like to accommodate single and two-parent households, as well as households with multiple children. Curbside Cookhouse's goal is to educate the immediate family in order to foster a family bonding experience. Each workstation will have the basic cooking tools including a double burner, mixing bowls, measuring cups, cutting board, knives, etc. Additional tables will be set up away from the workstations, providing a separate area where families will eat the prepared meals.

**C. Advertisement**

Curbside Cookhouse will post the topics for each class on the program's website, and on fliers circulated in key areas of the community. The Internet, community posting platforms, and public assistance agencies will be the primary sources for advertising the program. Interested families can sign-up for the class online or by telephone. Curbside Cookhouse will work specifically with local social service offices to recruit eligible participants.

**D. Incentives**

At the end of the program, each family unit will take home all of the ingredients used to prepare the meal so that they can replicate what they learned at home. Curbside Cookhouse will portion the ingredients by the size of the family unit that participated in the class. Additionally, Curbside Cookhouse will enter each family unit into a monthly drawing for a monthly gift certificate to a grocery retailer. Curbside Cookhouse hopes to provide gift certificates for a value of at least $100 as the drawing prize.

For vendors (e.g., grocers, retailers) that provide food and supplies, Curbside Cookhouse will work with the local government to encourage the modification of laws in order to provide them with additional tax credits and deduction for their in-kind services and donations. Second, Curbside Cookhouse will also reward these businesses by promoting them during the class and on the program's website.

**E. Evaluation**

One parent from each family unit must complete a satisfaction survey before he or she receives the take-home ingredients. The survey tool will be electronic, and participants will input their responses using an electronic tablet device. The survey will ask questions about various aspects of the Curbside Cookhouse program, including: length of the class, convenience of the class, topics covered in class, skills before and after the

class, knowledge before and after the class, enjoyment of the class, effectiveness and ease of the demonstrations, lecture content and style, and taste of the food. Curbside Cookhouse will use the results of the evaluation to tailor the subsequent cycle of classes within the program.

Approximately one month after a participant completes the class, the Curbside Cookhouse staff will follow-up with the participant to ascertain feedback on the meal that the family prepared at home using the take-home ingredients. Those persons who complete the second survey will receive a $15 gift card to a local food retailer, preferably from a program vendor. Curbside Cookhouse will pay the cost of the gift card from its budget.

**F. Program Benefits**

Curbside Cookhouse is a beneficial intervention strategy because it addresses several needs of the target population. By directly tackling the transportation barrier, the negative taste perception associated with healthy foods, and parents' desire for an engaging family-oriented nutrition education program, Curbside Cookhouse confronts several of the factors that underlie childhood obesity in low-income populations.

First, the hallmark of the Curbside Cookhouse program is its mobility. By bringing the nutrition and cooking classes directly to the target communities, the program reduces the cost and travel barriers affecting low-income families. This allows for greater engagement of parents since they can easily participate in an activity with their child, which may otherwise be unfeasible. Low-income women in other nutrition education settings expressed that they do not have their own cars and rely on public transportation.[37] Addressing this barrier shows the program's commitment to having parents involved with their child's nutritional education.

Second, a review of the literature shows that the taste of the food is an important factor in how low-income consumers perceive food. For example, in a study conducted by Karen Glanz, which examined factors that contribute to why Americans eat certain foods, taste was the most important consideration.[38] Likewise, in focus groups conducted by researchers from Ohio State University, parents recommended that recipes used in future nutrition education and cooking classes be more flavorful.[39] The same theme appeared in a study conducted in Baltimore City. This study evaluated environmental impacts on the eating habits of low-income adolescents in Baltimore City, and found that they often buy "goodies" at the corner stores after school.[40] The adolescents reasoned that they did not find their lunch at school appealing, so they purchased "goodies" after school.[41] Therefore, it is important for Curbside Cookhouse to meet the program goals and core

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[37] Kristen Wiig & Chery Smith, *The Art of Grocery Shopping on a Food Stamp Budget*, 12 Pub. Health Nutrition 1726, 1728 (2008).

[38] Karen Glantz et al., *Why Americans Eat What They Do*, J. Am. Dietetic Ass'n. 1118, 1123 (1998).

[39] Rose, *supra* note 36, at 147.

[40] Christiansen, *supra* note 28, at 655.

[41] *Id.*

competencies without compromising the taste of the food. Collaborating with the local chefs to ensure the food tastes delicious while maintaining its healthfulness is vital to the program's success.

Third, the data shows that cooking is an effective way to engage parents and children simultaneously. In a recent study, parents explained that they exhibited more confidence in making healthy cooking decisions as early as the midway point of the study.[42] There was also an increase in the number of dinners the families prepared at home.[43] Some Baltimore adolescents expressed their attitudes on cooking in another study. Students reported that although they purchased and prepared their own food, the foods were usually comprised of unhealthy items. In the article, 79% of Baltimore students ages nine to fifteen reported that they cook, and 87% of them reported that they cook with family.[44]

Another benefit of the program is the opportunity for families to build stronger bonds. By participating in the program, families save money on at least one meal using the take-home ingredients. The reciprocal benefit is allowing the community-at-large to invest in children already experiencing or at risk of obesity. Collectively, these outcomes are significant in preventing childhood obesity and positively affecting the collateral health and economic effects within the community.

## V. SIGNIFICANCE OF TARGETED NUTRITION EDUCATION IN REDUCING CHILDHOOD OBESITY IN LOW-INCOME HOUSEHOLDS

In 1981, SNAP started its official nutrition education program following Congress's passage of the Food Stamp Act of 1977.[45] The purpose of the legislation was to encourage the purchase of nutritious foods.[46] State agencies responsible for administering SNAP could apply for matching funds from the US Department of Agriculture (USDA) to implement nutrition education programs. The USDA allowed states to hire subcontractors to implement the education initiatives.[47] These efforts alone failed to impede the growth of childhood obesity.[48] Although there is more emphasis on SNAP households eating healthier food, nutrient needs in the diets of children remain unmet.[49]

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[42] Rose, *supra* note 37, at 147.

[43] *Id*.

[44] Melissa Sattler et al., *Characteristics of Youth Food Preparation in Low-Income African American Homes*, 54 Ecology of Food and Nutrition 380, 381 (2015).

[45] Patti S. Landers, *The Food Stamp Program: History, Nutrition, Education, and Impact*, 107 J. Am. Dietetic Ass'n. 1945, 1948 (2007).

[46] *Id.*

[47] *Id.*

[48] *Id*. at 1950.

[49] Cindy W. Leung et al., *Assoc. of Food Stamp Participation with Dietary Quality and Obesity in Children*, 131 J. Pediatrics 463, 471 (2013).

Currently, state participation in the SNAP nutrition education program is optional. Therefore, some SNAP benefit recipients receive benefits without participating in any nutritional education and counseling. Under the optional component of SNAP, states may tailor the educational program as they see fit.[50] In states that offer nutrition education as a component of administering SNAP benefits, the education is not mandated. Inconsistency between SNAP education programs and the failure to mandate education likely contribute to the unmet nutritional needs of children. In states with SNAP educational programs, there are several additional reasons that nutrition education initiatives are not sufficient in helping the recipients meet their nutrient needs adequately.

Healthy food perceptions and food preparation may be the reasons that low-income families do not find improvements from existing nutrition education initiatives. Scientists have undertaken efforts to assess the food perception and preparation methods of low-income families. The National Health and Nutrition Examination Survey (NHANES) is a national representative, cross-sectional data set collected by the National Center for Health Statistics; the survey is one source used by scientists to analyze food intake.[51] In a secondary analysis of the NHANES conducted over a one-year period, researchers noted that interventions seeking to reduce obesity are shifting their focus. Interventions attempt to understand how households prepare foods at home, and what factors they consider in choosing to prepare home cooked meals.[52]

The results show that low-income families either consistently cook at home or never cook at home. This conclusion illustrates the two extreme positions that exist within the low-income population. The cooking pattern represents the idea that cooking at home is a forced option for low-income families.[53] Households with greater income and education displayed more variance in their cooking patterns because they chose to eat meals cooked outside of the home several nights a week.[54] The cooking patterns among low-income families show an association with the barriers these households face. Previous studies show that time is a significant barrier that prevents many low-income households from cooking at home. On the other hand, the value of time may be lower than the value of money in households that always cook at home. Thus, if money is limited, cooking at home is more feasible even though it requires more time than eating outside the home.[55] This highlights the importance of educating parents and children about quick preparation of healthy meals.

Likewise, several focus group studies conducted with low-income parents in various urban settings confirm the importance of teaching parents and caregivers to cook healthy, appetizing, and convenient (timesaving) meals. A review of data from three different studies displayed three consistent themes: parents wanted to know how

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[50] Joann F. Guthrie et al., *Evaluating Food Stamp Nutrition Education: Issue and Opportunities,* 38 J. Nutrition Educ. Behav. 6, 6 (2006).

[51] Virudachalam et al., *infra* note 52, at 1023.

[52] Senbagam Virudachalam et al., *Prevalence and Patterns of Cooking Dinner at Home in the USA*, 17 Pub. Health Nutrition 1022, 1029 (2013).

[53] *Id*. at 1029.

[54] *Id*. at 1028.

[55] *Id*.

to (1) make food healthier, (2) prepare meals faster, and (3) create dishes that taste good.[56] The following direct quotes from different participants in a study published by the Journal of Child Health Care support the theme that participants lacked general knowledge about nutrition:

1. I don't know how good we eat.
2. I love corn. Is corn a vegetable?
3. Like they say guidelines is three to whatever, how may servings of vegetables and fruits a day. Momma say that's too much.
4. If I had somebody tell me about which foods were good, you know, then I would be better.[57]

These comments underscore the need for more nutrition education among low-income parents and caregivers. According to a case study on engaging parents in childhood obesity programs, "A growing body of research and relevant theory emphasize the importance of utilizing parents as change agents in childhood obesity prevention."[58] Since children model the behavior of their parents, who control their food availability, parental nutrition education is just as critical as that of children.

Next, a qualitative study conducted with low-income African-American Baltimore City adolescents analyzed their eating behaviors and found that the home environment is central to understanding the adolescent diet.[59] One participant expressed that he typically eats whatever is available at home, regardless of whether the food is unhealthy or healthy. However, most adolescents reported eating healthy foods at home in comparison to what they purchased from carryout stores. Another participant noted the difference in the chicken that she eats at home versus what she eats from the carryout store in her neighborhood.[60] She explained, "My mother don't [sic] really use a lot of grease when she cook chicken. She only use a little bit and she put it in flour."[61] As with several other studies, the results from this research illustrate that the food options children receive from parents and caregivers strongly influence their eating habits. The adolescents in this study admitted that their parents' behaviors actually influenced their eating habits.[62] Although this study was limited by the size of the sampled population, and thus not representative of all African-American low-income adolescents in Baltimore City, the extrapolated data still contributes significantly to understanding the eating habits of children based on foods consumed at home.[63]

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[56] Slusser *supra* note 36, at 1837.

[57] *See* Davis, *supra* note 11, at 57.

[58] Janine M. Jurkowski et al., *Engaging Low-Income Parents in Childhood Obesity Prevention from Start to Practice*, 38 J. Community Health, 1 (citing M. Golan, *Parents as Agents of Change in Childhood Obesity from Research to Practice*, Int'l J. Pediatric Obesity 66, 66-76).

[59] Christiansen *supra* note 28, at 653.

[60] *Id.* at 656.

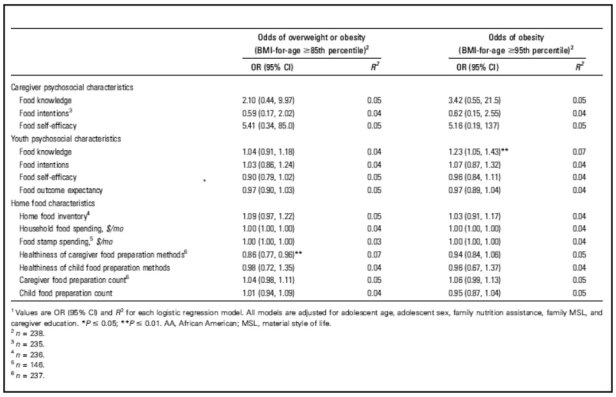
[61] *Id.*

[62] *Id.* at 657.

[63] *Id.* at 658.

In addition to needing nutrition education to instruct parents and children on theoretical principles (i.e., healthiest cuts of meat, techniques for reducing sodium in can vegetables, difference between whole and refined grains), there must be experimental settings to apply this knowledge. Parents have expressed interest in participating in interactive nutrition education classes where they will learn more than just the facts.[64] This is important because employing cooking methods of their parents is one of the ways that children model their behavior. A logistic regression analysis (in Figure 1) shows a positive association between the reduced risk of obesity and food prepared using healthier methods.

Data from the survey revealed that caregivers of overweight adolescents were most likely to deep fry meat and skip draining it prior to consumption. Alternatively, caregivers of normal-weight adolescents were less likely to fry meat and more likely to drain any fried meat.



| | Odds of overweight or obesity (BMI-for-age ≥85th percentile)[2] | | Odds of obesity (BMI-for-age ≥95th percentile)[2] | |
|---|---|---|---|---|
| | OR (95% CI) | $R^2$ | OR (95% CI) | $R^2$ |
| Caregiver psychosocial characteristics | | | | |
| Food knowledge | 2.10 (0.44, 9.97) | 0.05 | 3.42 (0.55, 21.5) | 0.05 |
| Food intentions[3] | 0.59 (0.17, 2.02) | 0.04 | 0.62 (0.15, 2.55) | 0.04 |
| Food self-efficacy | 5.41 (0.34, 85.0) | 0.05 | 5.16 (0.19, 137) | 0.05 |
| Youth psychosocial characteristics | | | | |
| Food knowledge | 1.04 (0.91, 1.18) | 0.04 | 1.23 (1.05, 1.43)** | 0.07 |
| Food intentions | 1.03 (0.86, 1.24) | 0.04 | 1.07 (0.87, 1.32) | 0.04 |
| Food self-efficacy | 0.90 (0.79, 1.02) | 0.05 | 0.96 (0.84, 1.11) | 0.04 |
| Food outcome expectancy | 0.97 (0.92, 1.03) | 0.05 | 0.97 (0.89, 1.04) | 0.04 |
| Home food characteristics | | | | |
| Home food inventory[4] | 1.09 (0.97, 1.22) | 0.05 | 1.03 (0.91, 1.17) | 0.04 |
| Household food spending, $/mo | 1.00 (1.00, 1.00) | 0.04 | 1.00 (1.00, 1.00) | 0.04 |
| Food stamp spending,[5] $/mo | 1.00 (1.00, 1.00) | 0.03 | 1.00 (1.00, 1.00) | 0.04 |
| Healthiness of caregiver food preparation method[6] | 0.86 (0.77, 0.96)** | 0.07 | 0.94 (0.84, 1.06) | 0.05 |
| Healthiness of child food preparation methods | 0.98 (0.72, 1.35) | 0.04 | 0.96 (0.67, 1.37) | 0.04 |
| Caregiver food preparation count[6] | 1.04 (0.98, 1.11) | 0.05 | 1.06 (0.99, 1.13) | 0.05 |
| Child food preparation count | 1.01 (0.94, 1.09) | 0.04 | 0.95 (0.87, 1.04) | 0.05 |

[1] Values are OR (95% CI) and $R^2$ for each logistic regression model. All models are adjusted for adolescent age, adolescent sex, family nutrition assistance, family MSL, and caregiver education. *$P \leq 0.05$; **$P \leq 0.01$. AA, African American; MSL, material style of life.
[2] $n = 238$.
[3] $n = 235$.
[4] $n = 236$.
[5] $n = 146$.
[6] $n = 237$.

**Figure 4:** *Logistic regression analyses examining factors associated with African-American adolescents' risk of being overweight or obese*[1] *(Rebecca F. Kramer et al.,* Healthier Home Food Preparation Methods and Youth and Caregiver Psychological Factors Are Associated with Lower BMI in African American Youth*, 142 J. Nutrition 948, (2012)).*

For this reason, Curbside Cookhouse will be an effective tool in educating SNAP recipients about what constitutes healthy food and how to prepare such food to preserve the food's healthfulness. Combining theoretical and experimental instructional techniques will provide both caregivers and children with the fundamental skills to make better purchasing and meal preparation decisions. Researchers believe that if caregivers become equipped with the knowledge and resources to prepare healthy meals, then most of them will purchase fresh meal ingredients and prepare food at home.[65]

64 Slusser, *supra* note 35, at 1838.

65 Virudachalam et al., *supra* note 52, at 1029.

Another key component of the Curbside Cookhouse program is the education of participants on meal preparation via experiential learning. The findings in the SNAP Education and Evaluation Study (Wave II) support the premise that parental engagement is a critical component of reinforcing nutrition messages passed to children.[66] In one trial of this study, children received the direct education in a classroom setting while their parents received indirect education via take-home materials.[67] The lessons included worksheets on topics presented in the classroom, as well as activities that the adults could complete with their children.[68] This program reached 1,244 third grade students and parents.[69] Parents whose children participated in nutrition classes reported that they would have better reinforced what their children learned if they had known more about the program's goals and content.[70]

Because of parental desire for increased engagement, the study recommended multiple methods to provide nutrition education and to implement educational programs in a manner that maximizes parental involvement.[71] This recommendation shows that a program such as Curbside Cookhouse would be effective in shifting children's eating habits to the healthier end of the diet spectrum because it uses parental engagement. Hopefully, this will translate into childhood adoption of diets lower in saturated fat, trans-fatty acids, free sugars, and salt.

In an article in Agriculture Business Week, the Under Secretary Kevin Concannon of the USDA stated, "The results of this study reiterate the critical role of nutrition education and promotion in improving the healthfulness of SNAP purchases… USDA and our partners continue to explore a wide-ranging set of strategies that support families as they purchase, prepare, and eat more healthy foods."[72] From this comment, it is evident that healthy meal preparation is an essential element in reducing childhood obesity. Curbside Cookhouse thus has the potential for success in mitigating obesity because it targets the preparation of food.

## VI. LEGAL MODES OF INTERVENTION

Coupling the education component of the Curbside Cookhouse program with legal interventions is essential to successful implementation. Throughout history, legal strategies have played a significant role in resolving health issues.[73] This project will use local and state laws to foster healthy eating habits among low-income households receiving SNAP benefits. The government can positively affect the reduction of childhood obesity in low-income neighborhoods by using its power to allow environmental changes

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[66] FNS, US Dept. of Agriculture [USDA], Supplemental Nutrition Assistance Program Education and Evaluation Study (Wave II), Nutrition Assistance Program Report, ES-6 (Dec. 2013).

[67] *Id.*

[68] *Id.*at 6.

[69] *Id*.

[70] *Id.* at ES-6.

[71] *Id.* at ES-14.

[72] Altarum Institute, Study: Strong Nutrition Education Can Lead to Healthier Food Choices Among Low-Income Families, Agriculture Business Week 1 (2013).

[73] Gostin, *supra* note 25, at 115.

that influence the determinants of childhood obesity. In doing so, the government makes it easier for parents and caregivers to make better nutritional decisions.

The Curbside Cookhouse program will employ indirect regulation strategies in its program intervention design. Using indirect regulation will aid in the feasibility and effectiveness of Curbside Cookhouse. Moreover, these legal interventions will provide the foundation for successful implementation of other innovative interventions aimed at reducing childhood obesity in Baltimore City. Curbside Cookhouse will use indirect regulation through resolutions, spending, taxation, contracting, and tort liability.

**A. Resolutions**

Baltimore City has passed a number of resolutions supporting obesity prevention and reduction initiatives. For example, Bill 06-023R, adopted by Baltimore City Council on October 30, 2006, calls for stakeholders (i.e., schools, parents, organizations, and community groups) to implement programs that encourage healthy eating behaviors.[74]

By passing a resolution to support Curbside Cookhouse, the mayor and city council will demonstrate their commitment to educating and training parents, caregivers, and children on preparing healthy food, and equip them with nutrition education to assist them in choosing healthy foods. These actions will have an impact on the diets of children, and be beneficial in reducing the prevalence of obesity in low-income neighborhoods.

Adoption of such a resolution will make it easier to gain the support of elected officials and vendors in order to implement and sustain Curbside Cookhouse. The resolution will provide mechanisms for easier access to use schools and recreation facilities. Further, passage of resolutions that promote Curbside Cookhouse will make it easier for the government to allow joint usage agreements between the City and private contractors who may be involved with Curbside Cookhouse.

**B. Spending**

State and local governments can use their spending power to finance health interventions, including nutrition education programs. The State of Maryland receives money from the Federal government to help fund its SNAP nutrition education program. The State can set aside an increased portion of this funding for Baltimore City to help fund the Curbside Cookhouse program. This is a viable option because the program specifically targets households that receive SNAP benefits. Curbside Cookhouse can use this money to cover the cost of food, supplies, and incentives. The program will work closely with city leaders to lobby the State for additional funding.

[74] Baltimore City Council, *Report of the Baltimore City Council Task Force on Childhood Obesity*, http://www.baltimorecitycouncil.com/sites/default/files/ChildhoodObesity_Report.pdf (last visited Jan. 7, 2018).

**C. Tax Incentives**

Likewise, the Maryland government can use its taxation power to encourage commercial entities to participate in and contribute to Curbside Cookhouse. Tax incentives in the form of tax credits would be an effective legal tool for incentivizing commercial entities to support Curbside Cookhouse. The Baltimore City Council is currently providing tax credits for other initiatives aimed at improving healthy eating in Baltimore. For instance, Baltimore City modified its law to provide a personal property tax credit for food retailers operating in food desserts. The credit is the amount of personal property tax assessed in a given year, less any other credit applied to the personal property that year, multiplied by 80%.[75] Similarly, Baltimore City gives tax credit on property used for urban agricultural purposes. The amount of the credit is equal to the amount of property tax assessed for a given year, minus any other credits applied to the property that year, multiplied by 90%.[76]

To encourage vendors to donate food, supplies, and time to the Curbside Cookhouse program, Baltimore City should enact provisions providing these vendors with a personal property tax credit. The amount of the credit would be proportional to the value of in-kind donations that a vendor provides to the program.

Similarly, in 2017 Maryland state legislators passed an income tax credit to qualified farms in certain counties that donated food.[77] The tax credit gives farms a maximum credit of $5,000 on income tax for tax years 2017 through 2019, providing that the credit is equal to 50% of the value of an eligible food donation or 75% of the value of donated certified organic produce.[78] The law creates conditions favorable for other enacted tax credits. In particular, a similar income tax credit provided to grocery retailers, like those who donate to Curbside Cookhouse, is another effective incentive for businesses to donate food and supplies.

Taxation can be a highly charged issue.[79] For this reason, seeking a tax credit for entities that contribute to the Curbside Cookhouse program may be difficult. Given the fact that political ideologies and personal agendas play a large role in the votes of elected officials, securing the votes needed to pass a tax incentive bill may be a challenge. However, since Baltimore City previously passed resolutions committing the city and its resources to reducing childhood obesity and promoting healthy eating, policy makers may view a Curbside Cookhouse credit more favorably.[80]

Curbside Cookhouse can overcome this taxation burden by educating the council and state legislators on the value of this program and providing them with supportive science. Because Curbside Cookhouse tailors itself to address transportation, taste, and skill barriers, the program is likely to be effective. This information would make the city council and state legislators more amenable to supporting Curbside Cookhouse.

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75 Balt. City Code Art. 28 Subtitle 10 § 10-30(D).

76 Balt. City Code Art. 28 Subtitle 10 § 10-19(D).

77 H.B. 0472, 2017 Leg. Sess., 437th Reg. Sess. (Md. 2017).

78 *Id.*

79 Gostin *supra* note 25, at 29.

80 C.B. 06-0230R (Resolution), City Council, (Balt. City 2006) (adopted).

**D. Contracts**

*1. Food Procurement*

Curbside Cookhouse will procure food through purchasing and donations, with the latter being the primary source. The program places a priority on donations to increase community engagement while incentivizing organizations to aid low-income residents in accessing a healthier environment. Furthermore, food donations help lower program costs. However, when the program does not obtain enough donated food, Curbside Cookhouse will work with Baltimore City Schools to procure outstanding food items.

Because the Baltimore City Public School System purchases a large volume of food, Curbside Cookhouse will partner with them to participate in collective purchasing from their food vendors.[81] By utilizing the school system's buying power, Curbside Cookhouse can negotiate lower prices for the food used to operate the program. This intervention will comply with the policies set forth in the Procurement Administrative Regulations. Curbside Cookhouse will enter into a Memorandum of Understanding (MOU) with the Baltimore City School Board Commission to set forth the terms of the agreement regarding the food purchasing. The MOU will include provisions regarding the payment, delivery, and storage of food acquired through collective purchasing. The staff will label foods for the program as "Curbside Cookhouse" and store it under the same regulated food and safety requirements as the school's food.

Negotiating this procurement agreement with the commission will be difficult since schools may not want to take on the responsibility of ensuring that the food for Curbside Cookhouse is processed, delivered, and stored properly. This will require additional work by the school's staff. In an effort to alleviate this additional burden, Curbside Cookhouse will include some provisions in the MOU to compensate the school. Additionally, the program may work with the city and state to provide a subsidy to the schools that assist with the Curbside Cookhouse program.

*2. Joint Use Agreements*

A joint use agreement is a legally binding contract between two entities that delineates the terms and conditions for shared public property or facilities. These agreements can be beneficial to the community by promoting a collaborative spirit.[82] However, sharing costs of maintenance, security, repairs, and improvements may be a challenge. Curbside Cookhouse will collaborate with the Baltimore City Public Schools and Baltimore City Department of Recreation & Parks to work out an agreement to host the Curbside Cookhouse program in their spaces.

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[81] *Community*, Procurement, Baltimore City Schools (May 13, 2016, 7:26 AM), http://www.baltimorecityschools.org/Page/24488.

[82] Gostin *supra* note 25, at 115.

Fear of liability is the greatest barrier preventing parties from agreeing to joint use. Curbside Cookhouse can mitigate this barrier by identifying risks and formulating a plan with all parties regarding the ways that each party may share the risks, costs, and perhaps immunity. Some potential risks include injuries, fire, and electrical problems, all of which the agreement will address.

**E. Tort Liability**

In addition to the federal protection offered to volunteers through the Volunteer Protection Act, Maryland enacted laws designed to give its volunteers additional protection through the Volunteer Service Act. Both laws protect people who (1) act in a manner that aligns with their duties as a volunteer, (2) possess valid certification or license if required by the nature of the volunteer duties, and (3) do not commit acts that are intentional, criminal, or careless.[83]

In order to increase volunteerism, Curbside Cookhouse will require program participants to sign liability waivers. Otherwise, food vendors and volunteers may be unwilling or apprehensive about storing, transporting, handling, and preparing food for the program. The waivers will inform the participants that Curbside Cookhouse (and its volunteers and vendors) safely handles all food and products in compliance with allfood safety laws. It will also inform participants that, by signing the waiver, they are waiving all claims of civil liability against Curbside Cookhouse, Baltimore City Public Schools, Baltimore City Department of Recreation & Parks, program volunteers, and food vendors for any illness resulting from the consumption of the food or injuries sustained on the premises when participating in the program. Essentially, the waiver puts the participants on notice that they are assuming some risk for participating. Moreover, the waiver will include a statement to explain that the participants disclosed all known allergies. Any participant may choose at any time during the class to withdraw for any reason.

However, the protective laws will not absolve liability for grossly negligent or willful and wanton misconduct in the donation, preparation or service of food. Both Federal and Maryland law prohibit such extreme misconduct.[84] All persons involved with Curbside Cookhouse must always act in a lawful, respectful, and good faith manner. For this reason, the program will follow the food and safety regulations set forth for food establishments and food service personnel, even though it does not qualify as a food establishment.

[83] 42 U.S.C. §14503(a)(1)-(3) (1997); Md. Code Ann. Cts. & Jud. Proc. §5-407(c) (West 2016).

[84] *Id*.

Furthermore, this liability waiver serves a two-fold purpose. First, it notifies participants that the program makes good faith efforts to provide them with quality and safe food during their participation. The waiver will address any ethical concerns that may arise concerning the quality of the food. The program anticipates one ethical issue to surface—the quality of food donated to low-income families. Many perceive that donated foods are of lower nutritional quality.[85] Oftentimes, organizations who receive donated items must accept any products that grocery retailers give.[86] The products are usually convenient foods that are processed and comprised of low nutritional value.[87] It would be unethical and discriminatory to engage in providing food of a substandard quality to participants, especially based on their socio-economic status. The program understands that skepticism based on these ethical concerns could be a barrier to recruiting family participation.

Curbside Cookhouse would mitigate this barrier by being transparent about food sources and the instructor backgrounds. The program's website will list all program partners, sponsors, and instructors. Before the start of the program, all volunteers (i.e., instructors, chefs) will introduce themselves to the participants and give background information relating to their nutrition and culinary expertise, among any other relevant information. Next, the instructor or chef will provide participants the source of all of the ingredients for use in the meal preparation. By being transparent about its practices, Curbside Cookhouse aims to overcome the ethical barrier of mistrust about food quality.

The potential for non-SNAP-receiving households to suggest discrimination is another likely but possible ethical issue. These feelings may arise because they cannot participate in the program even though their children are obese or remain at high risk of childhood obesity. Although this could lead to the filing of a tort suit, the case would likely not prevail. Curbside Cookhouse is not a mandatory program and seeks only to provide nutrition education to families receiving SNAP benefits.

Because children from SNAP households are more likely to consume fewer pure fruit juice beverages and vegetables,[88] Curbside Cookhouse targets only SNAP households. Most public health programs that issue benefits distinguish among classes of people and businesses. If there is sufficient evidence to justify the classification, there is no harm.[89] Therefore, the chances of a successful constitutional challenge to Curbside Cookhouse's recipient choice on the basis of an equal protection or discrimination argument is slim. On the other hand, by implementing this intervention, participation in SNAP may increase.

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[85] Erin Rubin, *Food Banks Take Up Health Equity*, Nonprofit Quarterly, https://nonprofitquarterly.org/2017/09/20/food-banks-take-health-equity/ (last visited Jan. 7, 2018).

[86] *Id.*

[87] *Id.*

[88] FNS, *supra* note 17.

[89] Gostin, *supra* note 25, at 137.

## VII. CONCLUSION

The impacts of childhood obesity are well documented, and should remain a priority among health experts and practitioners, schools, parents, government officials, and communities-at-large. Moreover, the social and environmental factors affecting low-income families heighten the need for obesity mitigating interventions, especially those seeking to improve the eating habits of children. By implementing the Curbside Cookhouse program, children and parents will become equipped with nutrition education training suiting their needs at home. Applying their newfound skills can positively influence their eating behaviors and reduce childhood obesity.

# Telemedicine: The Solution to the Opioid Crisis?

*Margaret Reiney**

## INTRODUCTION

On an average day in the United States, "more than 650,000 opioid prescriptions [are] dispensed"; 3,900 people start using prescription opioids recreationally; 580 people begin using heroin and "116 people…die from opioid-related drug overdoses."[1] The opioid addiction epidemic recently transitioned from urban cities to rural areas that already face many barriers to care.[2] While the government has created several grant programs to target rural areas, more efforts are needed to engage these rural areas in opioid prevention, treatment, and recovery.[3] This paper demonstrates the constraints and practicality of one method of care that the government should utilize: telemedicine.

Telemedicine allows doctors to evaluate, diagnose, and treat patients using digital communication.[4] Previously an underutilized treatment method, telemedicine is quickly becoming a mainstream healthcare program.[5] Telemedicine is a useful alternative to traditional methods of healthcare because it eliminates barriers to care through live interactions with patients that aren't in close proximity to quality medical care.[6] Telemedicine uses live two-way interaction to connect a patient in a rural area,

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* Margaret Reiney is a Juris Doctor Candidate at the University of Alabama School of Law 2018. The author would like to thank Professor William Brewbaker, William Alfred Rose Professor of Law, for the insightful comments and edits of this article. The author would also like to thank the University of Alabama School of Law for continued support of its students.

[1] U.S. Dep't of Health & Human Servs., *The Opioid Epidemic: By the Numbers* 1 (June 2016), http://www.hhs.gov/sites/default/files/Factsheet-opioids-061516.pdf [hereinafter *The Opioid Epidemic*].

[2] Christine Hancock et al., *Treating the Rural Opioid Epidemic*, Nat'l Rural Health Ass'n Pol'y Brief 1 (2017), https://www.Ruralhealthweb.org/NRHA/media/Emerge_NRHA/Advocacy/Policy%20documents/Treating-the-Rural-Opioid-Epidemic_Feb-2017_NRHA-Policy-Paper.pdf.

[3] *Id.* at 2.

[4] *Trendwatch: The Promise of Telehealth for Hospitals, Health Systems and Their Communities*, Am. Hosp. Ass'n 3 (Jan. 2015) [hereinafter *Trendwatch: The Promise of Telehealth for Hospitals*]; *Trends in Telehealth*, NTT Data 1, 5 (2014), http://americas.nttdata.com/Industries/Industries/Healthcare/~/media/Documents/White-Papers/Trends-in-Telehealth-White-Paper.pdf [hereinafter *Trends in Telehealth*].

[5] *See* Lisa Rannefeld, *The Doctor Will E-mail You Now: Physicians' Use of Telemedicine to Treat Patients Over the Internet*, 19 J.L. & Health 75, 77-79 (2005) (stating that the government has used telemedicine since the 1960s, such as by NASA to monitor the health of astronauts in space).

[6] *See Trendwatch: The Promise of Telehealth for Hospitals*, *supra* note 4, at 4, 7 (explaining that recent studies have found that 74% of US consumers would use telehealth services; 76% of patients prioritize access to care over the need for human interaction with a healthcare provider; 70% of patients are comfortable communicating with their health care providers through technology, in lieu

or area lacking in specialty physicians, with physicians in other areas.[7] Many doctors in rural areas are basic primary care physicians lacking knowledge about addiction therapy.[8] Telemedicine can train primary care physicians to handle emergency overdose situations, and help patients reach specialists in other areas to ensure their recovery from opioid addiction.[9]

This paper discusses the advantages that telemedicine provides toward helping those affected by opioid addiction, while also addressing the legal barriers that could prohibit telemedicine from becoming a widespread practice in combatting opioid addiction. Part I provides a detailed analysis of the opioid epidemic and its impact on individuals and communities. Part II discusses widespread rural opioid use, and rural vulnerabilities to medical access and telemedicine concerns. Part III examines telemedicine and the different modalities utilized by telemedicine. Part IV considers the legal barriers to telemedicine implementation, including physician licensure, reimbursement, HIPAA, and online prescribing. Part V discusses both short- and long-term treatment options for opioid addiction and overdose. Finally, part VI provides suggestions about how the government could facilitate widespread implementation, and proposes models that would best effectuate the use of telemedicine.

## I. THE OPIOID EPIDEMIC

While opioids are a single class of drugs, they encompass a variety of equally potent substances that are highly addictive, including heroin.[10] Heroin use stems from prescription opioid use; many users switch to heroin because of its low price and ease of attainment.[11] Heroin is dangerous because of the drug's addictiveness, as well

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of seeing them; 30% of patients already use computers or mobile devices for medical or diagnostic information); *see also* Fred Pennic, *Survey: 76% of Patients Would Choose Telehealth Over Human Contact* (Mar. 8, 2013), http://hitconsultant.net/2013/03/08/survey-patients-would-choose-telehealth-over-human-contact/ (stating that 76% of patients would choose telehealth over human contact and 21% of patients prefer an email consultation with a doctor).

[7] *See Trendwatch: The Promise of Telehealth for Hospitals*, *supra* note 4, at 3 (stating telemedicine traditionally uses these three modalities of care, each with their own distinct applications within the telehealth industry).

[8] Christine Hancock et al., *supra* note 2, at 2-3.

[9] U.S. Dep't of Health & Human Servs., Agency for Healthcare Res. & Quality, *Increasing Access to Medication-Assisted Treatment of Opioid Abuse in Rural Primary Care Practices* (2016), http://www.ahrq.gov/professionals/systems/primary-care/increasing-access-to-opioid-abuse-treatment.html (last visited Nov. 6, 2017) [hereinafter *Increasing Access*].

[10] Nat'l Inst. on Drug Abuse, U.S. Dep't of Health & Human Servs., *Opioids*, https://www.drugabuse.gov/drugs-abuse/opioids (last visited Nov 6, 2017).

[11] Nora D. Volkow, Nat'l Inst. on Drug Abuse, Nat'l Inst. of Health., *America's Addiction to Opioids: Heroin and Prescription Drug Abuse* (May 14, 2014), https://www.drugabuse.gov/about-nida/legislative-activities/testimony-to-congress/2016/americas-addiction-to-opioids-heroin-prescription-drug-abuse (last visited Nov.6, 2017) (estimating that more than 100 million people suffer from chronic pain in this country—where opioid therapy is a common treatment—and the bulk of Americans who need relief from persistent moderate-to-severe non-cancer pain have back pain conditions); *see also* Dr. Sanjay Gupta, *Doctors Must Lead Us Out of Our Opioid Abuse Epidemic*, CNN (June 2, 2016), http://www.cnn.com/2016/05/11/health/sanjay-gupta-prescription-

as the uncontrolled varieties of purity injected by abusers.[12] Often combined with other drugs, heroin use exacerbates the likelihood of a lethal injection.[13] Heroin has historically been viewed as an urban problem that affects largely metropolitan areas, but recently heroin use has spread to small towns and rural areas due to its increasing availability.[14]

Heroin has always been viewed as a dangerous drug, but other prescription drugs also pose significant risks of overdose. Prescription opioids are a class of drugs that include powerful pain relievers such as oxycodone, hydrocodone, codeine, morphine, and others.[15] These drugs interact with opioid receptors in the brain, and are usually safe for short-term use when monitored by a doctor.[16] However, they produce euphoria and pain relief, which lead to recreational abuse.[17] Regular use produces dependence and, sometimes, fatal overdoses.[18] Although many people take prescription opioids responsibly, the CDC asserts that "some of the increased demand for prescription painkillers is from people who use them nonmedically."[19]

Perhaps the newest, and deadliest, member of the opioid addiction family is fentanyl. Fentanyl is a synthetic opioid pain reliever that is used to treat severe pain, and most commonly prescribed to cancer patients.[20] Fentanyl is "50 to 100 times [more potent] than morphine" and "30 to 50 times more potent than heroin."[21] Now produced as a street drug, fentanyl is sold in powder form and frequently mixed with other substances.[22] "Like heroin, fentanyl works by binding to the body's opioid receptors," and stimulating the brain's reward system.[23] While this can create a sense of euphoria and relaxation,

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addiction-doctors-must-lead/ (demonstrating that 80% of heroin users start off using prescription pain pills before switching to heroin).

12 *Id.*

13 *Id.*

14 *Id.*

15 Volkow, *supra* note 11.

16 *Id.*

17 *Id.*

18 *See id.* (finding that Vicodin and Oxycontin are the two most frequently abused drugs; one in twelve high school seniors reported recreational use of Vicodin in 2010 and one in twenty reported using Oxycontin).

19 *See* Nat'l Ctr. for Injury Prevention & Control, Ctrs. for Disease Control and Prevention, *Opioid Painkiller Prescribing: Where You Live Makes a Difference*, (2014), http://www.cdc.gov/vitalsigns/opioid-prescribing/ (showing that providers wrote a quarter of a billion opioid prescriptions in 2013, which is enough prescriptions for every American to have their own bottle of pills).

20 Nat'l Inst. on Drug Abuse, Nat'l Inst. of Health, *Fentanyl*, (2016) https://www.drugabuse.gov/publications/drugfacts/fentanyl (last visited Nov. 6, 2017).

21 *Fentanyl vs. Morphine*, The Recovery Village: Personalized Addiction Treatment, https://www.therecoveryvillage.com/fentanyl-addiction/related-topics/fentanyl-vs-morphine/#gref (last visited Dec. 12, 2017).

22 *Id.*

23 *Id.*

these opioid receptors also control breathing rate.[24] High doses of fentanyl can cause breathing to stop completely.[25] This is especially common when fentanyl is mixed with other substances, such as heroin.[26] Many fentanyl overdoses occur when a person purchases what they believe to be pure heroin, but in fact, the heroin is laced with fentanyl.[27]

The impact of opioid abuse is debilitating to victims, their families, and the communities it affects.[28] The "health and social costs related to prescription opioid abuse each year" total around $55 billion; $20 billion is spent annually on emergency visits and "inpatient care for opioid [overdoses]".[29] Workplace costs amount to an average of $25.6 billion, health care costs account for $25 billion, and criminal justice costs total around $5.1 billion.[30] Workplace costs encompass lost earnings due to employee's premature death and reduced compensation/lost employment for those suffering from addiction.[31] Health care costs consist of excess medical and prescription costs.[32] Criminal justice costs arise from correctional expenses and police cost. Overall, these totals constitute a significant economic burden to society.[33]

## II. RURAL OPIOID ABUSE

Rural areas are especially prone to and impacted by opioid addiction and overdose. Researchers attempting to understand the differences between rural and urban recreational opioid use identified four factors to explain the pattern.[34] The first factor is increased availability in rural areas.[35] There is an increased rate of per capita sales of opioids in rural areas, especially those areas rich with manual labor industries.[36] Because of the physicality of labor and mining occupations, locations with a high concentration of these occupations frequently report higher rates of opioid prescriptions.[37] The

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[24] *Id.*

[25] *Id.*

[26] *Fentanyl*, *supra* note 20.

[27] *Id.*

[28] *Ex-DEA Agent: Opioid Crisis Fueled by Drug Industry and Congress*, CBS News (Oct. 17, 2017, 10:12 AM), https://www.cbsnews.com/news/ex-dea-agent-opioid-crisis-fueled-by-drug-industry-and-congress/.

[29] *The Opioid Epidemic*, *supra* note 1, at 1.

[30] *See* Howard G. Birnbaum et al., *Societal Costs of Prescription Opioid Abuse, Dependence, and Misuse in the United States* 12 Pain Med. 657, 657 (2011) (estimating total US societal costs of prescription opioid abuse).

[31] *Id.* at 657.

[32] *Id.* at 660-665

[33] *Id.*

[34] Katherine M. Keyes et al., *Understanding the Rural–Urban Differences in Nonmedical Prescription Opioid Use and Abuse in the United States*, 104 Am. J. Pub. Health 52, 55 (Feb. 2014), https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3935688/.

[35] *Id.* at 54-55.

[36] *Id.* at 54.

[37] *Id.* 54-55.

second factor is out-migration of young people.[38] These rural areas do not have strong economic infrastructure; thus, many high functioning youths migrate elsewhere, leaving young adults whom are more likely to have drug dependencies in a less-than-thriving economy.[39] The third factor is social network.[40] Rural areas tend to have stronger familial networks, which can lead to faster dispersing of prescription drugs to non-medical users; these close knit ties could lead to increased distribution of prescription drugs to potential non-medical users.[41] Given that prescription drugs are commonly received from a family member, close family ties could exacerbate opioid dispersion.[42] The fourth factor is structural stress of modern rural living.[43] The effects of economic downturns, such as poverty and unemployment, correlate with opioid drug use because this population is more likely to have jobs that require manual labor.[44] Laborers within rural areas are less likely to proactively adapt to the market, thus increasing the number of people seeking drugs when the economy shifts or plunges.[45]

Telemedicine is useful in rural areas not only because of the higher likelihood of opioid abuse, but also because of existing barriers facing doctors and patients. Some doctors in rural areas are not trained to handle complex addiction and overdose issues.[46] Similarly, patients within rural areas encounter barriers to care due to the distance from medical care, limited number of overall physicians, and lack of doctors specifically trained to treat opioid addiction.[47] Telemedicine mitigates these barriers because it serves rural patients at a lower cost, and cuts down on time traveled to receive specialized care. Telemedicine has been referred to as a medical solution that allows doctors to "have one foot in the city [while] being able to live and practice out in a rural area."[48] Telemedicine would allow patients to receive the necessary treatment for addiction while remaining in their communities.

While the benefits of successful telemedicine implementation are countless, rural communities suffer from a lack of resources that could potentially derail the success of this initiative.[49] One barrier to successful implementation includes the lack of necessary

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[38] *Id.*

[39] Keyes, *supra* note 34.

[40] *Id.*

[41] *Id.*

[42] *Id.*

[43] *Id.* at 55.

[44] Keyes, *supra* note 34.

[45] *Id.*

[46] Christine Hancock et al., *supra* note 2, at 2.

[47] J.T. Ripton & C. Stefan Winkler, *How Telemedicine is Transforming Treatment in Rural Communities*, Becker's (Apr. 8, 2016), http://www.beckershospitalreview.com/healthcare-information-technology/how-telemedicine-is-transforming-treatment-in-rural-communities.html (last visited Nov. 6, 2017).

[48] *Id.*

[49] *See id.* (Stating rural hospitals are also struggling; forty-eight rural hospitals closed since 2010, and another 283 are in danger of closing, according to the National Rural Health Association. The issues affecting rural health areas are reduced populations, higher percentage of uninsured patients,

broadband infrastructure for telemedicine.[50] Rural communities likely have less sophisticated technology that could derail the effectiveness of telemedicine services.[51] Real-time interactions require strong, high-speed connections such that telehealth could significantly benefit from robust broadband connectivity.[52] Broadband networks are more expensive to customers in rural areas because customers are forced to bear additional costs resulting from implementation in rugged terrain and undeveloped electronic systems.[53] While remote correspondence may be an alternative, if the connection is spotty due to a weak broadband connection, then the services lose their value.[54] Despite potential barriers, rural areas could benefit from telemedicine due to the unique factors contributing to increased opioid abuse.

## III. THE INS-AND-OUTS OF TELEMEDICINE

### i. Telemedicine Modalities

The World Health Organization defines telemedicine as:

> the delivery of health care services, where distance is a critical factor, by all health care professionals using information and communications technologies for the exchange of valid information for diagnosis, treatment and prevention of disease and injuries, research and evaluation, and for the continuing education of health care providers, all in the interests of advancing the health of individuals and their communities.[55]

Some distinguish telehealth and telemedicine by defining telemedicine as applying only to remote physician care, and telehealth as applying to all remote health care services.[56] For the purpose of this article, the terms are synonymous and used interchangeably.[57]

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underused equipment, absence of specialty services, and shortage of doctors willing to work in rural areas).

[50] *See id.*; *see generally* David Pratt, *Telehealth and Telemedicine in 2015*, 25 Alb. L.J. Sci. & Tech. 495, 511-13 (2015), http://www.albanylawjournal.org/Documents/Articles/25.3.495-Pratt.pdf (illustrating a significant gap in a key policy area for telehealth, broadband connectivity).

[51] *Id.* at 513.

[52] Dale C. Alverson, *Broadband Connectivity*, *in* The Role of Telehealth in an Evolving Health Care Environment 21-22 (Tracy A. Lustig rapporteur, Nat'l Acad. Press 2017), http://www.ic4n.org/wp-content/uploads/2014/06/IoM-Telehealth-2012-Workshop-Summary.pdf; Rick Schadelbauer, Smart Rural Community, *Anticipating Economic Returns of Rural Telehealth* (March 2017), http://www.frs.org/images/AnticipatingEconomicReturnsOfRuralTelehealth.pdf.

[53] Schadelbauer, *supra* note 52, at 6.

[54] *Id.*

[55] World Health Org., *A Health Telematics Policy in Support of WHO's Health-For-All Strategy for Global Health Development,* 10–16 (1998), http://apps.who.int/iris/bitstream/10665/63857/1/WHO_DGO_98.1.pdf.

[56] Kara Kaufman, *Is There a Difference Between Telehealth, Telemedicine and Telecare?* (Jan. 3, 2017), https://www.e-idsolutions.com/difference-telehealth-telemedicine-telecare/ (last visited Nov 6, 2017).

[57] *What is Telehealth?* Ctr. for Connected Health Pol'y, http://www.cchpca.org/what-is-telehealth (last visited Nov. 6, 2017).

There are three service modalities offered by telemedicine. One modality is real-time, live, two-way interaction between a patient and a health care provider.[58] This is used to consult, diagnose, and treat patients through audiovisual technology;[59] think of this program as "skyping" your doctor instead of an in-person visit. Another is store-and-forward.[60] Store-and-forward involves the transfer of a patient's health history through a secured electronic communication system to a health care provider;[61] this mode of communication transmits information from one physician to another, likely a specialist, for aid in diagnosis or treatment.[62] The third modality is remote patient monitoring, which involves the collection of a patient's personal health and medical data through electronic communication.[63] The data is collected and then transmitted to a health care provider in a different location, allowing the provider to continue tracking the patient's progress once they have been moved home or to another facility.[64]

Recent emphasis on technology and the rise of technological advancements have furthered the use and innovation of telemedicine. Although telemedicine has been a part of the healthcare conversation for years, the recent dependence on computers and smartphones has expanded potential patient access.[65] Telemedicine holds promise of revitalizing the healthcare industry, but many issues such as licensing, reimbursement, variation of state and federal laws, and concerns about quality act as potential barriers to the mainstream application of telemedicine services.[66]

## IV. BARRIERS TO TELEMEDICINE IMPLEMENTATION

While telemedicine is a very useful healthcare alternative, there are several barriers to care outlined in the section below. These barriers include Medicaid/Medicare reimbursement, online prescribing, physician licensure and telehealth security.

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[58] *Id.* (explaining that this modality can be used for simple doctor's visits, but is also available for video conferencing to connect emergency providers with medical specialists in other locations).

[59] *Id.*

[60] *See id*. (showing, for example, the patient or referring health professional sends an e-mail with a description of a medical case to an expert who later sends back an opinion regarding diagnosis and optimal case management strategies; also showing that store-and-forward allows doctors to send x-rays, MRIs, photos and patient data to other medical professionals for aid in diagnosis*).*

[61] *Id.*

[62] *Id.*

[63] *What is Telehealth?*, *supra* note 57 (information that can be monitored includes vital signs, weight, heart rate, blood pressure, etc).

[64] *Id.*

[65] *See generally* Mohammad Bajwa, *Emerging 21st Century Medical Technologies*, 30 Pak. J. Med. Sci. 649, 649-50 (2014), https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4048524/ (illustrating the computing activities capable by smart phones).

[66] *Id.* at 653.

**i. Medicaid/Medicare Reimbursement**

Telemedicine methods hold great promise, but the $75 billion question is: How will we pay for it?[67] This question is exacerbated by the ambiguity in reimbursement protocol. Medicaid reimbursement is largely dictated by state determinations of what services will be covered.[68] Due to the flexibility afforded to states, almost every state Medicaid program has some form of coverage for telehealth services, but this coverage is largely piecemealed together.[69] Only a few modalities are generally covered by Medicaid reimbursement; live video interactions are most frequently covered, while store–and-forward and remote patient monitoring are seldom covered.[70] Some states go even further to require that telemedicine reimbursement is only available in rural areas.[71] Telemedicine parity laws could streamline services covered by reimbursement and make the process more uniform and concise.

While Medicaid reimbursement is piecemealed together, Medicare reimbursement is further lacking in uniformity. Medicare reimbursement was limited to rural areas through the Benefits Improvement and Protection Act (BIPA).[72] BIPA provided Medicare coverage to beneficiaries of telehealth medicine, receiving services from rural area facilities, defined as counties not located in Metropolitan Statistical Areas.[73] The BIPA definition severely inhibited the use of telemedicine in non-rural areas, given that these areas may suffer from physician shortages and lack of access to specialty care.[74] The Centers for Medicare & Medicaid Services (CMS) amended, "the definition of 'rural' to include facilities in a rural census tract."[75] Similarly, "BIPA listed five types of provider settings that may serve as originating sites."[76] The sites referenced in the statutes include hospitals, physician offices, critical access hospitals, rural health clinics, and federally qualified health centers.[77]

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[67] *The Opioid Epidemic*, *supra* note 1, at 1. The estimated annual impact of opioid addiction is around $75 billion.

[68] Latoya Thomas & Gary Capistrant, Am. Telemedicine Ass'n, 50 State Telemedicine Gaps Analysis: Coverage & Reimbursement 1, 4 (Jan. 2016), https://higherlogicdownload.s3.amazonaws.com/AMERICANTELEMED/3c09839a-fffd-46f7-916c-692c11d78933/UploadedImages/Policy/State%20Policy%20Resource%20Center/Coverage%20-%202016_50-state-telehealth-gaps-analysis—coverage-and-reimbursement.pdf.

[69] *Id.* at 3.

[70] *Id.* at 14-15.

[71] *Id.* at 8.

[72] Medicare Reimbursement, Center for Telehealth and E-Health Law (2014), http://ctel.org/expertise/reimbursement/medicare-reimbursement/.

[73] *Id.*

[74] *Trendwatch, Realizing the Promise of Telehealth: Understanding the Legal and Regulatory Challenges*, Am. Hosp. Ass'n 2 (May 2015), http://www.aha.org/research/reports/tw/15may-tw-telehealth.pdf [hereinafter *Realizing the Promise of Telehealth*].

[75] *Id.*; *see also* 42 C.F.R. § 410.78(b)(4) (2016) (defining rural census tract of a metropolitan statistical area, and applying the most recent Goldsmith Modification); *see also* Benefits Improvement and Protection Act of 2000 (BIPA).

[76] Medicare, Medicaid & SCHIP Benefits Improvement & Protection Act of 2000 § 511.

[77] *Id.*

Congress also expanded the definition of originating sites in the 2008 Medicare Improvements for Patients and Providers Act[78] to account for additional telehealth facilities.[79] These include community mental health centers, skilled nursing facilities, and hospital- and community-based dialysis centers.[80] Access to telehealth services is further limited because CMS narrowly defines coverage. BIPA defines acceptable telehealth services as professional consultations, office visits, office psychiatry services, and any additional services specified by the Secretary.[81] However, CMS approves Medicare telehealth service codes on a case-by-case basis, which has proven to be stringent.[82] In 2015, only 75 of more than 10,000 physician services receiving Medicare coverage qualified for telehealth reimbursement.[83] Telemedicine services covered by Medicare are further limited because only specific technology modalities are approved.[84] BIPA provides that Medicare may only cover, "telehealth services provided by a real-time video-and-voice telecommunications system."[85] Despite the growing evidence of benefits from store-and-forward and remote patient monitoring services,[86] Medicare does not cover those services.[87]

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[78] *See* Medicare Improvements for Patients & Providers Act of 2008, Pub. L. No. 110-275, 122 Stat. 2494 (July 15, 2008) (amending Section 1834(m)(4)(C)(ii) of the Social Security Act, 42 U.S.C. § 1395m(m)(4)(C)(ii), by adding hospital-based or critical access hospital-based renal dialysis centers, skilled nursing facilities, and community mental health centers).

[79] *Realizing the Promise of Telehealth*, *supra* note 74.

[80] *Id.*

[81] *Telehealth Services and the Medicare Program*, MedPac (2016), http://www.medpac.gov/docs/default-source/reports/chapter-8-telehealth-services-and-the-medicare-program-june-2016-report-.pdf?sfvrsn=0. *See* 42 U.S.C. § 1395m(m)(4)(F)(i) (2017) (defining telehealth service as "professional consultations, office visits, and office psychiatry services, and any additional service specified by the Secretary").

[82] *Realizing the Promise of Telehealth*, *supra* note 74 (describing the limited telehealth services covered by Medicare by code). *See* 42 U.S.C. § 1395m (defining HCPCS code as "a code under the Health Care Common Procedure Coding System (HCPCS); *see also* CY 2015 List of Services Payable under the Medicare Physician Fee Schedule when Furnished via Telehealth, http://www.cms.gov/Medicare/Medicare-General-Information/ Telehealth/Telehealth-Codes.html.

[83] *Realizing the Promise of Telehealth*, *supra* note 74. CMS approves new Medicare telehealth services on a case-by-case basis by individual Current Procedural Terminology (CPT) or the Healthcare Common Procedure Coding System (HCPCS) code.

[84] *See Advancing Telehealth Through Connectivity: Hearing Before the Subcomm. on Communications, Technology, Innovation, & the Internet of the S. Comm. on Commerce, Science, & Transportation*, 114th Cong. 99-102 (2015) (introducing the statement of the American Hospital Association as explaining that three traditional modalities of telehealth include real-time, store-and-forward, and remote patient monitoring).

[85] *Realizing the Promise of Telehealth*, *supra* note 74. *See id.* (defining the telehealth modality "real-time" as a live, two-way interaction between a patient and health care provider using audiovisual technology, "store-and-forward" as involving the transmission of a patient's recorded health history through a secure system to a health care provider, and "remote patient monitoring" as involving the collection of a patient's personal and medical health data that allows providers to continue tracking the patient's data once the patient has been released).

[86] *Id.* at 99 (explaining that store-and-forward technologies are beneficial for patients requiring specialty care when providers are not available locally because a specialist can remotely access the patient's data).

[87] *Realizing the Promise of Telehealth*, *supra* note 74.

There is potential to simplify Medicaid/Medicare licensure of telehealth services through implementation of the following initiatives. States could provide more comprehensive Medicare coverage and payment policies for telehealth services in order to increase patient access.[88] Similarly, states could eliminate geographic requirements, expand the types of covered services, simplify the process to expand covered services by type rather than service code, and include store-and-forward and remote patient monitoring systems for Medicaid reimbursement.[89] Telehealth is a rapidly developing field and simplifying licensure would contribute to an efficient increase in patient access to telehealth services. Similarly, Medicare/Medicaid reimbursement issues are important to overcome given the large number of people dependent on covererage and Congressional ability to change procedures.

**ii. Online Prescribing**

Even when a physician receives reimbursement for telemedicine services, prescribing medication across state lines presents another obstacle for telehealth providers. Some state laws require a physician to establish a patient-physician relationship before prescribing medication.[90] The goal of a state law requiring a patient-physician relationship prior to the prescription of medication is to ensure that online prescribing does not succumb to fraud and abuse by providers.[91] To achieve this goal, most states require that, prior to prescribing medication, a physician must establish a physician-patient relationship.[92] States requiring a physician-patient relationship assert that a physical examination must be performed prior to prescribing; what specifically constitutes a physical examination is not clarified by most state statutes.[93] Twenty states allow a physical examination to be performed via electronic or telehealth communication.[94]

Each state's approach tends to vary, interpreting physical examination requirements on a narrow to broad spectrum. However, many states prohibit prescribing based solely on the information about a patient that is gathered in an initial online questionnaire.[95] Other states attempt to regulate online prescribing through pharmacy laws providing pharmacists with the authority to decline prescriptions that don't have an established

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[88] *Id.* at 14.

[89] *Id.*

[90] *Id.* at 8.

[91] *Id.*

[92] *Id.*; *See also Model State Legislation: Telemedicine Act,* Am. Med. Ass'n 1 (2017), https://www.ama-assn.org/sites/default/files/media-browser/specialty%20group/arc/AMA-Issue-Brief-Model-State-Telemedicine-Bills.pdf (requiring a physician-patient relationship to safeguard the use of telemedicine).

[93] *Model State Legislation*, *supra* note 92, at 1-2.

[94] *Realizing the Promise of Telehealth*, *supra* note 74, at 8. (explaining that Maryland allows the physical examination to use real-time auditory communications to create the exchange of information between the patient and physician and to facilitate a physician-patient relationship for reimbursement purposes); *see also* MD. Code Regs. § 10.32.05.05 (explaining the same).

[95] *Internet Prescribing Language*, Fed'n of State Med. Bds. (2012). States prohibiting prescribing based on online questionnaire include Arizona, Arkansas, California, Florida, Hawaii, Idaho, Indiana, Kentucky, Louisiana, Maine, Maryland, Michigan, New Hampshire, New York, Oregon, Texas, Utah, Washington.

physician-patient relationship.[96] The American Medical Association (AMA) sought to create legislation that provides guidelines on how to practically establish a patient-physician relationship through telemedicine.[97] The model legislation requires a "face-to-face interaction to establish a patient-physician relationship, if the same would be required to provide treatment to a new patient in-person."[98] According to the AMA, twenty-one states are considering adoption of this legislation in their state legislatures.[99]

**iii. Licensure**

Another barrier to widespread telemedicine use is ambiguity in licensure laws. Each state has its own physician licensure requirements, creating understandable anxiety for a physician looking to provide telemedicine services across state lines.[100] The various approaches to licensure law create a grey area regarding applicability to patients in different states. There are three different solutions to this barrier. The first is reciprocity, whereby states enter into agreements that allow for recognition of licenses issued by other states.[101] Recognition of out-of-state licenses is akin to reciprocity of drivers' licenses.[102] If a doctor is licensed in one state, another state is able to reciprocally accept the licensure from the originating state and allow the physician to practice without further inquiry into the physician's credentials.[103] Another option is licensure by endorsement.[104] Although not accepted in many states, licensure by endorsement allows an out-of-state physician to obtain an in-state license based on the physician's home state requirements[105] Typical requirements for licensure by endorsement include good standing and possession of a full and unlimited license to practice in the physician's home

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[96] *Realizing the Promise of Telehealth*, *supra* note 74*,* at 8-9.

[97] *Id.* at 9.

[98] *Id. See Model State Legislation*, *supra* note 92, at 1-2 (explaining that the legislation: (1) outlines steps to establish physician-patient relationship, (2) confirms treatment and recommendations are held to the same standard of care as in-person consultations, (3) requires technological face-to-face examination(s) prior to diagnosis and treatment, and (4) clarifies that health professionals must follow state and federal laws for informed consent, privacy, fraud and confidentiality).

[99] *Realizing the Promise of Telehealth, supra* note 74, at 9.

[100] *See* Daniel J. Gilman, *Physician Licensure and Telemedicine*, 14 J. HEALTH CARE L. & POL'Y 87, 89-90 (2011) (stating that the primary functions of medical boards are to protect patients from incompetent physicians and protect physicians from out-of-state competition).

[101] Telemedicine, Am. Acad. of Family Physicians, https://www.aafp.org/dam/AAFP/documents/advocacy/health_it/telehealth/BKG-Telemedicine.pdf. See also Thomas & Capistrant, supra note 68, at 4 (explaining that D.C., Maryland, New York and Virginia are the only states that allow licensure reciprocity from bordering states, and ten other states extend a conditional license to an out-of-state physician).

[102] *Id*. *See also* Heather A. Daley*, Telemedicine: The Invisible Legal Barriers to the Health Care of the Future*, 9 Annals Health L. 73, 92 (2000).

[103] *Id.*

[104] Licensure By Endorsement, Fed'n of State Med. Bds. (1995), https://www.fsmb.org/Media/Default/PDF/FSMB/Advocacy/1995_grpol_Licensure_by_Endorsement.pdf (defining endorsement as a process whereby a state issues an unrestricted license to practice medicine to an individual who holds a valid and unrestricted license in another jurisdiction).

[105] *Id.*

state.[106] Endorsement allows physicians to obtain licenses in states where they wish to provide services, yet still requires the out-of-state physician to apply for licensure—a sometimes burdensome process.[107]

The third and most promising licensure application is an interstate compact. The Federation of State Medical Boards (FSMB) oversees state medical licensure to ensure an effective licensing system.[108] FSMB "[d]elegates unanimously passed a resolution to develop an Interstate Compact to expedite physician licensure and facilitate multistate practice."[109] For a state to join the compact, their state legislature must enact the compact into state law.[110] The compact allows physicians to obtain a license to practice in the states that adopt the compact, while the Interstate Commission provides oversight and administration over the compact.[111] A minimum of seven states must enact the Interstate Medical Licensure Compact for its operation to begin;[112] as of January 2016, the Compact was implemented in twelve states, including: Alabama, Idaho, Illinois, Iowa, Minnesota, Montana, Nevada, South Dakota, Utah, West Virginia, Wisconsin and Wyoming.[113] While the Interstate Compact is fully operational in those states, other states should continue to enact the necessary legislation to reap the benefits of the compact.

Congress could simplify physician licensure process by synchronizing state laws to increase physician licensure, easing licensure approval for nurse practitioners and physician assistants, increasing the flexibility in what qualifies as a physical examination for the purpose of online prescribing, and clarifying medical malpractice rules. The interstate compact offers the easiest and most efficient physician licensure program; by simplifying the process, more state involvement would increase physician licensure and reciprocity, thereby supporting the compact's growth and success.

**iv. Telehealth Security**

Telehealth is extremely useful, but also has potential to create a large amount of electronic health records.[114] Thus, physicians must be especially agile in keeping the information private and secure.[115] There are specific issues under both the Health Insurance

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106 *Id.*

107 *Id.*

108 *Realizing the Promise of Telehealth, supra* note 74, at 6. (stating that the Federation of State Medical Boards is an organization representing seventy medical and osteopathic boards of the US and territories; in 2012, it received a three-year grant to study physician licensure and portability).

109 *Id.*

110 *Id.*; *Expanding Access, Protecting Patients: The Interstate Medical Licensure Compact*, Interstate Med. Licensure Compact (2016), http://www.licenseportability.org/wp-content/uploads/2016/01/InterstateCompactJan19_2016.pdf.

111 *Realizing the Promise of Telehealth, supra* note 74, at 6.

112 *Id.*

113 *Expanding Access*, *supra* note 109.

114 *See* Barbara Fox, *Mobile Medical Apps: Where Health & Internet Privacy Meet*, 14 Hous. J. Health L. & Pol'y 193, 214-15 (2014) (defining protected recorded information, and discussing how a patient's personal information can be protected as technology continues to evolve).

115 *Realizing the Promise of Telehealth*, *supra* note 74, at 10.

Portability and Accountability Act (HIPAA) and the Health Information Technology for Economic and Clinical Health Act (HITECH) concerning telehealth security.[116] Because telehealth encompasses both visual and audio electronic communication, there are significant risks concerning the unauthorized disclosure of a patient's information to someone other than the patient/physician.[117] While there are existing protocols and procedures in hospitals and physicians' offices to protect against HIPAA violations, they should be modified to ensure effective identification of patients involved in telehealth.[118] Hospitals participating in information sharing with other hospitals should create shared responsibility protocols for securing and managing health information.[119] Such protocols should address data breach notification and reporting, and the verification of secured information.[120]

Given that telehealth programs rely on multiple information systems to correspond and transfer information, it may be difficult to know when a breach of data occurs.[121] Similarly, electronic transmissions are vulnerable to interference, signal errors, or outages that may result in varied communications and potential loss of private information.[122] When recognizing the use of programs for telehealth interactions, hospitals should consider a few issues: "whether the data should be maintained as part of the medical record (such as whether video recordings of patient should be saved or if the record sufficiently documents the content)";[123] "whether the state laws require that data be maintained as part of the record under HIPAA (some states use HIPAA as a starting point and impose restrictive state requirements also)";[124] and "[w]here data that are included as part of a patient's medical record…[is] secured."[125] Providers must maintain increased oversight and awareness of these particular security issues to ensure adequate patient protection in the midst of proliferating telehealth capabilities.[126]

## V. HOW TO TREAT THE OPIOID ADDICTION

Assuming that telemedicine issues can be tackled, it is important to apply these methods to opioid addiction treatment practices. Opioid addiction has several proven methods of treatment that are most effective; thus, telemedicine strategies should be tailored to effectively implement these treatment methods.

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116 *Id.*

117 *Id.*

118 *Id.*

119 *Id.*

120 *Realizing the Promise of Telehealth*, *supra* note 74, at 10.

121 *Id.*

122 *Id.*

123 *Id.* at 10-11.

124 *Id.* at 11.

125 *Id.*

126 *Realizing the Promise of Telehealth*, *supra* note 74, at 11.

### i. The Quick Fix

Naloxone, also known as Narcan, is a life-saving drug for opioid addicts. The drug is capable of saving an addict's life in the event that they overdose.[127] Naloxone works by counteracting the depression of the central nervous and respiratory systems, allowing the overdosed individual to breathe normally.[128] Symptoms of an opioid overdose include excessive sleepiness, shallow or stopped breathing, small pupils, and unresponsiveness.[129] Naloxone treats the overdose for about twenty to ninety minutes, so it is a short-term solution until the victim is taken to an emergency room.[130] Traditionally administered by emergency personnel, it may be prescribed to known opioid abusers or prescribed opioid users so that their family members can administer it in the event of an emergency.[131] Naloxone can be injected into the muscle or vein, or sprayed into the nose, thus providing a quick life-saving intervention.[132]

### ii. Long-term Solutions

While administering naloxone is the first step in saving an addict's life, long-term treatment is necessary to ensure patient recovery. The most effective long-term treatment method is Medication Assisted Treatment (MAT).[133] MAT is a comprehensive opioid addiction treatment that includes medication assistance for detoxification and maintenance.[134] MAT is more effective than singular detoxification or abstinence treatments for "reducing the frequency and [amount] of opioid use, [limiting] the risk of overdose, improving social functioning, and decreasing [both] criminal activity and [spreading of diseases]."[135] It combines both medication and psychological counseling to tackle the physical and emotional elements of addiction.[136] Medication is used to block the effects of opioids, "reduce the craving for other opioids, and/or mitigate

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127 *Understanding Naloxone,* Harm Reduction Coal. (2016), http://harmreduction.org/issues/overdose-prevention/overview/overdose-basics/understanding-naloxone/.

128 *Id.*

129 *Recognizing Opioid Overdose*, Harm Reduction Coal. (2016), http://harmreduction.org/issues/overdose-prevention/overview/overdose-basics/recognizing-opioid-overdose/.

130 World Health Org., *Management of Substance Abuse, Information Sheet on Opioid Overdose* (Nov. 2014), http://www.who.int/substance_abuse/information-sheet/en/ [hereinafter *Management of Substance Abuse*]. *See Understanding Naloxone*, *supra* note 126 and accompanying text (explaining that one way to counter the effects of opioid overdose is with a specific, temporary, injectable solution).

131 *Understanding Naloxone, supra* note 126.

132 *Id.* There is a risk of re-overdose when naloxone is administered because it triggers withdrawal from opioids; overdose patients must be immediately taken to the emergency room to prevent re-overdose. *Management of Substance Abuse*, *supra* note 129.

133 *See* Off. of Nat'l Drug Control Pol'y, Exec. Off. of the President, *Medication-Assisted Treatment for Opioid Addiction* 3-4 (Sept. 2012) (stating that, due to the likelihood of relapse using other treatments, MAT may be the best approach to treatment).

134 *Id*.

135 *Increasing Access*, *supra* note 9, U.S. Dep't of Health & Human Servs., Agency for Healthcare Res. & Quality, *Medication-Assisted Treatment Models of Care for Opioid Use Disorder* 1 (Feb. 2016) [hereinafter *Medication-Assisted Treatment Models*].

136 *Medication-Assisted Treatment Models*, *supra* note 135, at 1-2.

the [debilitating] symptoms of opioid withdrawal."[137] Psychological interventions include addressing the contributing emotional factors that led to addiction with "individual therapy, group counseling, family behavior therapy," and assessment of other psychiatric needs.[138]

MAT is not used universally because application requires a medical intervention that few physicians are qualified to administer.[139] In many rural areas, there is often not a single MAT prescriber available.[140] Even in addiction settings, MAT is severely underutilized, with only about one-third of rural providers capable of administering MAT treatments.[141] MAT is a key component of optimal treatment strategies for opioid addiction; creating access in rural areas and knowledge of its benefits is crucial to opioid rehabilitation and prevention.[142] Many doctors who utilize this treatment in metropolitan areas have specialty training to administer MAT to opioid patients. But in rural areas, most doctors are primary care physicians who lack both the certification required to dispense the medication and the training to administer psychological counseling. Widespread training of physicians to provide ease of access to MAT could help millions of rural patients and slow the epidemic of overdose deaths.[143]

## VI. RECOMMENDATIONS

Many persisting problems make telemedicine potentially unfeasible for combatting the opioid epidemic, but there are several potential solutions that may improve access to the tool. Below are changes and new services that would aid telemedicine in becoming an effective practice and overcoming the legal barriers to widespread enactment.

### i. Naloxone Prescribing

Described above as a 'quick fix,' naloxone is a potential lifesaver for those experiencing overdose,[144] but there are substantial barriers to its administration. Though typically prescribed by a physician to known opioid abusers or prescribed opioid users, recently,

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137 *Id.*

138 *Id.* at 1-2.

139 *See* Hancock et al., *supra* note 2, at 2, 4 (2017) (stating that in order to prescribe the most common MAT medication, buprenorphine, physicians must complete a training course and receive a waiver from the DEA; therefore, those physicians lacking the ability to participate in MAT prescribing are unable to prescribe such medications necessary for the treatment).

140 *See id.* at 4 (reporting that in 2016 only 38.7% of rural counties had a physician with a DEA waiver and in 41.3% of those counties there was only one provider with a waiver).

141 *See id.* (stating that in 2016, only 56% of providers nationwide were capable of administering MAT treatment).

142 *See id.* at 6-7 (recommending the elimination of reimbursement, funding, training, and licensure barriers that prevent the wider use of MAT in rural areas).

143 *Cf. id.* at 1, 4 (reporting that over 2.5 million Americans suffer from opioid addiction and MAT has shown to be an effective treatment).

144 *See* Nat'l Inst. on Drug Abuse, Nat'l Inst. of Health, *Opioid Overdose Reversal with Naloxone (Narcan, Evzio)* (Sept. 2016), https://www.drugabuse.gov/related-topics/opioid-overdose-reversal-naloxone-narcan-evzio (stating that naloxone was designed to rapidly reverse the effects and restore normal breathing, as an opioid antagonist).

other health care individuals have claimed an interest in prescribing naloxone.[145] Pharmacists are key providers that could vastly affect access to naloxone.[146] Some states have amended their state codes, allowing pharmacists to prescribe naloxone without the oversight of a physician if they first complete a training and safety course.[147] A few states have already implemented online and in-person training programs that equip the pharmacist with the knowledge to recognize an overdose and to explain naloxone use to family or friends of an addict, thereby ensuring proper administration.[148] Other states have implemented a standing order, providing pharmacists with the ability to dispense naloxone under the order of the Physician General.[149] Despite some states' proactive efforts in expanding pharmacists' prescribing rights, there are still many states that have not adequately addressed pharmacists' rights to prescribe naloxone.[150]

Many pharmacists are confused about their authority to prescribe naloxone, leading many addicts to go without the drug's protection because of inconsistent regulations. Most states still require pharmacists to receive training to obtain naloxone prescribing capacity.[151] A training course is the perfect opportunity for states to utilize telemedicine.[152] The training could provide front line healthcare providers the opportunity to directly communicate with victims of opioid addiction, and save lives while abusers await treatment. States can use telemedicine as a vehicle to provide training in areas where there is not a mandated online course. This is especially useful in rural areas, where pharmacists do not have the ability to travel long-distance for training courses.

The most effective mode of telemedicine training would be a live, two-way communication where a training representative would speak with the pharmacist, or store the program and send it to the pharmacists for training at their own accord. Thereby, telemedicine would allow more pharmacists to receive training for naloxone prescribing and facilitate better access to the life-saving drug.

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145 *See id.* (stating that in some states "[l]aw enforcement, EMS, and community-based naloxone distribution programs can apply to be a Qualified Purchaser" and provide naloxone).

146 *See* Gerald Gianutsos, *Expanding Access to Naloxone: Role of the Pharmacist,* U.S. Pharmacist (Oct. 1, 2016), https://www.uspharmacist.com/ce/expanding-access-to-naloxone-role (reporting that forty-one states now allow naloxone to be administered by pharmacists without a prescription).

147 *Id.*

148 *See Training for Pharmacists to Prescribe Naloxone is Now Available,* State of Conn. Dep't of Consumer Protection, *www.ct.gov/dcp/cwp/view.asp?Q=570138.; See New Naloxone Training Program for Pharmacists Take Aim at Opioid Epidemic,* Am. Pharmacists Ass'n, https://www.pharmacist.com/new-naloxone-training-program-pharmacists-takes-aim-opioid-epidemic.

149 *Examples of Successful Advocacy Efforts in Different Settings Around the World*, Naloxoneinfo.org, http://naloxoneinfo.org/case-studies/standing-orders (last visited Nov. 12, 2017).

150 *See id.* (reporting that over half of the states have standing order procedures for naloxone).

151 *See* Gianutsos, *supra* note 145.

152 *See* Susan D. Hall, *Future Physicians Need Telemedicine Education, Training*, Fiercehealthcare (Dec. 11, 2015, 10:56 AM), https://www.fiercehealthcare.com/it/future-physicians-need-telemedicine-education-training (stating that telemedicine training is now a key part of medical education, and educators can help prepare new physicians by having them practice remote evaluations).

Potential barriers to this training program include funding and certification. While all states require pharmacists to receive training before prescribing naloxone, states would have to approve the use of telemedicine for an online training and traditional payment methods through this medium. To be a qualified training program, the telemedicine program would also have to possess DEA certification.[153] Certification requires approval of the course before introduction to pharmacists, which might incur additional time and resources.

**ii. MAT Training**

The government is increasingly aware of the MAT treatment's efficiency, leading it to issue several funding grants for the program. Yet the treatment program must be even further expanded to reach additional vulnerable communities. The Agency for Healthcare Research and Quality (AHRQ) currently seeks to expand MAT access and funding to explore the best methods for providing MAT to rural areas.[154] The AHRQ MAT access program was announced on July 15, 2016; it will provide $12 million over a 3-year period to facilitate access to MAT in rural areas.[155] The organization specifically targets Muskogee County, Oklahoma.[156] This area has ten opioid-related deaths per one-hundred thousand citizens every year, and no primary care physicians capable of providing MAT.[157] AHRQ will use "patient-controlled smart phone apps and remote training with Project ECHO."[158] Project ECHO is a telehealth program that links academic specialists to primary care providers working in rural communities.[159] The program hopes to provide a MAT model applicable to other rural communities facing access barriers.[160] Together, AHRQ and Project ECHO "will build a blueprint for how other communities and primary care teams can overcome the barriers of providing MAT and ensure access to care across America's rural communities."[161]

A common theme among successful existing and expected grant programs is an established network of trained doctors who coordinate areas that lack certain specialties.[162] This model could also be used to connect trained specialists with rural primary care physicians if a solid network is established. Many predominantly rural states have access to local academic hubs. For example, Alabama has the University of Alabama in Birmingham, Mississippi has the University of Mississippi in Jackson, and

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153 *See Hancock* et al., *supra* note 2, at 2, 4 (noting that MAT treatments have been limited because physicians are required to gain a waiver from the DEA to prescribe buprenorphine).

154 *Increasing Access*, *supra* note 9.

155 *See id.* (stating the grant money would go towards four programs meant to expand access, training, and primary care physicians who can perform MAT).

156 *Id.*

157 *Id.*

158 *Id.*

159 *Id.*

160 *Increasing Access, supra* note 9.

161 *Id.*

162 *See e.g.*, *id.* (explaining that several academic, government and provider partnerships will provide training by experienced MAT physicians in Pennsylvania, North Carolina, Colorado, and Oklahoma to providers in rural areas to expand access to MAT).

Georgia has both Emory University and University of Georgia in Atlanta and Athens, respectively. Because these academic hubs possess high levels of healthcare knowledge, they are capable of facilitating training in rural communities. Academic campuses could implement telemedicine to train rural physicians on MAT procedures, providing a higher level of care to opioid patients.

Despite rural doctors' lack of training as addiction specialists, with the help of academics and doctors at these large medical universities and hospitals, doctors could be trained on best practices and treatment methods without leaving their offices. Telemedicine offers both face-to-face interaction (helpful for advice and consultations) and store-and-forward (allowing primary care providers in rural areas to share information through a secure network).[163] Utilization of academic hubs would provide a sense of community and sharing of best practices, while also training the doctors to effectively treat patients in communities that are susceptible to opioid overdose.

If states do not want to undertake the daunting task of training doctors, nurses could bridge the gap in a physician/patient telemedicine transaction. When a physician uses telemedicine to virtually connect with the patient, they could request the presence of a nurse local to the patient during the appointment. That doctor could then direct the nurse to administer in-person care to the patient, and write prescriptions online.[164] Thus, in-person physical presence would not be required for patient care. This model was adopted by many hospitals in emergency and intensive care situations.[165] The model could be applied to opioid addiction treatments as long as the physician using telemedicine is trained in MAT, and the facility can appropriately establish an electronic communication connection.[166]

**iii. Reimbursement Efficiency**

MAT and other treatments that designate medication use in conjunction with telemedicine may have limited promise due to their inability to meet current reimbursement requirements. One of the largest Medicare reimbursement issues facing physicians using telemedicine is the "patient-provider relationship", which must be established before medication is prescribed.[167] Given that medication is crucial for MAT to be effective, the relationship barrier to reimbursement is of ultimate importance. One way of combatting

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163 *What is Telehealth? supra* note 57.

164 *See supra* Section IV(ii).

165 *See e.g., Telemedicine Consultations Significantly Improve Pediatric Care in Rural Emergency Rooms*, UCDavis Health, (Aug. 8, 2013), https://www.ucdmc.ucdavis.edu/publish/news/newsroom/7757 (reporting that University of California, Davis is seeing improved outcomes in pediatric patients staying at rural hospitals that consult with UC Davis because providers at rural hospitals are able to consult with specialists and adjust orders accordingly).

166 *See e.g.,* Jess White, *1st 'Virtual Hospital' Cares for Patients Using Telemedicine*, Healthcare Bus. & Tech. (Sept. 16, 2016), http://www.healthcarebusinesstech.com/virtual-hospital-telemedicine/ (reporting that the Mercy Hospital, located in St. Louis, is a $54 million facility staffed entirely by providers who evaluate patients remotely, using live, two-way correspondence to monitor vital signs through iPads).

167 *See* Ctr. for Connected Health Pol'y, *State Telehealth Laws and Reimbursement Policies* 4-5 (July 2013) [hereinafter *State Telehealth Laws and Reimbursement Policies*] (reporting that

the barrier is by using a model similar to that of Baptist Health Foundation Corbin. In their recent grant award, which created "ten school-based health centers and two primary care sites," the Foundation stationed nurses and doctors at each center and site to establish a physician-patient relationship, thereby facilitating treatment and ensuring reimbursement coverage kicks in.[168]

The Baptist Health Foundation Corbin grant currently exists only in Kentucky, but other states could adopt the same model. Different schools and primary care facilities across the state could serve as hubs for doctors to establish a relationship with the patient, thereby satisfying the on-going relationship requirement for online prescribing.[169] After completing the first consultation, patients will have a relationship with the physician and their telehealth services and prescribing rights will continue to be covered under traditional Medicare reimbursement strategies.[170]

Another way that this initial visit and continuing relationship could be satisfied is by funding mobile physician units to travel throughout a state and meet with patients in need of care. This would take the form of a blood-mobile: physicians would drive through a state, meet with those facing opioid addictions, and give them the necessary initial care that would enable future telemedicine correspondence.[171] The mobile unit could travel a few days a month, and provide services to cities that are easily accessed by rural area patients.

Although mobile platforms still require rural patients to travel to-and-from mobile units, proper platform distribution could cut down on how far patients have to travel. Additionally, this model facilitates physician-patient interaction by establishing a patient-physician relationship and an understanding of telemedicine services. After the initial visit takes place and a relationship is formed, patients can then use telemedicine from the comfort of their own homes and engage in MAT while also receiving Medicare coverage for the services.[172] The telemedicine services would require state funding and

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most states require more than an online questionnaire to establish the necessary patient-provider relationship for writing prescriptions).

[168] Anne Mayberry, *USDA Announces Telemedicine Funding to Address Opioid Epidemic in Appalachia*, U.S. Dep't of Agric. (June 30, 2016), http://www.usda.gov/wps/portal/usda/usdamediafb?contentid=2016/06/0155.xml (proceed to usda.gov; follow the hyperlink to "media"; insert the title of this source in the search bar).

[169] *See id.* (reporting that Virginia will use its USDA grant money to incorporate telemedical projects and mobile units that will canvass counties providing on-site care)*; see also State Telehealth Laws and Reimbursement Policies*, *supra* note 167, at 4-5 (illustrating most states consider internet/online questionnaires inadequate, while not all states require in-person examination).

[170] *Cf. Realizing the Promise of Telehealth*, *supra* note 74, at 9 (adopting the position by the American Medical Association allowing a telemedicine consultation to be sufficient enough to create the patient-physician relationship necessary for prescribing privileges).

[171] *See e.g.,* Mayberry*, supra* note 167 (explaining that University of Virginia will establish two mobile units to provide care and consultations to patients in rural areas).

[172] *See Realizing the Promise of Telehealth*, *supra* note 74, at 2 (stating that Medicare originating sites are limited to: "hospitals;" "the office of a physician or other practitioner;" "critical access hospitals (CAHs);" "rural health clinics (RHCs);" and "federally qualified health centers

direction, and would focus on the areas of need in each state to ensure that physicians strategically reach the most fragile patients.

Opioid patients can use mobile units to not only provide a patient-physician relationship, but also to provide direct telemedicine use to those without access. The University of Virginia (UVA) implemented a model where two mobile health units canvassed six counties in need while providing on-site care and telemedicine video conferencing with doctors and specialists.[173] The mobile units bring nurses and technology to vulnerable areas, and allow direct telemedicine correspondence with physicians in other locations. UVA previously used mobile units equipped with telehealth services to reach over 50,000 patients in more than forty medical specialties, including psychiatry and diabetes.[174] The mobile units traveled to over 150 sites, and saved patients an estimated 16.1 million miles of travel.[175] Application of this model to the opioid crisis would capitalize on previous telehealth success to reach patients struggling with opioid addiction in rural areas.

The UVA model allows doctors to be virtually present, but physically absent. Both of these mobile unit options provide a broad range of potential benefits: they provide access to those in rural areas; decrease travel time for those without access to providers in their area; limit workforce time missed by providing access in rural areas or nearby towns; provide telemedicine services to those that might not have access to technology in their own homes; allow comprehensive explanations of telemedicine and the process to ensure effective use and understanding of the technology; and provide care to patients struggling with opioid addiction in order to hopefully limit the number of repeat users who experience an overdose.[176] While this model may lower costs because doctors do not need to be physically present on the mobile unit, it still presents online prescription reimbursement issues.

## VII. CONCLUSION

There are many barriers to service that make the expansion of telemedicine a daunting and seemingly impossible task. The issues of reimbursement, licensure, and online prescribing are not only concerning, but they also elucidate issues with the legislative process that could take time to sort out. The nature of telemedicine and its correlating technological concerns also create a potential barrier to HIPAA support. Furthermore, because rural areas are a specific target, minimal infrastructure and broadband support also pose feasibility issues. If telemedicine is used to treat the opioid epidemic, there

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(FQHCs)"). *But see id*. at 14 (reporting the American Medical Association Model law suggesting that telemedicine reimbursement be expanded and more uniform across the individual states).

173 Mayberry, *supra* note 167.

174 *UVA Receives Federal Grant to Fight Southwest Virginia Opioid Epidemic*, NBC (July 11, 2016, 9:22 AM), http://www.nbc29.com/story/32414957/uva-receives-federal-grant-to-fight-southwest-virginia-opioid-epidemic.

175 *Id.*

176 Bonnie Darves, *Telemedicine: Changing the Landscape of Rural Physician Practice*, New England J. of Med. Career Ctr. (May 17, 2013), http://www.nejmcareercenter.org/article/telemedicine-changing-the-landscape-of-rural-physician-practice; *see also* Mayberry, *supra* note 168.

would need to be cooperation and correspondence between physicians and providers, and a network of specialists created to aid rural physicians with administering this multi-faceted treatment. While the barriers are notable and there are questions surrounding the ability of Congress to resolve these issues, there is still promise that this medium could be used as a solution to the opioid epidemic.

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