HEALTH CARE for All
MARYLAND CITIZENS' HEALTH INITIATIVE
2600 ST. PAUL STREET BALTIMORE, MD 21218 P: (410)235-9000 F: (410)235-8963 WWW.HEALTHCAREFORALL.COM

**TESTIMONY OF VINCENT DEMARCO, PRESIDENT**
**MARYLAND CITIZENS' HEALTH INITIAITVE**
**BEFORE THE HOUSE HEALTH AND GOVERNMENT OPERATIONS COMMITTEE**
**IN SUPPORT OF HB 463, THE MARYLAND HEALTH EQUITY RESOURCE ACT,**
**FEBRUARY 2, 2021**

Madam Chairman and Members of the Committee, thank you for this opportunity to testify in favor of this very important health equity legislation sponsored by Delegates Erek Barron and Jazz Lewis. The Maryland Health Care For All! Coalition, on behalf of over 280 faith, community, labor, business and health care groups from across the state, strongly urges you to pass this measure which will reduce health inequities by race, ethnicity, disability, and location, and improve health outcomes and reduce underage drinking and drunk driving in our state. For a list of our coalition members and other information about this proposal, see healthcareforall.com/equityresolution.

Thanks to the great work of the Maryland General Assembly, Maryland is one of America's leading states in expanding health care and improving public health, including by adding over 400,000 people to the ranks of the insured under the Affordable Care Act. But, as you know, despite this progress, health inequities continue to plague our state causing communities of color to suffer from substantially inferior health care outcomes. The raging COVID pandemic has dramatically heightened these inequities. We commend are very pleased that this legislation is part of Speaker Adrienne Jones' "Black Agenda" for the 2021 Session.

We believe that one of the best ways to reduce health inequities and improve health outcomes is by building on the successes of the 2012-2016 Health Enterprise Zones which as the Equity Task Force found were very successful in the five zones created under that program. HB 463 replicates and builds on this success by authorizing the Secretary of Health to establish Health Equity Resource Communities across the state which, like the old HEZ's, would fund community developed plans to put resources and medical and public health plans into disadvantaged areas of the State.

HB 463 also addresses a major weakness of the Health Enterprise Zone program which was its lack of a dedicated funding source. SB 172 would increase the state alcohol sales tax from 9% to 10%, a one penny per dollar increase, and dedicate this money for behavioral health needs and for funding Health Equity Resource Communities. In light of the impact of the COVID 19 pandemic on bars and restaurants, the tax increase would be delayed for two years for alcohol consumed in a bar or restaurant. The alcohol sales tax increase is projected to raise $14

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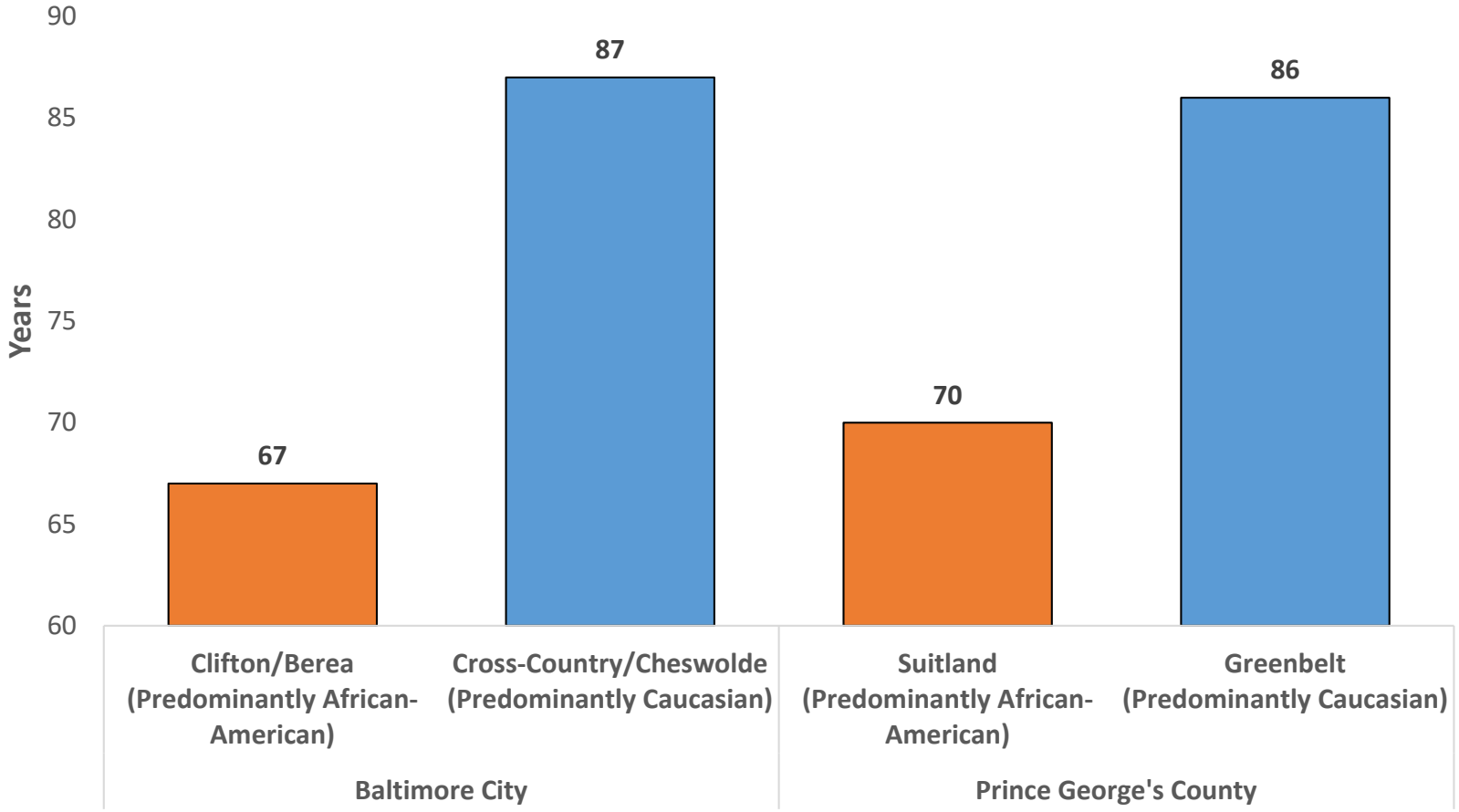
million per year for the first two years, with $1 million per year going to statewide behavioral health programs and the rest going to fund Health Equity Resource Communities, and $22 million per year in subsequent years, with $2 million per year for statewide behavioral health and the rest going to fund Health Equity Resource Communities.

We believe that the proposed one penny per dollar increase in the state alcohol sales tax is the best way to fund the Health Equity Resource Communities. In addition to making sure the Communities have a permanent and adequate funding source, the alcohol sales tax increase would separately reduce drunk driving and underage drinking. An Abell Foundation Report found that the increase you made in the state alcohol sales tax from 6% to 9% in 2011 substantially reduced deaths and other problems caused by drunk driving, underage drinking and other abuse of alcohol. As the Report lays out, between 2011 and 2015, there was a 26 percent reduction in the percentage of students who consumed alcohol in the preceding 30 days, a 28 percent reduction in binge drinking, and a 31 percent reduction in students riding in a vehicle operated by a driver who had been drinking alcohol. See healthcareforall.com/equityresolution. Further, as the attached alcohol sales tax revenue chart shows, overall alcohol sales actually increased after the 2011 alcohol sales tax increase showing that it did not harm the alcohol industry in Maryland. Finally, the General Assembly chose 9% as the amount to which to increase the alcohol sales tax in 2011 because that was the amount of the alcohol sales tax in Washington, DC at that time. Since then, DC has increased its alcohol sales tax to 10% and used its additional one penny per dollar increase to fund health care programs, which we hope Maryland can do also.

Thank you so much to this Committee for all you have done to expand health care and public health in Maryland. We strongly urge you to build on this success by addressing the pressing issue of improving health equity by giving a favorable report to HB 463, the Maryland Health Equity Resource Act.


HEALTH CARE for All
AARP Maryland
NCADD MARYLAND
1199SEIU United Healthcare Workers East Maryland Division
NAACP Maryland STATE CONFERENCE
The Arc Maryland
NASW National Association of Social Workers MARYLAND CHAPTER
AHF AIDS HEALTHCARE FOUNDATION
CASA WE ARE CASA SOMOS CASA
MEPPN
CENTRAL MD ECUMENICAL COUNCIL
MINISTERS CONFERENCE OF BALTIMORE & VICINITY
JOHNS HOPKINS UNIVERSITY & MEDICINE
MISSIONARY BAPTIST MINISTERS' CONFERENCE Washington, DC and Vicinity Est. 1985
Episcopal Diocese of Washington
MARYLAND COMMUNITY ACTION PARTNERSHIP A NETWORK OF COMMUNITY ACTION AGENCIES SERVING MD, DC & DE
Maryland Hospital Association
SOUTHERN CHRISTIAN LEADERSHIP CONFERENCE
sclc Southern Christian Leadership Conference PRINCE GEORGE REGIONAL CHAPTER
THE UNITED METHODIST CHURCH Baltimore-Washington Conference
ST MARY'S COLLEGE of MARYLAND The National Public Honors College
STRONG FUTURE MARYLAND
MATOD Maryland Association for the Treatment of Opioid Dependence
MARYLAND NONPROFITS
MARYLAND LEGISLATIVE LATINO CAUCUS
CareFirst BlueCross BlueShield
50 YEARS
STRONG CITY BALTIMORE
KAISER PERMANENTE
THE EPISCOPAL DIOCESE OF MARYLAND
CITY OF BALTIMORE
BRIDGE Maryland
MID-ATLANTIC ASSOCIATION OF COMMUNITY HEALTH CENTERS
Quaker Voice of Maryland
mhamd MENTAL HEALTH ASSOCIATION OF MARYLAND
ccan CHESAPEAKE CLIMATE ACTION NETWORK
LEGISLATIVE BLACK CAUCUS OF MARYLAND, INC. EST. 1970
The MARYLAND ACADEMY of ADVANCED PRACTICE CLINICIANS A Voice for Advanced Practice Clinicians in Maryland
UNIVERSITY of MARYLAND BALTIMORE
UNIVERSITY of MARYLAND MEDICAL CENTER
WISE WOMEN INVINCIBLE · STRONG · EFFECTIVE
BAPTIST MINISTER'S NIGHT CONFERENCE OF BALTIMORE AND VICINITY
THE COLLECTIVE
AFSCME MD COUNCIL 67 We Make Maryland Happen
AFSCME 3
alzheimer's association
EST. 1986 JOTF
BALTIMORE JEWISH COUNCIL
GEDCO
Common Cause Maryland Holding Power Accountable
Maryland Public Health Association (MdPHA.org)
MCRC MARYLAND CONSUMER RIGHTS COALITION
FIRN
UMBC
The League of Life and Health Insurers of Maryland
Green & Healthy Homes Initiative®
CAUCUS OF AFRICAN AMERICAN LEADERS
BALTIMORE DISTRICT
CLIMATE X CHANGE
MARYLAND LEGISLATIVE COALITION
MedChi The Maryland State Medical Society
AHEC West
FAMILIESUSA THE VOICE FOR HEALTH CARE CONSUMERS
NAMI Maryland National Alliance on Mental Illness
ADVOCATES FOR CHILDREN AND YOUTH
AIDS ACTION BALTIMORE, INC.
COMMUNITY DEVELOPMENT NETWORK OF MARYLAND
Community Action Council of Howard County HELPING PEOPLE. CHANGING LIVES.
Disability Rights Maryland
be the change BMORE
W.O.A.MD Women of Action Maryland CHARLES COUNTY
GOUCHER college
Maryland Legislative Agenda for Women
MARYLAND STATE EDUCATION ASSOCIATION
THE MARYLAND COLLABORATIVE TO REDUCE COLLEGE DRINKING AND RELATED PROBLEMS
ST JOHN'S College
Towson Communities Alliance
Allergy & Asthma NETWORK
UNITARIAN UNIVERSALIST LEGISLATIVE MINISTRY of Maryland
NARAL Pro-Choice Maryland
PUBLIC JUSTICE CENTER
Jewish Federation OF HOWARD COUNTY
BALTIMORE CITY SUBSTANCE ABUSE DIRECTORATE
MCASA Maryland Coalition Against Sexual Assault
American Foundation for Suicide Prevention
MARYLAND RURAL HEALTH ASSOCIATION
MDCEP MARYLAND CENTER ON ECONOMIC POLICY

# Average Life Expectancy by Neighborhood




Sources:
Baltimore City Health Department 2017 Neighborhood Health Profile Reports
https://health.baltimorecity.gov/neighborhood-health-profile-reports

2018 Report "Uneven Opportunities: How conditions for wellness vary across the metropolitan Washington Region." Page 38.
https://www.mwcog.org/documents/2020/10/26/uneven-opportunities-how-conditions-for-wellness-vary-across-the-metropolitan-washington-region-health-health-data/

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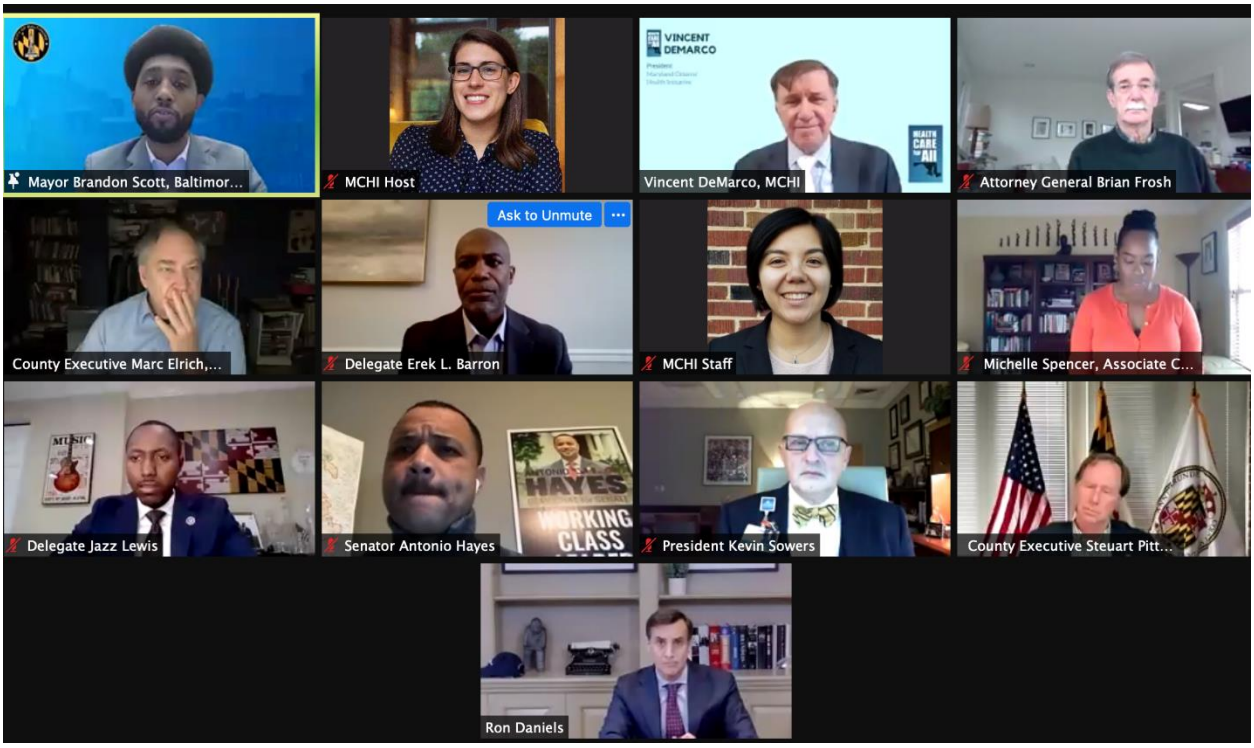
**FOR IMMEDIATE RELEASE**
January 8, 2021

**Contact: Vincent DeMarco**
410-591-9162

## Johns Hopkins Institutions Endorse Major Initiative to Expand Health Care in Underserved Communities

***Legislative initiative would increase sales tax on alcohol to generate significant new resources for communities with disparate health outcomes across Maryland***




Johns Hopkins Institutions, which includes Johns Hopkins University, the Johns Hopkins Health System and The Johns Hopkins Hospital, **today endorsed** a Maryland legislative initiative to establish Health Equity Resource Communities (HERC) across Maryland that will receive significant new funding to address longstanding health care disparities and bring new resources to underinvested communities across the state.

Under the proposed legislation, areas with poor health outcomes can become HERC communities and be able to compete for grants, tax incentives and health care provider loan repayment assistance to increase access to high-quality care and ultimately reduce health inequities by race, ethnicity, disability, and geographic location.

Funding for the Communities, as well as new programs to address substance use and mental health disorders, will come from a one penny per dollar increase in the state alcohol beverage sales tax.

"The Health Equity Resource Communities legislation is a critically important strategy to provide new resources to Maryland communities that lack adequate access to health care. For far too long, far too many of Maryland's citizens have borne the unfair burden of racial, economic, and health disparities, especially in Black and Latinx communities," said Johns Hopkins President Ronald J. Daniels. "This is a timely, research driven measure that will help expand access to high-quality health care and that has the potential to reduce alcohol-related problems for so many in communities across our state."

"The Johns Hopkins Health System is committed to ensuring people in underserved communities can receive the health care they need," said Kevin W. Sowers, president of the Johns Hopkins Health System Corporation and executive vice president of Johns Hopkins Medicine.

Maryland Citizens' Health Initiative has worked across the state to build support for this legislation, and more than 250 labor, faith, business, health, and community organizations have also signed on in support (**Logo Flyer**, **Full List of Members**).

"Johns Hopkins' endorsement is a major boost to our legislation, and we salute President Daniels, President Sowers and their teams for joining us in this initiative," said Sen. Antonio Hayes (Baltimore City), the lead Senate sponsor of the legislation. "Hopkins has been a leader in developing and supporting innovative approaches to improving community health care."

"We are pleased at the support this initiative is receiving from community groups across Maryland and now from Johns Hopkins, one of the world's pre-eminent public health institutions," said Del. Erek Barron (Prince George's), the lead House sponsor of the legislation. "We urge the General Assembly to embrace this legislation and begin to address disparities in health care resources."

"Marylanders are focused on making our state more equitable, and a basic principle is that everyone should have access to high-quality, affordable health care, no matter where they live," said Del. Jazz Lewis (Prince George's), a co-sponsor of the legislation. "Our bill is a smart way to funnel new resources to improve access to care in areas that have for too long suffered without it."

The Communities will be modeled after the successful 2012-2016 Health Enterprise Zones (HEZ) Program, which increased access to health resources, improved residents' health, reduced hospital admissions, and created cost savings as shown by studies conducted by researchers at Johns Hopkins including Dr. Darrell Gaskin, Michelle Spencer, and Dr. Roland Thorpe. Unlike the HEZ pilot which ended after five years, money raised for the Health Equity Resource Communities would go directly into a dedicated fund for the program to help ensure longevity.

The legislation would increase the alcohol sales tax by one penny per dollar, with some of the new revenue dedicated to the Health Equity Resource Communities initiative. An increase in the

alcohol tax itself will also promote public health and lower health care costs. Research found that the last increase in the alcohol tax in Maryland, in 2011, led to a reduction in underage drinking, binge drinking, driving under the influence, and sexually transmitted infections. Proceeds from the alcohol tax increase would also be used to strengthen programs to address substance use and mental health disorders.

"We couldn't be more excited that the Johns Hopkins Institutions have joined our efforts to create Health Equity Resource Communities," said Vincent DeMarco, president of the Maryland Citizens' Health Initiative (MCHI), the advocacy group leading the effort to enact the HERC initiative. "Their experts have looked closely at our proposal and believe it holds real promise for advancing equity in how health care is delivered in underserved communities in Maryland."

A range of state and local elected officials are also working to pass the legislation this year.

"We need to act this year to expand access to health care in underserved communities," said Maryland Attorney General Brian Frosh. "The COVID pandemic has exacerbated longstanding inequities in our state, and many people struggle to get access to the care they need. This legislation is an important step in rectifying these unacceptable disparities."

"Too many communities in Baltimore and other areas of the state lack equitable access to the kind of health care all people want and deserve. This legislation will mean far more resources will be available to promote health care in all of our communities," said Baltimore Mayor Brandon Scott. "It's a smart strategy that will help us transform health care in Maryland and address longstanding disparities in how resources have historically been allocated."

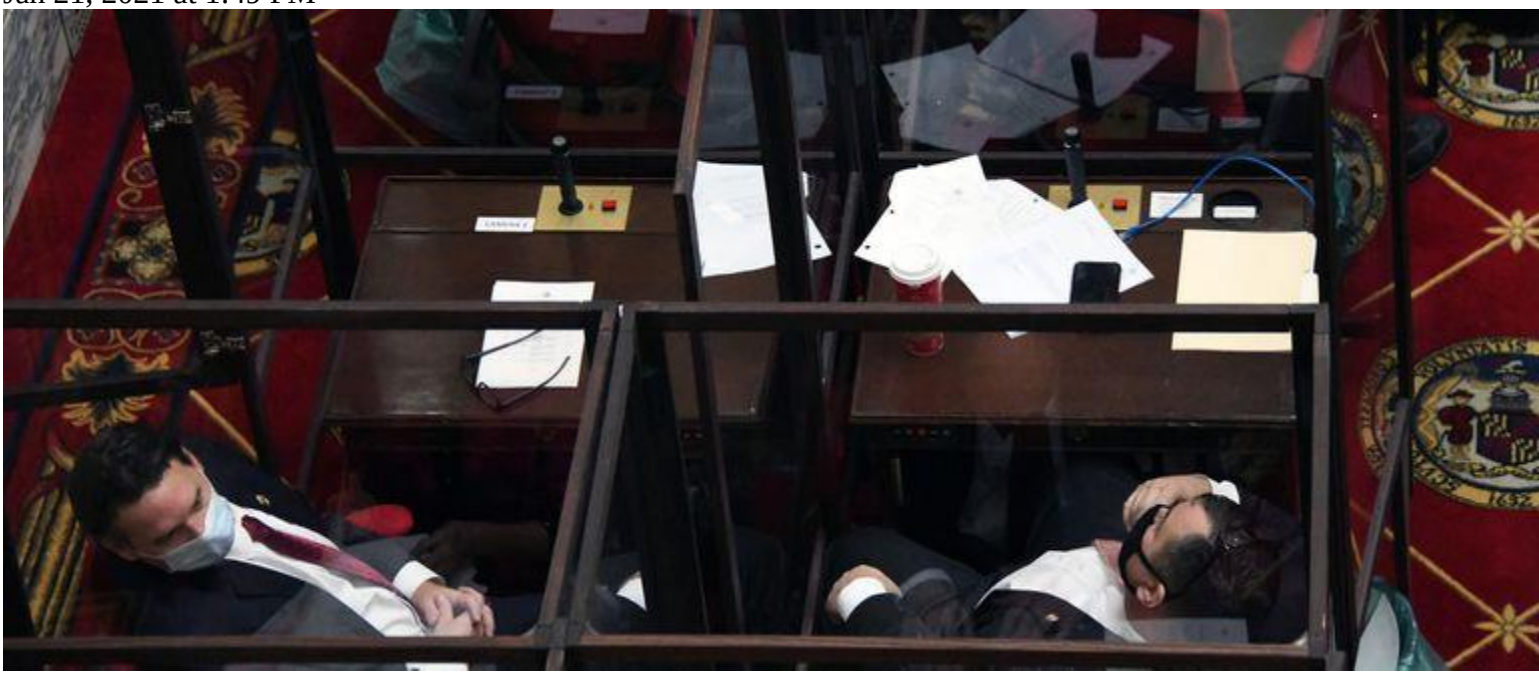
"Montgomery County is committed to improving access to health care across the state, and I urge the legislature to support this measure," said Montgomery County Executive Marc Elrich. "Adding a penny per dollar to the alcohol tax is a sensible way to generate revenue to support an expansion of health care and will help reduce alcohol-related issues that hurt our families and communities."

"As we battle to overcome the pandemic and support families in need, it's vital that we make sure more Marylanders have access to health care that is high-quality and convenient," said Anne Arundel County Executive Steuart Pittman. "The Health Equity Resource Communities is a strategic approach to getting resources into the areas that have the most need. We need to pass this legislation."

County Executives Angela Alsobrooks of Prince George's County, Calvin Ball of Howard County, and Johnny Olszweski of Baltimore County could not attend the event but issued **statements of support** for the Health Equity Resource Communities proposal.

# Maryland’s House speaker crafts ambitious ‘Black Agenda’ to close equity gaps | COMMENTARY

By Baltimore Sun Editorial Board
Baltimore Sun |
Jan 21, 2021 at 1:49 PM



From left, Sens. Stephen Hershey, Jr. (R- Caroline, Cecil, Kent and Queen Anne's Counties) and J.B. Jennings (R-Baltimore County and Harford County) The Maryland General Assembly convenes at the State House with changes in the House and Senate Chamber due to the COVID-19 pandemic. House Speaker Adrienne A. Jones and Senate President Bill Ferguson will deal with issues such as economic relief during the pandemic, public education, police reform and the state song. (Kim Hairston, The Baltimore Sun) (Kim Hairston / Baltimore Sun)

After watching images of George Floyd take his last breaths as a Minneapolis police officer knelt on his neck last spring, it seemed just about everyone jumped on the social justice bandwagon. Multiracial groups took to the streets in major cities in protest. Corporations, restaurants, suburban moms and government entities declared their allegiance to the Black Lives Matter movement. The BLM acronym was suddenly ubiquitous, plastered on yard and window signs, bumper stickers and T-shirts. But those who had fought in the trenches for years were skeptical — based on past experience — that this would be followed by meaningful action to truly put African Americans on equal footing. And they had every right to be doubtful.

But Maryland lawmakers appear ready to do more than talk this General Assembly session — State House Speaker Adrienne Jones in particular. On Tuesday, she rolled out an ambitious “Black agenda” and racial equity plan aimed at closing the race gap in areas such as homeownership, health and wealth. As Maryland’s first Black person and the first women of any race to lead the House, Speaker Jones is seeking to use her powerful

position to dismantle the institutional racism that has existed since the end of slavery and kept African Americans steps behind white citizens in most areas of life by creating an unceasing cycle of poverty.

Developed with input from more than three dozen thought leaders, Speaker Jones' plan includes 30 policy recommendations along with nine pieces of legislation to help African Americans build wealth, better compete for state contracts and buy homes by erasing unfair credit criteria and down payment barriers. It would also throw more resources at addressing health gaps that result in African Americans dying on average at younger ages than white Marylanders, a disparity further highlighted by COVID-19.

Among some of her recommendations that make solid sense:

- Requiring the state to devote 50% of its spending on goods and services with small businesses and requiring businesses who want state capital funding over $1 million to prove racial diversity in their leadership ranks and mission.
- Declaring racism a public health crisis and requiring doctors, nurses and nurse practitioners to undergo healthy equity and bias training to get licensed and accredited.
- Allowing people applying for home loans to use something other than credit scores for approval, such as rent or utility payment history, so that mistakes made in youth, or because someone fell on hard financial times, don't haunt someone over the long haul.
- Bringing back health opportunity zones created under the O'Malley administration, but disbanded under the leadership of Gov. Larry Hogan and using a one penny per dollar increase in the alcohol tax to fund initiatives in these zones to reduce health disparities. (There is both a Senate and House bill on this issue).
- Conducting a disparity study to look at the amount insurers are charging per square foot of homes by county to see if appraisers are undervaluing homes in African American neighborhoods.

A work group formed by Senate President Bill Ferguson also recently released worthwhile equity recommendations, some of which dovetail with Speaker Jones' agenda, but others include fresh recommendations and address environmental justice as well.

Some Senate recommendations worth pursuing include: better tracking of why waivers are granted to companies who don't use minority subcontractors as required on state-funded projects; increasing the minority doctor ranks by expanding access to state scholarships; creating an inclusion fund through TEDCO, the state agency that funds startups, to help economically disadvantaged firms; and launching a state pilot program for mold remediation in schools and public housing.

We're glad to see both chambers trying to answer the calls for social justice that have reverberated across the country in recent months and hope lawmakers have the courage to pass the legislation necessary to put some of these ideas into practice. But we've seen good intentions fall apart before, allowing injustice to persist. That can't happen again; now is the time to begin righting the wrongs of the past.

*The Baltimore Sun editorial board — made up of Opinion Editor Tricia Bishop, Deputy Editor Andrea K. McDaniels and writer Peter Jensen — offers opinions and analysis on news and issues relevant to readers. It is separate from the newsroom.*

https://www.baltimoresun.com/opinion/editorial/bs-ed-0121-speaker-equity-plan-20210121-6bnzuqxirvcn5dnuwozft23bge-story.html

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# Health Equity Resource Communities Initiative

**WHEREAS**, all Marylanders deserve access to high-quality, affordable health care;
**WHEREAS**, health inequities based on race, ethnicity, disability and place of residence persist throughout the state, as shown in maternal and infant mortality rates and other measures;
**WHEREAS**, the COVID-19 pandemic has further exposed these health inequities and highlighted the need to address them and otherwise improve health outcomes in our state;
**WHEREAS**, in underserved areas of the state, people with chronic conditions such as hypertension, heart disease, asthma, diabetes, and substance and mental health disorders have worse health outcomes and are less able to get the care and treatment they need;
**WHEREAS**, supporting health and reducing preventable hospital admissions will result in lower overall health care costs, including lower insurance premiums for everyone;
**WHEREAS**, the 2012-2016 Health Enterprise Zones Program successfully increased access to health resources, improved residents' health, reduced hospital admissions, and created cost savings;
**WHEREAS**, the 2011 alcohol beverage sales tax increase led to significant reductions in underage drinking, binge drinking, driving under the influence, and sexually transmitted infections;
**WHEREAS**, Maryland has not raised its alcohol beverage sales tax since 2011 and its rate has fallen behind that of Washington D.C.;
**WHEREAS**, raising the state's alcohol beverage sales tax will generate necessary funds and reduce drinking, including by underage Marylanders and heavy drinkers, which in turn will save lives and reduce health care costs;

**THEREFORE, BE IT RESOLVED t**hat the undersigned organization supports increasing the state alcohol beverage sales tax by one cent per dollar to save lives and reduce health care costs caused by alcohol overuse, and supports using the funds raised by the alcohol tax increase to:

1) Create Health Equity Resource Communities, modeled after the former Health Enterprise Zone Program, in locations around the state to address poor health outcomes that contribute to racial, ethnic, and geographic health inequities, and
2) Create more community-based prevention, treatment, and recovery support programs to address substance use and mental health disorders.

Organization:_____

Address: _____

Phone Number: (o)_____(c)_____Email:_____

Name of Representative of the Organization (Print Name):_____Title:_____

Signature:_____Date:_____

Please fill the form out ONLINE at: healthcareforall.com/EquityResolution
Or mail, fax, or email completed form to:
Maryland Citizens' Health Initiative, 2600 St. Paul St., Baltimore, MD 21218
Fax: 410-235-8963; Email: stephanie@healthcareforall.com

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**Health Equity Resource Communities Coalition**

**Statewide and Regional**

1. 1199SEIU United Healthcare Workers-East
2. AARP Maryland
3. Advocates for Children and Youth
4. AFSCME Council 3
5. AFSCME Council 67
6. AIDS Action Baltimore
7. AIDS Healthcare Foundation
8. Allergy & Asthma Network
9. Alzheimer's Association, Greater Maryland Chapter
10. American Foundation for Suicide Prevention, Maryland Chapter
11. Anne Arundel County Commission for Women
12. The Arc Maryland, Inc.
13. Baltimore City Conference, DE-MD Synod, Evangelical Lutheran Church in America
14. Baltimore City Council
15. Baltimore City Substance Abuse Directorate
16. Baltimore District (AME Zion Church)
17. Baltimore Jewish Council
18. Baltimore Washington Conference of The United Methodist Church
19. Baltimore Yearly Meeting Religious Society of Friends
20. Baltimore Yearly Meeting - Baltimore STRIDE Program
21. Baltimore Yearly Meeting - DC STRIDE Program
22. Baltimore Yearly Meeting Young Adult Friends
23. Baltimore Yearly Meeting, Young Friends
24. Baptist Ministers' Conference of Washington, DC and Vicinity
25. Baptist Ministers' Night Conference of Baltimore & Vicinity
26. Be the Change Bmore
27. Bridge Maryland, Inc.
28. CareFirst BlueCross BlueShield
29. CASA
30. Caucus of African-American Leaders
31. Central Maryland Ecumenical Council
32. Chesapeake Climate Action Network
33. Climate XChange
34. Collective Empowerment Group, Inc.
35. Common Cause of Maryland

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36. Community Action Council of Howard County, MD, Inc.
37. Community Development Network of MD
38. Delaware-Maryland Synod, Evangelical Lutheran Church in America
39. Disability Rights Maryland
40. The Episcopal Diocese of Maryland
41. The Episcopal Diocese of Washington
42. Families USA
43. FIRN: Foreign-Born Information and Referral Network
44. Green & Healthy Homes Initiative
45. Govans Ecumenical Development Corporation (GEDCO)
46. Goucher College
47. Jewish Federation of Howard County
48. Job Opportunities Task Force (JOTF)
49. Johns Hopkins University
50. Johns Hopkins Medicine
51. Kaiser Permanente
52. LatinosAgainstAlzheimer's Coalition
53. Legislative Black Caucus of Maryland, Inc.
54. The League of Life & Health Insurers of Maryland, Inc.
55. Maryland Academy of Advanced Practice Clinicians
56. Maryland Alliance for Justice Reform
57. Maryland Area Health Education Center West (AHEC West)
58. Maryland Association for the Treatment of Opioid Dependence
59. Maryland Center on Economic Policy
60. Maryland Citizens' Health Initiative
61. Maryland Coalition Against Sexual Assault
62. Maryland Collaborative to Reduce College Drinking and Related Problems
63. Maryland Community Action Partnership
64. Maryland Consumer Rights Coalition
65. Maryland-DC Society of Addiction Medicine
66. Maryland Episcopal Public Policy Network
67. Maryland Hospital Association
68. Maryland Kenyans Organization
69. Maryland Legislative Agenda for Women (MLAW)
70. Maryland Legislative Coalition
71. Maryland Legislative Latino Caucus
72. Maryland Nonprofits
73. Maryland Public Health Association
74. Maryland Rural Health Association
75. Maryland State Education Association

76. MedChi, the Maryland State Medical Society
77. Mental Health Association of Maryland
78. Mid-Atlantic Association of Community Health Centers
79. Ministers' Conference Empowerment Center, CDC
80. Ministers' Conference of Baltimore & Vicinity
81. NAACP Maryland State Conference
82. NAMI Maryland
83. NARAL Pro-Choice Maryland
84. NASW- MD Chapter
85. National Capital Baptist Convention
86. National Council on Alcoholism and Drug Dependence NCADD-Maryland
87. Prince George's County Council
88. Progressive Maryland
89. Public Justice Center
90. Quaker Voice of Maryland
91. Reproductive Health Equity Alliance of Maryland
92. St. John's College
93. St. Mary's College of Maryland
94. SEIU (Service Employees International Union) Maryland and DC Council
95. Southern Christian Leadership Conference (SCLC) Prince George's County Chapter
96. Strong City Baltimore
97. Strong Future Maryland
98. Towson Communities Alliance
99. Unitarian Universalist Legislative Ministry of Maryland
100. United Baptist Missionary Convention of Maryland and its Auxiliaries. Inc
101. University of Maryland, Baltimore
102. University of Maryland, Baltimore County
103. University of Maryland Medical System
104. Wise Women of Maryland
105. Women of Action Maryland

**Local**

106. ABC123andME
107. Adelphi Friends Meeting
108. Adullum Community Healthcare Center LLC
109. Affordable Housing Conference of Montgomery County
110. A Friendly Bread
111. Annapolis Friends Meeting

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112. Ardmore Springdale Civic Association
113. Ark Church
114. Arlington Partnership for Affordable Housing (works in Montgomery County)
115. Asbury Broadneck UMC
116. Asian American Center of Frederick
117. Awesome Respite
118. BA Auto Care
119. Baltimore Medical System
120. Baltimore Monthly Meeting of Friends, Stony Run
121. Baltimore Trauma Response Team
122. BDS Healthy Aging Networks
123. Bethany Baptist Church
124. Bethesda Friends Meeting
125. Beth Shalom AME Zion Church
126. Blueberry Gardens Healing Center
127. Bon Secours Baltimore Community Works
128. Branch Communications
129. Capital T. Solutions LLC
130. Carroll County Democratic Central Committee
131. Carroll County Democratic Club
132. Casarea Christian Community Chapel
133. Catonsville Indivisibles
134. Cedar Lane Unitarian Universalist Social Justice Ministry Team
135. Center for Therapeutic Empowerment
136. Central Civic Association
137. Channing Memorial Church
138. Chase Brexton Health Care
139. Chesapeake Health Care
140. Christian Community Church of God
141. Church of the Guardian Angel
142. Clement Cinema LLC
143. Clinton A.M.E. Zion Church
144. Community Baptist Church
145. Community Clinic, Inc. (CCI)
146. Community Ecology Institute
147. Computer Management Services
148. Congregation Or Chadash
149. Corner Rock Ministries
150. CurlyRed
151. Democratic Club of Leisure World

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152. Destiny Christian Church
153. Dorchester County Health Department
154. Doterra Essential Oils
155. DoTheMostGood MoCo MD
156. Dreams come true travel
157. Eddie's Market, Charles Village
158. Eloqui
159. Energy Concepts Co.
160. Enon Baptist Church
161. Empowering Believers Church
162. Empowering Our Children
163. Empowering Our Community
164. Energy Concepts Co.
165. Family and Medical Counseling Service, Inc.
166. First Baptist Church of Highland Park
167. First Mt. Calvary Baptist Church
168. First Unitarian Church of Baltimore
169. Fraspera LLC
170. Frederick Friends Meeting
171. Garrett County Democratic Central Committee
172. Gethsemene Baptist Church
173. Gethsemane United Methodist Church
174. Global Vision Foundation, Inc
175. Gospel Tabernacle Baptist Church
176. Graphics by Chalk
177. Greater Baden Medical Services
178. Greater Beulah Baptist Church
179. Greater Faith Baptist Church
180. Greater Harvest Baptist Church
181. Greater Victory and Deliverance Church Of Jesus Christ
182. Gunpowder Friends Meeting
183. HBCU College of Plant-Based Lifestyle Medicine
184. Health Care For the Homeless
185. HeartSmart - The Cliff R.Roop Cardiac Support and Education Foundation
186. Herron and Associates, LLC
187. High Rock Missionary Baptist Church
188. Holy Ghost Deliverance Tabernacle Church
189. Holy Trinity Episcopal Church
190. Homewood Friends Meeting (Quakers)
191. Hyattsville Mennonite Church

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196. Integrative Healing
197. Isaiah Baptist Church
198. Keep It Classy By Regina
199. Kidz Biziness
200. Kindred Hair & Skin Center
201. Kingdom Missionary Baptist Church
202. Koinonia Baptist Church
203. LeanToo Consulting LLC
204. Make Studio
205. Maryland Baptist Aged Home
206. Mary's Center
207. Mary's Kiddie Kare, LLC
208. Megaphone Project
209. Meridian Hill Baptist Church
210. Miche Booz Architect
211. Miracle Baptist Church
212. Mobile Medical Care
213. Molly Perkins Hauck, PhD., LLC,Licensed Psychologist
214. Movement Disorder Education, Exercise & Community Outreach
215. Mt. Calvary Freewill Baptist Church
216. Mount Calvary Church
217. Mt Calvary Free Will Baptist Church and Ministries, Inc.
218. Mt. Olive Baptist Church
219. Musical Eargazm
220. Muslim Community Cultural Center of Baltimore
221. My Father's House of Baltimore, Inc.
222. NAMI Howard County, MD, Inc.
223. NAMI Metropolitan Baltimore
224. NAMI Prince George's County, MD, Inc.
225. New Corner Stone Baptist Church
226. New Faith Christian Community
227. New Metropolitan Baptist Church
228. New St. Mark Baptist Church
229. Next Day Animations
230. Nu Season Nu Day Church & Ministries
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233. Park Moving and Storage
234. Park West Health System Inc.
235. Pastors' Conference
236. Patuxent Friends Meeting
237. Perkins Square Baptist Church
238. Perseverance Counseling Services, LLC
239. Prince George's County (MD) Peace & Justice Coalition
240. Prince George's Healthcare Alliance, Inc.
241. Prince of Peace Baptist Church
242. The QED Foundation, Inc.
243. QED Inc.
244. Remnant Center of Excellence
245. Restoration Community Church
246. Root Studio
247. Ruth Downs little ones daycare
248. SEIU Local 400 PG
249. Shepherd's Empowerment Center
250. Sisters In Ministry, Inc.
251. Smalltimore Homes
252. S.M. Jackson Government Business Solutions, LLC
253. St. Francis of Assisi, Baltimore
254. St. Ignatius Church Baltimore
255. St. John’s Episcopal Church Asian Ministry
256. St. Martin Church of Christ, Inc.
257. Shepherd's Heart Missionary Baptist Church
258. Silas First Baptist Church
259. Solid Rock Baptist Church of Baltimore
260. teenieweenie
261. Teri’s Learning Station
262. Third Haven Friends Meeting
263. TRG Management
264. Tri-Area Civic Association
265. Trinity Baptist Church
266. Triumph Nation Church & Ministries
267. Twisted Diction
268. Unitarian Universalist Congregation of Columbia
269. Unitarian Universalists of Charlestown
270. Victory Missionary Baptist Church, Inc
271. Village Baptist Church

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275. Willow Wood Estates Civic Association
276. Wilson Park Christian Community Church
277. Winston Avenue Baptist Church
278. Woods Memorial Presbyterian Church
279. Youth Empowered Society - YES Drop In Center
280. Zion Hill Baptist Church
281. Zion UMC Lexington Park
282. Zpvmedia

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# Public Health Policy in Maryland: Lessons from Recent Alcohol and Cigarette Tax Policies

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## Executive Summary

Taxing some consumer products is a public health policy strategy that has the potential to improve the public's health. Over the past decade, the Maryland General Assembly has passed legislation that increased taxes on two consumer products – alcohol and cigarettes – both of which are associated with large burdens of injury and disease. In this report, we examine two laws affecting these products: The Sales and Use Tax – Alcoholic Beverages – Tax Rates Supplementary Appropriation Act of 2011, and the Transportation and State Investment Act of 2007. We consider the public health benefits of these tax laws and analyze the revenues generated by them and how those revenues were spent.

While the alcohol excise tax had been stable for over 45 years, the 2011 law increased the sales tax rate to 9 percent. Following the alcohol sales tax increase, binge drinking by Maryland adults decreased; the 17 percent reduction seen in Maryland between 2011 and 2016 was greater than the 6 percent reduction nationally. Among Maryland high school students, between 2011 and 2015, there was a 26 percent reduction in the percentage of students who consumed alcohol in the preceding 30 days, a 28 percent reduction in binge drinking, and a 31 percent reduction in students riding in a vehicle operated by a driver who had been drinking alcohol. Published research also documented a decrease in alcohol-positive drivers and in sexually transmitted infections in Maryland following the 2011 alcohol sales tax increase.

Maryland's state tax per pack of cigarettes increased incrementally from 1961 to 2008 and has been stable for the last 10 years. Following the $1.00 per pack cigarette tax increase in 2008, smoking by Maryland adults decreased by 26 percent among current smokers between 2011 and 2016. Among Maryland high school students there was a 47 percent reduction in students who reported smoking a cigarette in the preceding 30 days, as well as a decline in frequent smoking between 2007 and 2015.

We conclude that these public health impacts, documented both by the published evidence and experts we interviewed, occurred from relatively modest tax increases. Based on this research, we provide four recommendations for maximizing public health gains through state policy:

1. Consider taxes an effective policy strategy to improve the public's health.
2. Monitor the public health impacts of tax policy.
3. Ensure transparency for bills that generate revenue.
4. Employ effective advocacy strategies when promoting public health policy initiatives.

## Introduction

Each year during the 90-day legislative session, the Maryland General Assembly approves thousands of bills that the governor decides whether to sign into law. Many of these laws support public health goals, including health promotion, disease and injury prevention, healthy and safe schools, vaccine uptake, and the realization of smoke-free environments. After these laws are enacted, researchers evaluate many of them to determine how they, in fact, have affected the public's health.

Two consumer products, alcohol and tobacco, are associated with large burdens of injury and disease among Marylanders and have also been the subject of legislation that addresses those burdens through taxes. In this report, we examine how these tax increases are affecting Marylanders' health, based on published evaluations and interviews with subject matter experts. The focus of this report is on the following two laws: the Sales and Use Tax – Alcoholic Beverages – Tax Rates Supplementary Appropriation Act of 2011, which increased the sales and use tax rate for alcoholic beverages from 6 percent to 9 percent, effective July 1, 2011 [Maryland General Assembly, 2011]; and the Transportation and State Investment Act of 2007, which increased the excise tax on a pack of 11-20 cigarettes from $1.00 to $2.00, effective January 1, 2008 [Maryland General Assembly, 2007].

The proposals to raise taxes on alcohol and cigarettes were, in large part, driven by the significant public health impacts these products have on Marylanders. For example, in 2016, 582 people died from alcohol intoxication in Maryland; most involved the concurrent use of other drugs [Maryland Department of Health and Mental Hygiene, 2017]. Drinking alcohol is also associated with both short-term health effects, including unintentional injuries, violence, overdose, and risky sexual behavior, as well as long-term effects such as heart disease, stroke, liver disease, dementia, and several types of cancer [CDC, 2015d; Cook, 2016].

Smoking has been causally linked to multiple negative health conditions including several types of cancer, cardiovascular disease, diabetes, and respiratory diseases such as chronic obstructive pulmonary disease [U.S. Department of Health and Human Services, 2014]. Each year, approximately 7,500 Marylanders die from a smoking-related disease [CDC, 2017]. These conditions are costly, with estimates of $3.5 billion for 2015 and $4.5 billion projected for 2020 [Maryland Department of Health and Mental Hygiene, 2014; Maryland Department of Health and Mental Hygiene, 2016].

### *Organization and Methodology of this Report*

This report includes three sections.

Section I begins with an overview of the public health problems that the tax increases sought to address, and outlines important contextual background information that preceded passage of the laws. This is followed by a review of the evidence about the public health impacts associated with the laws. We also include a description of impacts hypothesized by interviewees that have not been examined through empirical study.

Section II describes the revenues generated through the laws and how that revenue has been used to advance the public health goals specified by each law.

The final section presents recommendations for maximizing public health gains through state policy based on lessons learned from this review. This research does not describe in detail how these laws were passed; others have documented these efforts [Pertschuk, 2010].

We compiled this report based on a review of the proposed bills, accompanying fiscal notes, and the two codified laws – including all subsequent modifications – through the 2017 legislative session. We also conducted a literature review to document the impacts of

these laws, primarily comparing the differences in risk factors before and after each law.

For adults, these data are from the annual national Behavioral Risk Factor Surveillance System (BRFSS), a survey conducted by the Centers for Disease Control and Prevention (CDC) that queries a sample of adults in each state. It is important to note that because of a change in how the survey was administered and analyzed in 2011, the federal government cautions that small increases for health-risk indicators, such as tobacco use and binge drinking, are likely due to changes in survey methodology [CDC, 2013]. Thus, shifts in observed prevalence from 2010 to 2011 for BRFSS measures may reflect true trends in risk-factor prevalence or the new methods of measuring risk factors [CDC, 2012]. As a result, for data on adults, we compare data from 2007 with 2010, and then data from 2011 with 2016 (the most recent data available).

For youth, data are from the Youth Risk Behavior Surveillance System (YRBSS), which is a national survey of thousands of high school students conducted by the CDC. It measures the prevalence of high-risk behaviors among youth, including tobacco, alcohol, and drug use [Eaton, 2012]. Data from the YRBSS did not undergo the same methodological change as the BRFSS survey of adults; however, the data from this biennial survey are only reported through 2015, which are the latest available data. All prevalence numbers in the report have been rounded to the nearest whole number. These rounded numbers were used to calculate the percent change in prevalence over time for each specific health-risk behavior. These percent changes were also rounded to the nearest whole number.

We searched the internet to identify stakeholder organizations and potential key informants for each issue and complemented that search with recommendations for additional interviewees we gained from those original key informants. This process yielded a sample of 10 people highly knowledgeable about the two laws from advocacy organizations, academic institutions, and state government agencies who we interviewed between July and November 2017. These interviews allowed us to capture a robust and comprehensive account of the public health impacts for each case. Several interviewees requested that their names not be included in this report. We respected these requests and, therefore, do not include any interviewees' names.

We collected financial information about the laws and the revenue they generated from the Maryland Comptroller's Alcohol and Tobacco Tax Annual Reports for the years 2006 to 2016. We also reviewed the 2016 Comprehensive Annual Financial Report, as well as the 2016 Department of Legislative Services Fiscal Briefing [Franchot, 2016a; Franchot, 2016b]. We searched the comptroller's website for information about the sales and use taxes, the Health Department's website for budget information, and the Department of Budget and Management's website to access the list of Special Funds [Department of Budget and Management, 2017]. In addition, the Governor's "Maryland Budget Highlights FY2016" [Hogan, 2015] contained information we used to further understand the Cigarette Restitution Fund.

# I. Alcohol and Cigarette Tax Increases: Public Health Problem, Legislative Background, and Public Health Impacts of the Laws

## The Alcohol Tax Increase

### *Public Health Problem Prior to the 2011 Tax Increase*

The sales tax on alcohol increased in July 2011. Prior to the alcohol tax increase taking effect, the prevalence of binge drinking (on a single occasion, five or more drinks for men and four or more drinks for women) among Maryland adults was 13 percent in 2007 and 15 percent in 2010 [CDC, 2015b]. In 2011, the prevalence of binge drinking was 18 percent for Maryland adults [CDC, 2015b]. However, as previously

described, the CDC changed its methodology for analyzing adult BRFSS survey responses in 2011. Therefore, the adult survey results from 2010 and prior years cannot be compared with 2011 and subsequent years [CDC, 2012]. The higher prevalence number in 2011 is likely explained by changes in how the CDC collected and analyzed these data, as opposed to real changes in the prevalence of binge drinking.

Among Maryland high school students surveyed in 2007, 43 percent reported drinking alcohol at least once in the preceding 30 days [Eaton, 2008; CDC, 2007-2015]. In 2011, the year of the tax increase, 35 percent of Maryland high school students reported drinking alcohol in the prior 30 days [Eaton, 2012]. When asked about binge drinking alcohol (five or more drinks in a row within a couple of hours), 24 percent of Maryland high school students reported the behavior in 2007 compared to 18 percent in 2011 [Eaton, 2008; Eaton, 2012; CDC, 2007-2015]. Evidence of other risky drinking behaviors over time is seen in the percentage of Maryland students who reported riding in a car with an alcohol-positive driver (29 percent in 2007 and 26 percent in 2011) [Eaton, 2008; Eaton, 2012; CDC, 2007-2015]. In addition, 9 percent of students reported driving after drinking alcohol in 2007 compared to 8 percent in 2011 [Eaton, 2008; Eaton, 2012].

In addition to the risky behaviors documented through surveys, the impact of alcohol on the public's health is also defined in terms of costs. At an estimated $2.22 per drink and $860 per person, the total annual cost of consuming alcohol was approximately $4.9 billion in 2010 [Sacks, 2015; CDC, 2015c]. We were unable to locate post-law estimates of the cost of alcohol consumption in Maryland.

### *Legislative Background*

Excise taxes are charged per unit (e.g., gallon) of an item while sales taxes are a percentage of the sale. An excise tax can have the effect of decreasing the quantity of the item that is sold and consequently its consumption. Maryland alcohol excise taxes have been stable for over 45 years without any adjustments for inflation, which is shown in Table 1. Federal excise taxes are additional taxes: $13.50 per gallon of distilled spirits, $1.07 per gallon of wine, and $0.58 per gallon of beer [Maryland General Assembly, 2011; Xu, 2011].

Maryland also imposes a sales tax on alcohol as well as on most other consumer products; it is added at the point of purchase and is not included in the shelf price of the product. In January 2008, the General Assembly passed a bill that increased the general sales tax from 5 percent to 6 percent [Franchot, 2016a]. A special tax increase went into effect in

**Table 1. Maryland's excise tax rates on alcoholic beverages**

| Alcoholic beverage | Initial tax per gallon (year tax imposed) | Current tax per gallon (years tax rate in effect) |
|---|---|---|
| Distilled spirits | $1.10 (1933) | $1.50 (1955 – present) |
| Wine | $1.10 (1933); reduced to $0.20 (1935) | $0.40 (1972 – present) |
| Beer | $0.02 (1936) | $0.09 (1972 – present) |

*Source: Franchot, 2016b.*

## According to the state tax data document, per capita consumption of beer decreased by 11 percent between fiscal year 2010 and fiscal year 2016 (from 18 gallons in 2010 to 16 gallons in 2016).

July 2011 and raised the sales tax on alcoholic beverages to 9 percent [Maryland General Assembly, 2011].

This additional 3 percent sales tax on alcoholic beverages reflected a determination to raise the long stagnant tax. In 2011, advocates supporting the alcohol tax increase, known as the Lorraine Sheehan Alcohol Tax Coalition, proposed a dime-a-drink increase in the excise tax on beer, wine, and liquor distributors, with the proceeds to fund public health initiatives including drug and alcohol abuse prevention and treatment, mental health programming, support for people with developmental disabilities, and health care coverage. Near the end of the 2011 general assembly session, it became clear that the excise tax would not pass at the dime-a-drink level. Instead, legislative leaders proposed increasing the state sales tax—on alcoholic beverages only—from 6 percent to 9 percent. This translated to a nickel-a-drink excise tax, which was an acceptable compromise for the advocates. Legislative leaders preferred this approach because it would keep Maryland's alcohol tax at the same rate as the District of Columbia, which has the same excise tax as Maryland and a similar alcohol-specific sales tax.

As enacted, the alcohol sales tax law earmarked some of the funds for the Developmental Disabilities Administration ($15 million) and dedicated about $72 million (amount cited by an interviewee) to projects including school aid and construction in the first year, with those proceeds going to the general fund in subsequent years. Although the advocates would have preferred the money to be allocated as they had originally proposed, they agreed to the compromise for two reasons. First, they were confident that regardless of how the money was spent, it would lead to a significant drop in alcohol abuse and underage drinking. Second, they planned to work closely with the Governor and General Assembly to ensure that most of the proceeds from the alcohol sales tax increase were allocated for the purposes originally identified by the Lorraine Sheehan Coalition after the first year.

While advocates originally proposed an excise tax rather than a sales tax, there are advantages to the sales tax. The alcohol sales tax is a value-based tax on the advertised price of the alcohol and therefore adjusts with inflation and does not diminish with time [Lavoie, 2017]. Unlike the sales tax, the excise tax is a flat, volume-based tax that is part of the advertised price. Importantly, its value decreases over time due to inflation [Lavoie, 2017]. Between 1970 and 2009, inflation is estimated to have decreased the real-dollar value of the average state excise tax on beer by 70 percent [Naimi, 2016]. In addition, several interviewees noted that the sales tax is progressive in that the largest increases are on expensive cocktails at high-end bars and restaurants.

In reflecting on this legislative process, one interviewee pointed out that there was no significant public opposition following either the 2008 general sales tax increase or the 2011 alcohol-specific sales tax increase.

### *Public Health Impacts of the 2011 Law*

The 2011 Maryland alcohol sales tax increase is associated with decreases in alcohol consumption. According to the state tax data

The relationship that is evident across these studies is clear: As the price of alcohol increases, death and injury decrease, with specific declines in alcohol-related diseases, violence, traffic crashes, and crime.

document, per capita consumption of beer decreased by 11 percent between fiscal year 2010 and fiscal year 2016 (from 18 gallons in 2010 to 16 gallons in 2016) [Franchot, 2016b].

This decline in alcohol consumption is seen especially in the adult population. Binge drinking among Maryland adults decreased from 18 percent in 2011 to 14 percent in 2015 but rose slightly to 15 percent in 2016 [Kanny, 2013; CDC, 2015b]. Thus, in Maryland, the prevalence of adult binge drinking was 17 percent lower in 2016 than it was in 2011. This decline is greater than the national trend in which there was only a 6 percent reduction in adult binge drinking between 2011 and 2016 (U.S. prevalence: 18 percent in 2011, 16 percent in 2015, and 17 percent in 2016) [CDC, 2015b].

Declines in alcohol consumption among youth are also documented after the law took effect. Comparing the YRBSS from 2011 with 2015, the percentage of Maryland high school students who had consumed alcohol at least once in the preceding 30 days decreased from 35 percent in 2011 to 26 percent in 2015, a reduction of 26 percent [Eaton 2012; Kann 2016; CDC, 2007-2015]. In comparison, there was a 17 percent reduction among students nationwide over the same time period (from 36 percent in 2011 to 30 percent in 2015) [Eaton 2012; Kann 2016]. In addition, the percentage of Maryland high school students who reported binge drinking on at least one day in the preceding 30 days decreased from 18 percent in 2011 to 13 percent in 2015 [Eaton 2012, Kann 2016; CDC, 2007-2015]. This decrease of 28 percent in binge drinking reported by Maryland youth from the YBRSS is similar to that seen in the country as a whole (the U.S. median for high school student binge drinking decreased by 27 percent, from 22 percent in 2011 to 16 percent in 2015) [Eaton, 2012; Kann, 2016; CDC, 2007-2015].

The public health benefit of this reduced consumption is evident in studies that examine the relationship between the 2011 alcohol sales tax increase and reductions in alcohol-related automobile deaths and injuries. Self-reports of Maryland high school students who rode in a vehicle driven by a driver who had been drinking alcohol decreased by 31 percent between 2011 and 2015 (26 percent in 2011 and 18 percent in 2015) [Eaton 2012; Kann 2016; CDC, 2007-2015], although the percentage who reported driving after drinking was similar for both years: 8 percent in 2011 and 7 percent in 2015 [Kann, 2016].

Further, a 2017 study evaluated motor vehicle crash reports involving Maryland drivers who tested positive for alcohol. The study compared crashes with alcohol-positive drivers for the 127 months prior to the sales tax increase with the 29 months following the law's effective date [Lavoie, 2017]. The authors documented a 6 percent reduction in alcohol-positive drivers of all ages, and a 12 percent reduction among alcohol-positive drivers ages 15-34 years after the sales tax increase took effect [Lavoie, 2017]. The authors posit that this decrease resulted from lower levels of drinking among younger drivers, who are more price-sensitive. Unlike younger drivers, crash rates among those 55 years and older increased among alcohol-positive drivers involved in crashes [Lavoie, 2017]. The findings for the younger drivers are

consistent with an evaluation of Illinois' alcohol tax increase, which measured a 26 percent decrease in fatal motor vehicle crashes for all drivers, and a 37 percent reduction among drivers under 30 years of age [Wagenaar, 2015].

One other public health benefit described by interviewees, and supported by the literature and the CDC, is a decline in risky sexual behavior explained as a consequence of reduced alcohol consumption [Chesson, 2000; CDC, 2015d]. Alcohol intoxication can lead to unprotected sex and sexually transmitted infections (STIs), and may explain a recent finding in Maryland that the mean monthly rate of gonorrhea cases decreased from 11 cases per 100,000 before the tax increase (January 2003 to June 2011) to nine cases per 100,000 after the tax increase (July 2011 to December 2012) [Staras, 2016]. This is a 24 percent reduction, or almost 1,600 cases avoided every year [Staras, 2016]. In contrast, there was a non-statistically significant increase in the incidence of chlamydia from a mean monthly rate of 35 cases per 100,000 before the tax increase (January 2003 to June 2011) to 39 cases per 100,000 after the tax increase (July 2011 to December 2012) [Staras, 2016]. The different outcomes for gonorrhea and chlamydia may be because detection of chlamydia is dependent on screening. It is often asymptomatic, while the gonorrhea rate more closely reflects its prevalence in the population. These authors conducted a similar analysis using Illinois data and found there were fewer cases of both gonorrhea and chlamydia in Illinois following an increase in alcohol taxes [Staras, 2014]. A systematic review of the literature has also established that increases in the price of alcohol have

## Table 2. Summary of impact of alcohol sales tax in Maryland

| Positive impacts of sales tax on alcohol consumption in Maryland | | | |
|---|---|---|---|
| **Population** | **Parameter** | **Prevalence (year)** | **Change in prevalence** |
| Youth[1,2,3] | Drinking in last 30 days | 35% (2011) vs. 26% (2015) | 26% reduction |
| | Drinking ≥5 drinks in a row | 18% (2011) vs. 13% (2015) | 28% reduction |
| | Riding in vehicle with alcohol-positive driver | 26% (2011) vs. 18% (2015) | 31% reduction |
| Adults[4] | Binge drinking | 18% (2011) vs. 15% (2016) | 17% reduction |
| General | Decreased alcohol-positive drivers[5] | | |
| | Health impacts (e.g., decreased risky sexual behavior and sexually transmitted infections[6,7]) | | |

*Sources: [1]Eaton, 2012; [2]Kann, 2016; [3]CDC, 2007-2015; [4]CDC, 2015b; [5]Lavoie, 2017; [6]Staras, 2016; [7]CDC, 2015c. All prevalence numbers in the report have been rounded to the nearest whole number (0.5 and higher numbers were rounded up; 0.4 and lower numbers were rounded down). These rounded numbers were used to calculate the percentage change in prevalence over time for the health-risk behavior. The calculated percentages for prevalence change were also rounded to the nearest whole number.*

a small inverse relationship with STIs [Wagenaar, 2010].

Maryland's 2011 alcohol-specific sales tax increase, like similar alcohol tax increases in other states, has had the expected public health benefit of reducing alcohol abuse, particularly among high school students. These Maryland findings are consistent with the national literature demonstrating public health benefits associated with increasing alcohol taxes, with particular gains noted among adolescents and young adult populations [Wagenaar, 2010; Xu, 2011]. The relationship that is evident across these studies is clear: As the price of alcohol increases, death and injury decrease, with specific declines in alcohol-related diseases, violence, traffic crashes, and crime [Wagenaar, 2010]. The Task Force on Community Preventive Services, a respected national body that identifies evidence-based interventions, recommends increasing alcohol taxes and projects that the resulting public health benefits will be proportional to the size of the tax increase [U.S. Task Force on Community Preventive Services, 2010]. Table 2 summarizes the impacts reviewed in this section.

### *Perceived Unintended Consequences and Contradictory Outcomes*

Interviewees recalled that during the alcohol sales tax increase policy debate, opponents described Marylanders' ability to purchase alcohol through alternative venues such as the internet and neighboring states with lower taxes. Such a shift in purchasing could result in a false underestimation of alcohol consumption that would affect impact measures and decrease revenue for the state. Products bought over the internet by Maryland residents may not be subject to the sales tax if the retailer is located out of state. Cross-border shopping has been the subject of a few studies, one of which shows that this occurs when the tax savings compensate for the transportation costs of traveling to the jurisdiction with lower taxes [Leal, 2010]. Interviewees were unable to cite any evidence showing that these impacts hypothesized by bill opponents actually occurred, and we are unaware of any evidence that supports this concern being realized. While such evidence does not exist to assess whether Maryland is losing alcohol tax revenues to other states, Maryland's 2011 alcohol sales tax increase raises approximately $70 million in additional tax revenue for the state every year.

Finally, alcohol-related intoxication deaths have increased in Maryland over the last several years from 187 deaths in 2007 to 582 deaths in 2016 [Maryland Department of Health and Mental Hygiene, 2017]. The role of alcohol in these deaths is only one part of the story. In fact, the total number of intoxication deaths from alcohol and/or drugs occurring in Maryland has increased significantly from 815 deaths in 2007 to 2,089 deaths in 2016 [Maryland Department of Health and Mental Hygiene, 2017]. The increase in alcohol-related deaths is related to the use of opioids; approximately half of these deaths (49-54 percent) were combined with heroin or fentanyl intoxication in 2016 [Maryland Department of Health and Mental Hygiene, 2017].

## The Cigarette Tax Increase

### *Public Health Problem Prior to the 2008 Tax Increase*

Smoking causes multiple negative health conditions including several types of cancer, cardiovascular disease, diabetes, and respiratory diseases such as chronic obstructive pulmonary disease [U.S. Department of Health and Human Services, 2014]. Smoking is also a leading cause of mortality. Each year approximately 7,500 Marylanders die from a smoking-related disease [CDC, 2017].

In 2007, before the cigarette tax increase, 17 percent of Maryland adults identified as current smokers [CDC, 2015b]. Smoking was also common among Maryland youth. Data from the

## Smoking is a leading cause of mortality. Each year approximately 7,500 Marylanders die from a smoking-related disease.

2007 YRBSS reported that 17 percent of Maryland high school students had smoked a cigarette at least once in the preceding 30 days while 5 percent reported smoking daily [Eaton, 2008; CDC, 2007-2015]. Among these high school smokers, 10 percent reported smoking more than 10 cigarettes per day in 2007 [Eaton, 2008; CDC, 2007-2015].

### *Legislative Background*

Tobacco tax increases are considered the most effective policy for reducing tobacco use [Chaloupka, 2017]. The Maryland government first taxed cigarettes in 1958 at $0.03 per pack [Franchot, 2016b]. The state tax per pack of cigarettes increased incrementally from 1961 to 2002 and reached $1.00 in 2002 where it held steady until 2008 [Franchot, 2016b].

In 2007, the Maryland General Assembly passed The Transportation and State Investment Act of 2007, which increased the cigarette tax from $1.00 to $2.00 per pack of 11-20 cigarettes, effective January 1, 2008. The combined federal and state tax per pack of cigarettes is now $3.01 compared with $1.39 in 2007 [Orzechowski and Walker, 2017]. The average cost per pack of cigarettes in Maryland was $6.72 in 2016, an increase from $4.28 in 2007 [Orzechowski and Walker, 2017]. Of the total price of cigarettes in 2016, almost half (45 percent) is taxes. This is an increase from 2007 when taxes comprised 33 percent of the retail price [Orzechowski and Walker, 2017].

The main goals of the cigarette tax increase, as described by the experts we spoke with, were twofold: 1) to reduce tobacco use and related negative health conditions, especially lung cancer; and 2) to fund an expansion of health care coverage for low-income Marylanders not eligible for Medicaid; this extended coverage included tobacco cessation services. During the same time the bill was being considered, there was a separate bill to expand Medicaid to include parents up to 116 percent of the Federal Poverty Level. The Working Families and Small Business Health Care Coverage Act of 2007 preceded the federal Affordable Care Act (ACA). During a Special Legislative Session in 2007, called by the Governor to resolve the state's budget deficit, the Maryland General Assembly passed these two bills that established the cigarette tax increase ($1.00 per pack) and expanded Medicaid, with the revenue from the tax being used to support expanded health care coverage. Experts we spoke with emphasized that the Medicaid expansion would not have occurred without the cigarette tax increase, as the additional revenue from the tax increase was needed to pay for expanded health care coverage. One interviewee shared that initially many advocates wanted the proceeds from the tax to fund tobacco prevention programs. However, the most politically viable use of the proposed revenue was to fund expansion of the Maryland Medicaid program.

### *Public Health Impacts of the 2008 Law*

There is strong evidence of an inverse association between cigarette prices and sales. Cigarette pack sales in Maryland have declined with each cigarette tax increase [Health Care for All, 2013; Health Care for All, 2017; Orzechowski and Walker, 2017]. In 2007, Maryland retailers sold 269 million cigarette packs compared to 182 million in 2015 [Maryland Department of Health and Mental Hygiene, 2016]. Also, between 2007 and 2016, per capita cigarette consumption decreased

by 38 percent, from 48 packs per person to 30 packs [Orzechowski and Walker, 2017]. Most of this decline occurred in the years immediately following the tax increase and is consistent with decreased consumption patterns following previous cigarette tax increases in Maryland that occurred between 1998 and 2012 [Health Care for All, 2013; Orzechowski and Walker, 2017]. Reductions in cigarette sales and smoking rates were key public health goals of the cigarette tax legislation.

In 2010, two years after the cigarette tax increase went into effect, 15 percent of Maryland adults were current smokers, a decrease of 12 percent compared with the 17 percent smoking prevalence in 2007 [CDC, 2015b]. As previously noted, the CDC changed the methodology for collecting and analyzing adult BRFSS data in 2011, thus limiting comparison of pre-2011 adult data with subsequent years [CDC, 2012]. Under the revised methodology, 19 percent of Maryland adults were identified as current smokers in 2011 [CDC, 2015a; CDC, 2015b]. This prevalence declined to 15 percent in 2015 and to 14 percent in 2016 [CDC, 2015b]. Comparing 2016 with 2011, there has been a 26 percent decrease in the prevalence of adult current smokers in Maryland.

The ability of the law to impact youth smoking was also a goal of the cigarette tax, in part because reducing smoking among youth is an effective strategy for preventing youth from becoming adult smokers. An estimated 90 percent of current smokers began smoking before the age of 18 years [Farber, 2016]. The impact of price on smoking is particularly strong among youth, making tax interventions an important strategy for preventing youth smoking. Several studies document declines in smoking among youth after a tobacco tax increase, noting that youth price sensitivity impacts decision-making [Chaloupka, 2011; Ross, 2001].

High school student cigarette smoking rates in Maryland declined between 2007 and 2009 and have also decreased when 2007 is compared with 2015. More specifically, the percentage of Maryland high school students who reported smoking a cigarette at least once in the preceding 30 days was 17 percent in 2007, 12 percent in 2009, and 9 percent in 2015 [CDC, 2007-2015]. This corresponds to a 29 percent decrease between 2007 and 2009, and a 47 percent decrease between 2007 and 2015. These declines are higher than the national trend, where the prevalence dropped by 3 percent between 2007 and 2009 and by 45 percent between 2007 and 2015 (U.S. prevalence: 20 percent in 2007, 19.5 percent in 2009, and 11 percent in 2015) [CDC, 2007-2015].

Comparing YRBSS Maryland high school student data from 2015 with 2007, there was a 71 percent decline in the prevalence of students who had smoked cigarettes on 20 or more days in the preceding month (Maryland prevalence: 7 percent in 2007 and 2 percent in 2015) [CDC, 2007-2015]. There was also a 60 percent decline in the prevalence of Maryland high school students who smoked cigarettes daily from 5 percent in 2007 to 2 percent in 2015 [CDC, 2007-2015]. The YRBSS data from the same time period also revealed a 10 percent increase in the prevalence of Maryland high school smokers who smoked more than 10 cigarettes a day in the preceding month (10 percent in 2007 and 11 percent in 2015) [CDC, 2007-2015].

Another public health goal of the increased tax was the potential for the cigarette tax to lead to decreases in other illegal substance use by youth. Adolescent smokers are more likely to use illegal drugs than nonsmokers, 55 percent versus 6 percent [Farber, 2016]. National data from the YRBSS revealed that youth who reported smoking cigarettes were 2.6 times more likely to drink alcohol, 3.5 times more likely to use marijuana, and 3.8 times more likely to have four or more sexual partners [Demissie,

## Table 3. Summary of impact of cigarette tax in Maryland

| Positive impacts of cigarette tax on smoking in Maryland | | | |
|---|---|---|---|
| **Population** | **Parameter** | **Prevalence (year)** | **Change in prevalence** |
| Youth[1,2,3] | Smoked cigarette in last 30 days | 13% (2011) vs. 9% (2015) | 31% reduction |
| | Smoked cigarettes for >20 days in last 30 days | 4% (2011) vs. 2% (2015) | 50% reduction |
| | Smokers who smoke >10 cigarettes a day | 6% (2011) vs. 11% (2015) | 83% increase |
| Adults[4] | All current smokers | 19% (2011) vs. 14% (2016) | 26% reduction |
| General | Fewer youth smokers can potentially decrease prevalence of adult smokers in the future.[5] | | |
| | Health impacts (e.g., decreased smoking-related morbidity and mortality, and potentially decreased health care costs[6,7]) | | |

*Sources: [1]Eaton, 2012; [2]Kann, 2016; [3]CDC, 2007-2015; [4]CDC, 2015b; [5]Farber, 2016; [6]CDC, 2014; [7]Maryland Department of Health and Mental Hygiene, 2014. All prevalence numbers in the report have been rounded to the nearest whole number (0.5 and higher numbers were rounded up; 0.4 and lower numbers were rounded down). These rounded numbers were used to calculate the percentage change in prevalence over time for the health-risk behavior. The calculated percentages for prevalence change were also rounded to the nearest whole number.*

2017]. In Maryland, according to the Youth Tobacco and Risk Behavior Survey of 2013, high school smokers are three times more likely to currently drink alcohol, five times more likely to currently use marijuana, nine times more likely to currently abuse prescription drugs, and six times more likely to ever use other illegal drugs [Maryland Department of Health and Mental Hygiene, 2014]. Specifically, 79 percent of high school cigarette smokers reported consuming alcohol, and 67 percent reported using marijuana in the prior 30 days [Maryland Department of Health and Mental Hygiene, 2014]. This is higher than for nonsmokers (24 percent reported consuming alcohol, and 13 percent reported using marijuana in the prior 30 days).

Interviewees also expected the tax would reduce exposure to secondhand smoke and benefit nonsmoking adults and children, although the individuals who mentioned this specific impact recalled that it received less attention during the policy debate than the direct health impacts to smokers themselves. Few studies have examined this impact, and we were unable to identify any data to support this association. However, an association between the District of Columbia's cigarette excise tax and declines in periodontal disease, which is highly correlated with secondhand smoke exposure, is reported in the literature [Sander, 2013; Sutton, 2012].

Interviewees also described the potential impact on low birthweight babies because of the connections between a pregnant woman's tobacco use and prenatal outcomes [Windham, 2000]. Baltimore has experienced dramatic decreases in infant mortality since

the Baltimore City Health Department launched the B-More for Healthy Babies initiative in 2009 [B'more for Healthy Babies, 2017]. Interviewees were careful not to attribute the declines to the increase in cigarette prices; however, given the relationship between cigarette taxes and smoking, and smoking and low birthweight, interviewees who mentioned this impact explained that the tobacco tax likely amplified the effects of the initiative.

Maryland's 2008 cigarette tax increase, like similar cigarette tax increases across the country, has reduced cigarette use, especially among young people, and can reduce death and disease caused by tobacco use [Chaloupka, 2017]. Table 3 summarizes the impacts reviewed in this section.

### *Perceived Unintended Consequences and Contradictory Outcomes*

Interviewees raised potential unintended consequences in considering the impacts of the tax, many of which opponents highlighted during the policy debate. The most prominent concern was that the cigarette tax could cause youth to switch to more affordable tobacco products such as little cigars, smokeless tobacco, and e-cigarettes. In 2015, among high school students in Maryland, 10 percent had smoked cigars, cigarillos, or little cigars, and 20 percent used electronic vapor products at least once in the past 30 days [Maryland Department of Health, 2014].

At the time the cigarette tax bill was being considered, there were inconsistencies across taxes and policies for cigarettes compared to other tobacco products. Beginning in 2012, the Maryland General Assembly passed several bills that prohibit e-cigarette sales and their components to minors [Maryland General Assembly, 2012a; Maryland General Assembly, 2015], and increased the tax on little cigars and smokeless tobacco [Comptroller of Maryland, 2012]. Although the increased taxes for these tobacco products were not as large as the cigarette tax, it did bring these products more in-line with cigarette prices. Interviewees hypothesized that increasing the costs of these other products could address concerns about tobacco users switching products because of the cost. In support of this perspective, there was a reported 14 percent decline in cigar smoking in Maryland (from 14 percent in 2010 to 12 percent in 2013) by adolescents after this tax increase went into effect [Maryland Department of Health and Mental Hygiene, 2016].

A second unintended consequence interviewees raised was that the higher tax would result in a new market for smuggled cigarettes from states with lower taxes, particularly neighboring Virginia, West Virginia, Delaware, and Pennsylvania. This was a prominent argument raised by the tobacco industry. After the cigarette tax took effect, the Tax Foundation reported that the percentage of cigarettes smuggled into Maryland increased from 10 percent in 2006 to 20 percent in 2013 [Drenkard, 2015], resulting in lost tax revenue for the state. Interviewees questioned the accuracy of these data and referenced a report from Tobacco-Free Kids that concluded there is a net increase in cigarette tax revenue for Maryland and every other state that has passed a cigarette tax of 50 cents or more since 2008 [Tobacco-Free Kids, 2018]. While smuggling may have increased, Maryland's overall revenues from the cigarette tax increased following the effective date of the new tax. Regardless of the size of the smuggling problem, continued law enforcement actions to address this activity are important.

Another potential unintended consequence interviewees raised, and that was emphasized by the tobacco industry during the policy debate, was the differential impact of the tax on low-income individuals who are spending an increasing proportion of their resources on cigarettes as a result of the tax. Interviewees shared that while there was support for the potential benefits of the tax, a common

Maryland's 2008 cigarette tax increase, like similar cigarette tax increases across the country, has reduced cigarette use, especially among young people, and can potentially reduce death and disease caused by tobacco use.

concern centers around equity, [Dinno, 2009; Franks, 2007; Gospodinov, 2009], and that low-income individuals would be disproportionately impacted by the tax.

One final unintended consequence mentioned was the impact of the cigarette tax on participation in the Supplemental Nutrition Assistance Program (SNAP) among eligible low-income households. One expert mentioned this association, which is supported by a few studies. Rozema and colleagues demonstrated that the likelihood that smokers who are eligible for SNAP benefits actually enroll in SNAP increased between 10 percent and 15 percent after a cigarette tax was passed [Rozema, 2017]. The hypothesized mechanism for this association is that low-income families experience greater financial strains from the higher taxes but cannot easily stop using cigarettes because of their addictive quality. In order to cover the price increase, some may be more likely to obtain governmental assistance to help ease the new tax burden [Rozema, 2015].

## II. Revenues from the Alcohol and Cigarette Tax Increases: How Much and What Has it Been Used For?

### Revenue Created by the 2011 Alcohol Sales Tax Increase

Of the $1.13 billion in sales tax collected from food and beverages in fiscal year 2016, alcohol sales generated $283 million [Comptroller's office, personal communication]. One hundred percent of these alcohol sales tax and excise tax revenues go to the general fund. Further, the alcohol tax revenue is projected to increase by 3.5 percent annually [Maryland General Assembly, 2017]. Thus, the estimated revenue from the sales tax on alcohol for fiscal year 2017 is $289 million and $306 million for fiscal year 2018 [Maryland General Assembly, 2016; Maryland General Assembly, 2017].

The 2011 bill that increased the alcohol sales tax mandated certain appropriations for the following fiscal year, specifically schools and school construction, and the Developmental Disabilities Administration. For fiscal year 2012, the law required that $15 million be appropriated to the Waiting List Equity Fund for the Developmental Disabilities Administration and $47.5 million be appropriated to the Public School Construction Financing Fund [Maryland General Assembly, 2011; Maryland General Assembly, 2012b]. The Waiting List Equity Fund provides money for community services to disabled individuals [Maryland General Assembly, 2011]. The Public School Construction Financing Fund is administered by the Board of Public Works for construction projects for public schools [Maryland General Assembly, 2012b; Maryland General Assembly, 2012c].

Appropriations were not specified for subsequent fiscal years, though interviewees noted that they met with the Governor several times to discuss allocation. Perhaps as a result of these meetings, the Governor proposed in his budget for fiscal year 2013 that $64 million of the approximately $70 million raised annually from the 2011 alcohol sales tax increase be allocated for the original goals of the Lorraine Sheehan Alcohol Sales Tax Coalition, which included funding for drug and alcohol prevention, support for people with mental health and developmental disabilities, and health care needs such as funding for

Experts emphasized that the Medicaid expansion would not have occurred without the cigarette tax increase, as the additional revenue from the tax increase was needed to pay for expanded health care coverage.

health enterprise zones and home- and community-based long-term care.

### Revenue Created by the 2008 Cigarette Tax Increase

The cigarette tax increase became effective on January 1, 2008, during the 2007 fiscal year. According to the Comptroller's office, the revenue from this tax was $271 million for fiscal year 2006 and $268 million for fiscal year 2007. It subsequently increased to $340 million for fiscal year 2008 and $394 million for fiscal year 2009 [Franchot, 2016b]. Revenue remained between $394 and $397 million for fiscal year 2010 through fiscal year 2012. Since fiscal year 2013, cigarette tax revenues have been declining, by about $11 million annually, to $357 million in 2015. However, between fiscal year 2015 and fiscal year 2016, revenue increased by $3 million, according to the report from the Comptroller [Franchot, 2016b]. In general, state revenues following the tax increase remain substantially higher than before the increase took effect.

A review of the legislation revealed that the law did not specifically allocate the revenue for public health purposes. This was confirmed by the experts we spoke with, and, in fact, our interviewees noted that they advocated for revenue to support tobacco prevention programs. However, a couple of experts we spoke with recalled that at the time, the Governor and state policy leaders, in response to strong advocacy efforts, agreed that the revenue would be used to support health care expansion through the Working Families and Small Business Health Care Coverage Act of 2007, which expanded Medicaid coverage to adults making less than 116 percent of the federal poverty level – about 100,000 Marylanders.

While the cigarette tax revenue goes into the general fund, funds can be earmarked for specific uses. For example, even though the law did not specifically designate the revenue for cigarette-related purposes, to at least one expert we spoke with, it is clear that the revenue is doing what it was intended to do – expanding health care coverage. An additional 100,000 Maryland adults have health care through the Working Families and Small Business Health Care Coverage Act, which, as previously noted, was paid for by the cigarette tax revenue. Thus, although advocates were disappointed that the revenue did not specifically go to tobacco cessation or prevention, a few noted that with the expanded health care coverage, adults could have access to smoking cessation programs through Medicaid.

One interviewee we spoke with noted that these efforts to raise taxes have continued in Maryland in hopes of having additional state money allocated for tobacco prevention in Maryland. The CDC has recommended levels for funding tobacco prevention and cessation programs for each state [CDC, 2014]. For Maryland, based on its population and prevalence of tobacco use, the CDC recommends spending $48 million to support interventions, mass-reach health communications, cessation programs, and surveillance. According to Tobacco-Free Kids, Maryland is falling short in meeting

recommended funding levels for tobacco prevention, cessation, and treatment. In fiscal year 2017, Maryland spent less than $11 million on tobacco prevention, even though the state received an estimated $554 million in tobacco settlement payments and taxes [Tobacco-Free Kids, 2016]. Of note, tobacco companies spent an estimated $127 million in Maryland on advertising in 2014 [Tobacco-Free Kids, 2016].

## III. Recommendations

We propose the following four recommendations for advocates, researchers, funders, and concerned citizens to consider. Based on findings from the literature review and interviews with experts familiar with the policy debate surrounding these two laws and their subsequent implementation, these recommendations are intended to help maximize public health gains through state policy.

### 1. Consider taxes an effective policy strategy to improve the public's health.

By increasing cigarette and alcohol taxes, policymakers can realize the tremendous public health benefits associated with price increases. It is remarkable that the impacts documented by the evidence, as well as described by interviewees, occurred from relatively modest tax increases. Because of the public health benefits associated with even a modest tax increase, policymakers stand to see more impressive declines in key health indicators by pursuing a higher tax. Moreover, despite anticipated resistance to the bills, interviewees noted the lack of public backlash once the laws were passed.

### 2. Monitor the public health impacts of tax policy.

The two laws reviewed benefitted from the wealth of existing research documenting how each tax policy could achieve public health goals.

This research was not only critical for developing evidence-based policies for the advocacy campaigns, which were central to the debates surrounding those bills, but also illustrative for highlighting public health impacts. To fully understand the various ways laws can improve the public's health, continued support for research documenting the impacts of tobacco and alcohol taxes is needed. Additional research to further illuminate the long-term public health impacts of state tax policy, and any unintended consequences for health, as well as disproportionate impacts on certain segments of the population, is crucial to fully understanding these tax policies.

### 3. Ensure transparency for tax bills that generate revenue.

Information about the revenue generated from these laws is insightful. Although the revenues generated through these laws become part of the general fund, a number of experts who we spoke with were unable to provide clear details about how these funds have been spent. Assuring that funds generated through public health policies are strategically spent to advance public health goals should be standard procedure. At the very least, we recommend that language be included in legislation that requires transparency so that the public can identify how funds are being used.

### 4. Employ effective advocacy strategies.

Utilizing effective public health advocacy strategies to support policy change was key to the passage of these two tax laws [Pertschuk, 2010]. These efforts indicate the importance of citizen involvement when it comes to informing policy action on matters that impact the public's health. Without strong advocacy for public health policies, it is unlikely that the cigarette and alcohol tax policies highlighted in this report would have been realized. Advocating for evidence-based public health policies with deliberate, strategic, and proven strategies is critical, and should remain a priority in Maryland.

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# Public Health Policy in Maryland: Lessons from Recent Alcohol and Cigarette Tax Policies

**by Keshia Pollack Porter,** PhD, MPH, **Shannon Frattaroli**, PhD, MPH, **Harpreet Pannu**, MD, MPH

## About the Abell Foundation

The Abell Foundation is dedicated to the enhancement of the quality of life in Maryland, with a particular focus on Baltimore. The Foundation places a strong emphasis on opening the doors of opportunity to the disenfranchised, believing that no community can thrive if those who live on the margins of it are not included.

Inherent in the working philosophy of the Abell Foundation is the strong belief that a community faced with complicated, seemingly intractable challenges is well-served by thought-provoking, research-based information. To that end, the Foundation publishes background studies of selected issues on the public agenda for the benefit of government officials; leaders in business, industry and academia; and the general public.

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# Alcohol Taxes Save Lives

Excessive alcohol use in the United States and in Maryland is expensive. It leads to health problems, crime, violence, car crashes, preventable death, and decreased productivity. These costs fall not just on heavy drinkers but on all Marylanders, costing the state an estimated $5 billion per year in health care expenditures, productivity losses, property damage, criminal justice and other costs.[1] Current alcohol prices do not reflect these costs. Alcohol taxes in the U.S. are low and are updated so infrequently that their value has declined significantly over time. Raising these taxes increases the price of alcohol and lowers drinking, particularly heavy drinking, and reduces the consequences of alcohol use and abuse.[2]

While strict enforcement of drunk driving and underage drinking laws and public education on the dangers of excessive drinking are important, ***one of the most effective ways to reduce excessive alcohol use is simpler and less expensive: raise alcohol taxes.***

**Maryland's experience bears this out.** In the wake of the state's 3 percent increase in the sales tax on alcohol passed in 2011, underage drinking fell by 26 percent, underage binge drinking by 28 percent, and binge drinking among adults by 17 percent.[3] The number of alcohol-positive drivers of all ages on Maryland's roadways fell by 6 percent, including a 12 percent drop in alcohol-positive drivers between the ages of 15 and 34.[4] Risky sexual behavior is also closely associated with alcohol consumption, and in Maryland average monthly cases of gonorrhea declined by 24 percent, or almost 1600 cases per year.[5]

There are two types of alcohol taxes: excise taxes and sales taxes. Wholesalers pay excise taxes based on the type of alcohol and amount being produced. The wholesaler then passes the increase on to retailers, who pass it on to consumers. Taxes per gallon are fixed amounts that do not change with inflation. As a result, from 1991 to 2015, on average across the nation the inflation-adjusted value of these taxes fell by 30% for beer, 32% for distilled spirits, and 27% for wine.[6] In contrast, sales taxes on alcohol are a percentage of the total price, and are charged to the consumer. Unlike excise taxes, because sales taxes are tied to the price of the beverage, their value rises with inflation.

**Increasing Maryland's alcohol sales tax to match that of the District of Columbia would be a win-win for the state:** it would reduce underage drinking, drinking-driving and other alcohol problems, and increase state revenues. The 3 percent sales tax increase passed in 2011 increased alcohol sales tax revenues off-premises (at package stores and taverns) by 44.7 percent, or an average of 14.9 percent per one percent change in the tax. One of the main arguments for the 2011 increase was to come closer to the District of Columbia's alcohol tax rate, which currently stands at 10 percent, as opposed to Maryland's 9 percent. Increasing Maryland's sales tax on alcohol sold for off-premises consumption by 1 percent could be anticipated to raise approximately $14.3 million.[7] If the increase included all sectors (i.e. package stores and taverns as well as hotels, motels, restaurants and nightclubs), it would raise an estimated $22.3 million.

**Increasing Maryland's alcohol excise tax by a nickel a drink could raise significant revenues.** Had Maryland's alcohol excise taxes kept up with inflation, current taxes would be $.05 per can of beer, $.10 per glass of wine, and $.17 per serving of distilled spirits. A nickel a drink increase would come close to adjusting the beer tax for inflation, although it would fall short of adjusting it for wine and spirits. A nickel a drink increase would raise approximately $111 million in new revenues for the state.[8]

**The bulk of an alcohol tax increase would be paid by excessive drinkers.** In Maryland, 42% of adults did not drink in the past 30 days, while 21% drank excessively. This group, the excessive drinkers, would pay three-quarters of any alcohol tax increase in Maryland.[9]

## Alcohol Taxes: Basic Facts

**Binge drinking hurts all Americans, whether they drink or not.** Heavy drinking causes preventable death, health problems, injuries, and violence, and reduces workplace productivity.

- Excessive drinking is the third leading cause of preventable death in the United States.[10] A total of 88,000 lives are lost to alcohol abuse each year, including an estimated 1321 deaths in Maryland.[11] Binge drinking is responsible for more than half of these deaths.[12]
- Excessive drinking can lead to cirrhosis of the liver, cancers of the head, neck, digestive tract and female breast, alcoholism, and injury.[13]
- Alcohol is involved in a third of violent crimes and two in three cases of intimate partner violence.[14]
- Lost productivity due to alcohol-related illness, death, disability and incarceration costs $161 billion each year.[15]

**Current alcohol taxes do not reflect the high cost of excessive drinking.** Alcohol taxes in the United States are low and decrease in value each year. Today's alcohol tax revenues do not come close to covering the cost of excessive drinking.

- The United States has some of the lowest alcohol taxes in the developed world. In many European countries taxes on liquor are three times what they are in the U.S.[16]
- In 2010 excessive drinking cost an estimated $249 billion, or $2.05 per drink.[17] Federal taxes on alcohol are about 8.5 cents per drink, and state taxes are an average of 5 cents per drink.[18]

**Raising alcohol taxes reduces binge drinking and alcohol-related harms.**

- Doubling federal alcohol taxes would reduce alcohol-related deaths by 35 percent, traffic fatalities by 11 percent, and sexually transmitted disease by 6 percent.[19]
- An increase in federal alcohol taxes of 25 cents a drink would reduce drinking in excess of amounts recommended by the U.S. Dietary Guidelines by 11 percent. High-risk drinkers would pay nearly five times more in taxes than low-risk drinkers.[20]
- A nickel a drink increase in federal alcohol taxes would reduce fatal traffic crashes by 7 percent and deaths due to cirrhosis by 32 percent.[21]

**Increasing alcohol taxes makes the roads safer for everyone by reducing drunk driving.** Drunk driving and high numbers of fatal traffic accidents are associated with heavy drinking.

- Three in ten Americans will be involved in an alcohol-related traffic accident during their lifetime.[22]
- Drunk drivers kill one person every 50 minutes in the United States.[23]
- A 10 percent increase in the price of beer would reduce traffic accidents by 5 to 10 percent, and traffic accidents involving youth by 7 to 17 percent.[24]

**Raising alcohol taxes would reduce underage drinking.** Three out of ten high school students drink, and one in eight binge drinks.[25] However, because most people under 21 do not have much disposable income, raising alcohol taxes can reduce underage drinking significantly.

- Alcohol use causes the deaths of 4,400 people under age 21 annually. The most common causes of death are motor vehicle crashes, homicides and suicides.[26]
- Teen drinking is associated with higher rates of risky sexual behaviors.[27]
- Underage drinking is very responsive to changes in the price of alcohol.[28]
- Higher alcohol taxes lead to improved graduation rates, study habits and higher grades.[29]

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**Setting the Record Straight on the Health Equity Resource Communities Initiative and the Alcohol Tax**

September 30, 2020

1. **An increase in the alcohol tax will hurt small businesses, especially restaurants and bars. The 2011 increase led to a reduction in sales of alcoholic beverages.**

   This initiative will have enormous positive public health benefits, including a reduction in drunken driving, underage drinking and binge drinking. And it will generate critically needed funds to improve health care in underserved communities and expand behavioral health treatment.

   The penny per dollar increase in the alcohol tax will not affect alcohol consumed in bars and restaurants for two years, which gives them ample time to recover from the current economic downturn.

   Maryland saw significant benefits from an increase in the alcohol sales tax in 2011 (see Reference 1):

   - Underage drinking fell by 26 percent, underage binge drinking by 28 percent, and binge drinking among adults by 17 percent.
   - The number of alcohol-positive drivers of all ages on Maryland's roadways fell by 6 percent, including a 12 percent drop in alcohol-positive drivers between the ages of 15 and 34.
   - Risky sexual behavior is also closely associated with alcohol consumption, and in Maryland average monthly cases of gonorrhea declined by 24 percent, or almost 1600 cases per year.

2. **People who have lost their jobs in the pandemic will have to pay more for alcoholic beverages with this tax increase and that's unfair.**

   For the next two years, the tax would not increase on alcohol consumed in restaurants or bars, so average Marylanders will not even notice the increase. Those who will be most affected are those who drink excessively. Overall, a penny per dollar is a very small increase, while the proceeds will be used to provide benefits in communities hit hard by the pandemic.

3. **In a recession is a terrible time to impose an additional tax on the hard-hit hospitality industry.**

   Research has found that the alcohol industry passes through tax increases to its customers. While consumers will pay pennies more for their alcohol, communities hardest hit by the pandemic and the recession will get much-needed health resources.

   The recession has had a minor impact on sales at package liquor stores and taverns. For the 12 months ending in June 2020, which included the main impact of the pandemic, sales tax revenue

from liquor stores and taverns declined by only 1.6 percent, according to records compiled by the Maryland Comptroller's office.

4. **Revenue generated by the 2011 increase in the alcohol tax was supposed to go to the Developmental Disabilities Administration, but only a small fraction of the revenues actually went there. While addressing health disparities is a good goal, the General Assembly will simply redirect proceeds from an alcohol tax increase to other state needs.**

   That's not true. This proposal will create a dedicated fund that cannot be used for anything except substance use treatment and support for HERCs. It can ONLY go for these purposes. The 2011 law did allocate $5 million annually to the DDA, and at least $5 million in new revenues from the alcohol tax increase did indeed go to the DDA every year since 2012. (The first year, some of the proceeds from the tax increase were allocated to a major school construction initiative.) Other revenue from the 2011 tax increase went to other aspects of public health, including support for the Health Enterprise Zone initiative. (See Reference 2.)

5. **While it's a good goal to address health disparities, it's wrong to increase the most regressive tax in the state.**

   The tax on alcoholic beverages has the largest impact on heavy drinkers. Benefits from the tax are clearly progressive, providing support to communities that have suffered from disinvestment.

   A study found that roughly 75 percent of the additional cost as a result of a tax increase is paid for by excessive drinkers. Among customers who do not drink excessively, those in the highest income bracket would pay more additional taxes per year on average than those in the lowest income bracket. (See Reference 3.) A 2015 national survey on consumption habits found that 78% of higher-income adults reported that they drink alcohol in contrast to only 45% of lower-income adults. (See Reference 4.)

6. **Alcohol is taxed twice in Maryland – the excise tax and point-of-sale tax.**

   Maryland's excise tax is among the lowest in the country. Plus, however we tax alcohol, the proceeds do not come close to paying for the damage to public health caused by alcohol, through things like drunken driving, binge drinking, emergency room and other medical care costs, and spousal abuse. Even with this tax increase, we will continue to subsidize alcohol.

   A study found that in Maryland in 2010, excessive drinking cost the state $4.96 billion, with government covering $2.1 billion (42.3%) of these costs. Binge drinking represented $3.85 billion (77.6%) of these total costs. Those figures far outpace how much money the state collects through taxes on alcoholic beverages. (See Reference 5.)

7. **Maryland's alcohol tax rate is already higher than most surrounding states, including Virginia (5.3%), Pennsylvania (6%) and West Virginia (6%).**

We cannot compare Maryland's tax rate to those states, because those states all control liquor prices, giving them an extra tool to increase revenue on alcoholic beverages. The neighboring jurisdiction that is most comparable is the District of Columbia; with this increase, we would match the District's tax rate.

**Reference 1**

Keshia Pollack Porter, Shannon Frattaroli, and Harpreet Pannu. "Public Health Policy in Maryland: Lessons from Recent Alcohol and Cigarette Tax Policies." *The Abell Report* 31, no. 2 (2018): 1-20.

Marie-Claude Lavoie, Patricia Langenberg, Andres Villaveces, Patricia C. Dischinger, Linda Simoni-Wastila, Kathleen Hoke, and Gordon S. Smith. "Effect of Maryland's 2011 Alcohol Sales Tax Increase on Alcohol-Positive Driving." *American Journal of Preventive Medicine* 53, no. 1 (2017): 17-24. Accessed 2017/05/14. https://dx.doi.org/10.1016/j.amepre.2016.12.011.

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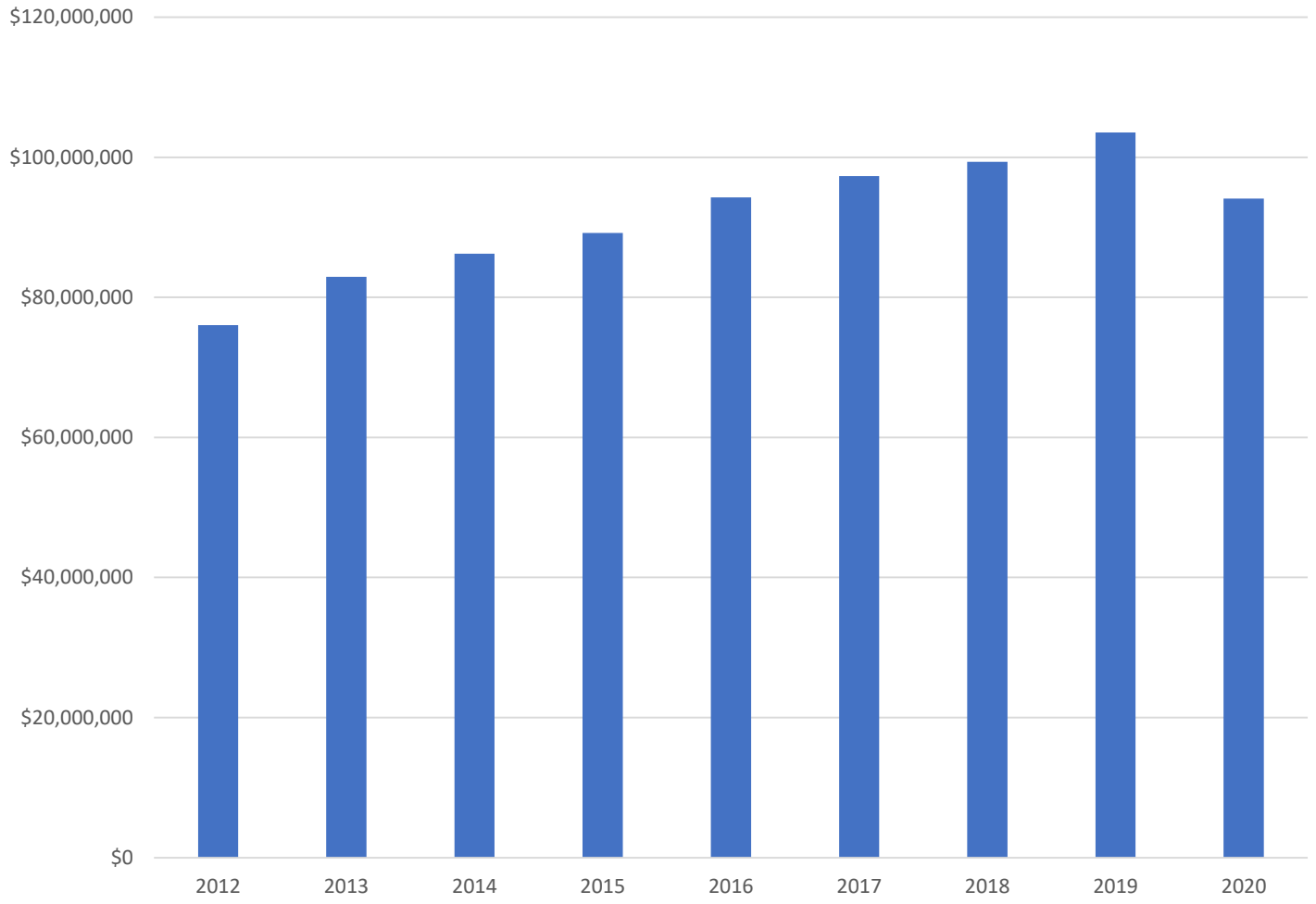
# Annual Revenue from 2011 Alcohol Sales Tax Increase




Source: Maryland Office of the Comptroller

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**To:** **Vincent DeMarco, President**
**Maryland Citizens' Health Initiative, Inc.**

**From:** **Steve Raabe, President**
**OpinionWorks LLC**

**Date:** **September 15, 2020**

**Subject:** **Maryland Polling on Health Equity Resource Communities**

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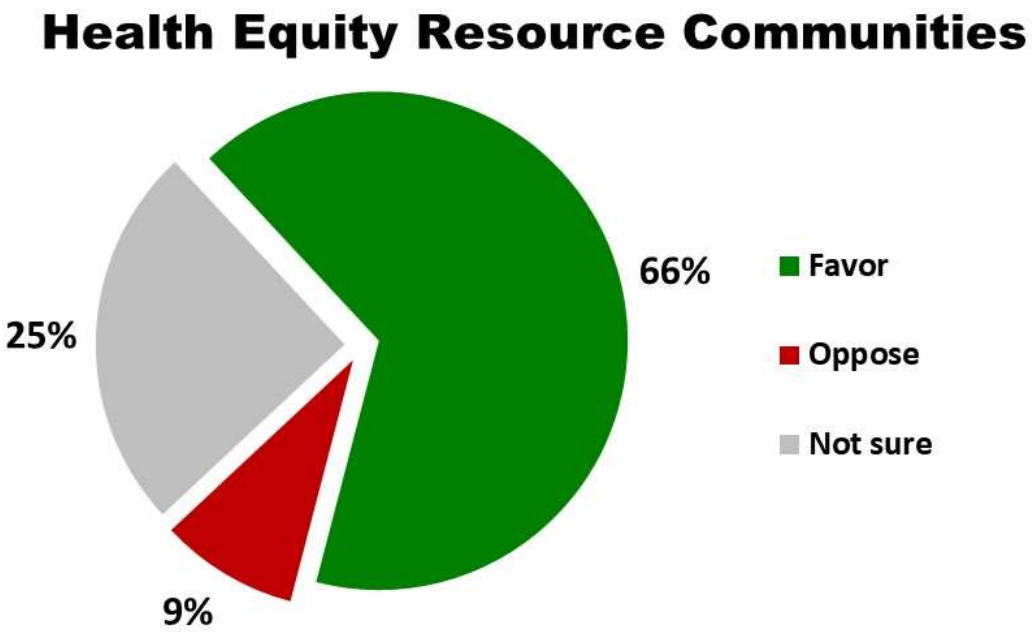
**Our new statewide poll of Maryland voters shows overwhelming support for a proposal to create Health Equity Resource Communities (HERC). Two-thirds of voters favor the proposal, while opposition amounts to fewer than one in ten voters. Furthermore, a more than four-to-one supermajority of voters would support a 1% increase in the state's alcohol sales tax to pay for this new program.**

These findings are based on our statewide poll of 838 registered votes, conducted both online and by telephone September 4-11, 2020. The poll has a potential margin of sampling error of ±3.4% at the 95% confidence level.

### Widespread Support for Health Equity Resource Communities

By an overwhelming margin of 66% to 9%, Maryland voters support the creation of Health Equity Resource Communities to provide grants, tax incentives, and loans for health care providers in parts of the state with poor health outcomes. One-quarter of the state's voters said they were not sure.




**There is a proposal to create Health Equity Resource Communities in Maryland to provide grants, tax incentives, and loans for health care providers in parts of the state with poor health outcomes to improve those health outcomes. Would you generally favor or oppose this proposal?**

Support for this proposal crosses party lines, with Republicans supporting it with a 55% majority compared to only 16% opposed, Independents and third-party voters supporting the proposal by a margin of 63% to 7%, and Democrats by 74% to 6%.

**Support by Political Party for Health Equity Resource Communities**

| | All Voters | Democrats | Republicans | Independents |
|---|---|---|---|---|
| **Favor** | **66%** | **74%** | **55%** | **63%** |
| Oppose | 9% | 6% | 16% | 7% |
| **Margin** | **+57%** | **+68%** | **+39%** | **+56%** |
| Not sure | 25% | 20% | 29% | 30% |

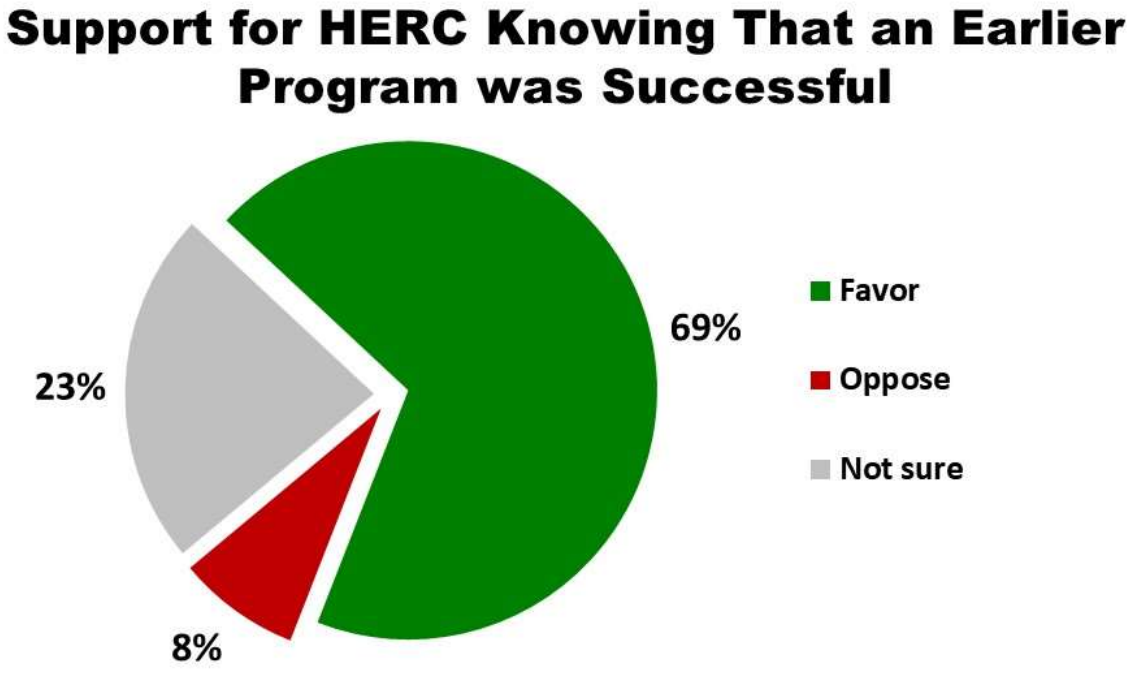
Support is never lower than the mid-60s across all parts of the state.

**Support by Jurisdiction and Region for Health Equity Resource Communities**

| | Baltimore City | Baltimore County | Greater Baltimore[1] | Mont-gomery | Prince George's | Greater Washington[2] | Shore/ Southern MD | Western MD |
|---|---|---|---|---|---|---|---|---|
| **Favor** | **66%** | **65%** | **66%** | **74%** | **68%** | **68%** | **63%** | **64%** |
| Oppose | 7% | 12% | 10% | 6% | 6% | 8% | 8% | 12% |
| **Margin** | **+59%** | **+53%** | **+56%** | **+68%** | **+62%** | **+60%** | **+55%** | **+52%** |
| Not sure | 28% | 22% | 24% | 19% | 26% | 24% | 30% | 24% |

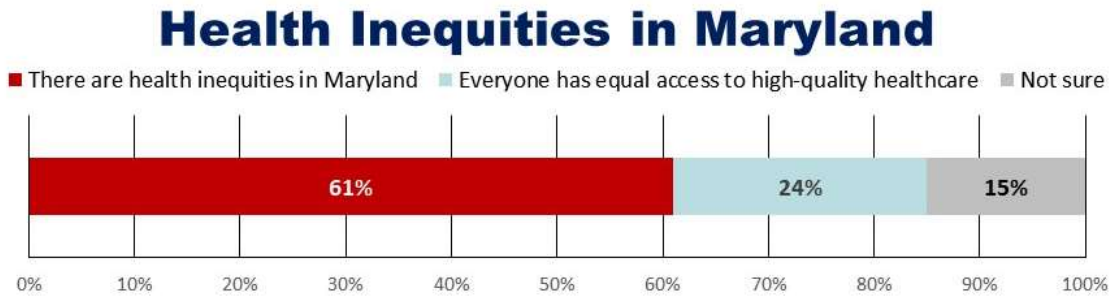
[1]Greater Baltimore includes Anne Arundel, Baltimore City, Baltimore County, Carroll, Harford, Howard.
[2]Greater Washington includes Charles, Frederick, Howard, Montgomery, Prince George's.

Informed that "this proposal is based on an earlier program that successfully increased access to healthcare, improved residents' health, reduced hospital admissions, and created cost savings, but was allowed to expire in 2016," support climbs slightly higher. Knowing this information, 69% support the proposal and only 8% oppose it, with 23% unsure.



### Awareness of Health Inequities in Maryland

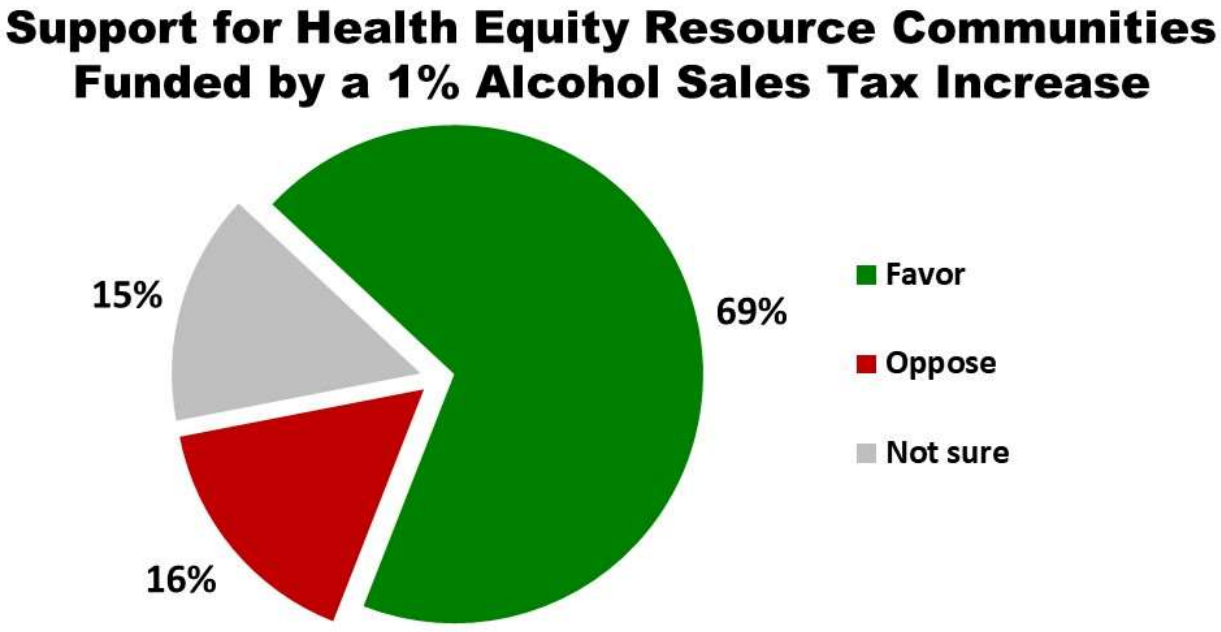
This high level of support is explained in part by the realization by most Marylanders that not everyone has equal access to high-quality healthcare across the state. More than six out of ten Marylanders (61%) acknowledge that there are "health inequities based on income, race, ethnicity, disability, or place of residence in the state." Only 24% believe "everyone in Maryland has equal access to high-quality healthcare," while 15% are not sure.




**Do you think everyone in Maryland has equal access to high-quality healthcare, or are there health inequities based on income, race, ethnicity, disability, or place of residence in the state?**

### Support for a 1% Increase in the Alcohol Sales Tax to Pay for Health Equity Resource Communities

A more than two-thirds majority of voters would raise the state's alcohol sales tax from 9% to 10% to pay for this program. By a margin of more than four-to-one – with 69% of voters in favor and only 16% opposed – Maryland registered voters favor "a 1% increase in the alcohol sales tax in Maryland if the money was dedicated to the Health Equity Resource Communities program." Fifteen percent are unsure.




**The proposed program would be funded with a 1% increase in the state's alcohol tax, raising it from 9% to 10%. A prior increase in the alcohol tax was shown to reduce drinking by underage Marylanders and heavy drinkers, which saved lives and reduced healthcare costs. Knowing this, would you favor or oppose a 1% increase in the alcohol tax in Maryland if the money was dedicated to the Health Equity Resource Communities program?**

Support for a 1% increase in the alcohol sales tax to fund this program crosses all lines, with 61% of Republicans, 65% of Independents, and 75% of Democrats supporting it. Politically, this proposal is a winner all across the political spectrum.

**Support by Political Party for a 1% Alcohol Sales Tax Dedicated to HERC**

| | All Voters | Democrats | Republicans | Independents |
|---|---|---|---|---|
| **Favor** | **69%** | **75%** | **61%** | **65%** |
| Oppose | 16% | 11% | 25% | 17% |
| **Margin** | **+53%** | **+64%** | **+36%** | **+48%** |
| Not sure | 15% | 14% | 13% | 18% |

**Support by Jurisdiction and Region for a 1% Alcohol Sales Tax Dedicated to HERC**

| | Baltimore City | Baltimore County | Greater Baltimore[1] | Mont-gomery | Prince George's | Greater Washington[2] | Shore/ Southern MD | Western MD |
|---|---|---|---|---|---|---|---|---|
| **Favor** | **70%** | **72%** | **70%** | **78%** | **65%** | **71%** | **62%** | **65%** |
| Oppose | 17% | 12% | 17% | 12% | 15% | 14% | 19% | 10% |
| **Margin** | **+53%** | **+60%** | **+53%** | **+66%** | **+50%** | **+57%** | **+43%** | **+55%** |
| Not sure | 13% | 15% | 13% | 11% | 20% | 15% | 17% | 25% |

[1]Greater Baltimore includes Anne Arundel, Baltimore City, Baltimore County, Carroll, Harford, Howard.
[2]Greater Washington includes Charles, Frederick, Howard, Montgomery, Prince George's.

**Political Impact of Legislators' Position on Health Equity Resource Communities**

This overwhelming support for the HERC proposal translates into a potential political impact on future General Assembly races. A hypothetical legislative candidate's position on this proposal could have a significant influence over whether voters would support that candidate – even causing voters to oppose legislative candidates of their own party.

As the table on the following page indicates, on the so-called generic ballot, Democratic legislative candidates start off with a 29-point advantage based on partisan preferences across the state, if the election were held today. (Note that this Democratic advantage is 10 percentage points higher than it was in November 2017, when Democrats enjoyed a 19-point margin in the generic legislative ballot.)

Learning that a hypothetical Democrat in their district supports creating Health Equity Resource Communities while the Republican candidate opposes it, the margin for the Democrat increases to 37 points.

Surprisingly in this partisan age, the advantage for Democrats is erased and reversed if the *Republican* supports the proposal while the Democrat opposes it. In this scenario, the Republican legislative candidate wins by a six percentage points, representing an enormous 43-point swing in voter support. This proposal to address healthcare inequities is a potent political issue, and helpful to legislative candidates of both parties.

**Support for Legislative Candidates Based on Their Position on HERC**

| | Support the Democratic Candidate | Support the Republican Candidate | Margin |
|---|---|---|---|
| Generic Ballot in State Legislative Elections | 56% | 27% | Democrat +29% |
| Democrat Supports HERC Proposal Republican Opposes It | 58% | 21% | Democrat +37% |
| Republican Supports HERC Proposal Democrat Opposes Legislation | 31% | 37% | Republican +6% |

"In the next state legislative elections, are you more likely to vote for… (rotate): the Democratic candidates or the Republican candidates?"

(Rotate order of next two questions):
"If you learned that the Democratic candidate in your legislative district supported creating Health Equity Resource Communities while the Republican candidate opposed it, who would you be more likely to vote for (rotate): the Democratic candidate or the Republican candidate?"
"If you learned that the Republican candidate in your legislative district supported creating Health Equity Resource Communities while the Democratic candidate opposed it, who would you be more likely to vote for (rotate): the Republican candidate or the Democratic candidate?"

**How This Poll was Conducted**

A total of 838 interviews were conducted statewide September 4-11, 2020 among randomly selected Maryland registered voters. A cross-section of Marylander registered voters were surveyed online, and live telephone interviewers reached additional voters on both wireless and landline telephones, to ensure the poll best represented all segments of the electorate. Sampling targets were adhered to throughout the interviewing process to ensure that the sample represented the statewide electorate geographically, by political party, and for key demographic indicators such as gender, age, and race or ethnicity. Following interviewing, statistical weights were applied to ensure the sample most closely mirrored the characteristics of the statewide electorate. This poll produces a margin of sampling error no greater than ±3.4% at the 95% confidence level, meaning that at least 19 times out of 20 the actual results would differ by no more than that margin if every registered voter in the state had been interviewed.

**Brief Background on OpinionWorks**

OpinionWorks conducts frequent opinion studies at the state and local level across the country. Since 2007 we have been the polling organization for *The Baltimore Sun* newspaper in Maryland and have polled for numerous other media and advocates throughout the Mid-Atlantic region. We are engaged by state and local government agencies from Delaware to Oregon to assess public needs and preferences. We measure health attitudes and practices for public health departments and advocates, assess alumni engagement and prospective student expectations for colleges and universities, evaluate donor and volunteer relationships for non-profit organizations, and study human decision-making to inform behavior change efforts on environmental and health questions.

# Achieveing Health Equity: Health Impact of Maryland's Health Enterprise Zones

White Paper

September 10, 2020

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**Johns Hopkins Center for Health Disparities Solutions**

## Table of Contents

## Executive Summary

Historically, racial/ethnic minorities and residents living in underserved areas have experienced disparate access to health care in Maryland. The same communities also have higher rates of chronic diseases such as diabetes, hypertension and heart disease. This can lead to preventable, costly hospitalizations and poor health outcomes.

During implementation of the Affordable Care Act and Medicaid expansion, the Maryland General Assembly passed legislation authorizing the Maryland Health Improvement and Disparities Reduction Act. This policy created the framework for an innovative pilot program referred to as the Health Enterprise Zones (HEZ) Initiative. The goals of the initiative were to reduce health disparities, improve health care access and health outcomes, and reduce health care costs and hospital admissions/readmissions in some of the state's most underserved communities. Health Enterprise Zones, coordinated by local public-private coalitions, were eligible for financial incentives such as tax credits and loan repayment programs. These incentives were used to attract much needed health care providers to the HEZs and to address unmet healthcare needs of the community.

In a previous analysis, the HEZ Initiative was associated with a significant reduction of inpatient hospital stays and a net savings of over $93 million for Maryland's health care system. The purpose of this white paper is to examine the associated health impacts of the initiative.

The State funded five HEZs: Annapolis/Morris Blum; Capitol Heights in Prince George's County; Caroline and Dorchester Counties; Greater Lexington Park in St. Mary's County; and West Baltimore in Baltimore City. All of the HEZs sought to reduce diabetes and cardiovascular disease related illnesses and associated risk factors. In addition, two HEZs addressed asthma (Capitol Heights and Greater Lexington Park), two HEZs addressed behavioral/mental health (Caroline-Dorchester and Greater Lexington Park) and two HEZs addressed obesity (Caroline-Dorchester and West Baltimore).

To achieve their program objectives, each HEZ had latitude in the strategy they developed to address the unique challenges to health in their community. However, all of the HEZs used financial incentives to expand the availability of primary care in their communities; whether through recruiting additional health providers or opening new health centers/clinics. In addition, each HEZ employed community health workers to address clinical and social risk factors of vulnerable patients in their community. Depending on their specific community needs, the HEZs also operated mobile care units (medical, mental, and dental), implemented nutrition and healthy lifestyle programs, provided transportation assistance and enhanced school-based health services. In total, the five HEZs provided over 300,000 visits to more than 170,000 individual patients during this pilot program.

Overall, the HEZs were able to positively impact health outcomes in their respective areas by employing a variety of creative community-based solutions. The HEZ Initiative can serve as a model for future programs aiming to address racial/ethnic health disparities, improve access to health care, and reduce health care costs in low-income and medically underserved communities.

## Introduction

In general, racial/ethnic minorities are more likely to be diagnosed with and die from chronic diseases. For instance, compared with non-Hispanic whites, Black/African Americans are 40% more likely to have hypertension and 20% more likely to die from heart disease and American Indians are 50% more likely to be diagnosed with heart disease and 2.5 times more likely to die from diabetes (OMH, 2019). Disparities also exist in access to health care and treatment. For example, Hispanic/Latino Americans are twice as likely to visit the emergency department for asthma and receive mental health treatment half as often as non-Hispanic whites (OMH, 2019).

In Maryland, health disparities have also disproportionally impacted racial/ethnic minorities and plagued underserved communities for many years. Although progress has been made to reduce some disparities, higher mortality rates still exist for racial/ethnic minorities and residents of rural regions in the state (Chen, 2012). In particular, Blacks in Maryland have higher death rates for heart disease (1.2 times), stroke (1.35 times), diabetes (2.1 times) and asthma (4.5 times) as compared to Whites (Mann, 2019). Rates of emergency department visits related to these conditions are also significantly higher among Blacks than whites. (Mann, 2019). In recent months, the global COVID-19 pandemic has shed new light on social determinants of health that impact health disparities. In Maryland, Blacks and Hispanics overwhelmingly represent the higher percentage of cumulative COVID cases and COVID-related hospitalizations as compared to the total population; with Blacks and Whites representing the highest percentage of deaths (Mann, 2020).

In 2011, Lieutenant Governor Anthony G. Brown, Chair of the Maryland Health Quality and Cost Council, formed a Health Disparities Workgroup in response to the continuous health inequities in Maryland and a report from the Maryland Health Care Reform Coordinating Council. The workgroup was charged with investigating strategies to reduce and eliminate health disparities. Led by Dean E. Albert Reece of the University of Maryland School of Medicine, the workgroup was composed of a diverse group of health experts and community health leaders. The workgroup recommended three innovative strategies to improve health and health care disparities in Maryland, in particular, the formation of Health Enterprise Zones (HEZs) (Maryland Health Quality and Cost Council, 2012). These recommendations, based on principles of economic development and public health practice, formed the foundation of the Maryland Health Improvement and Disparities Reduction Act of 2012 (Senate Bill 234) which was signed into law by Governor Martin O'Malley on April 10, 2012. (Maryland Health Improvement and Disparities Reduction Act of 2012).

The legislation enabled the establishment of HEZs as a mechanism to target resources in specific areas of the State. The purpose of the HEZs were to:

- Reduce health disparities among racial/ethnic groups and geographic areas;
- Improve health care access and health outcomes in underserved communities; and
- Reduce health care costs and hospital admissions/readmissions.

HEZs were defined as contiguous geographic areas where the population experienced poor health outcomes that contribute to racial/ethnic and geographic health disparities. HEZs were

eligible for technical support and special financial incentives that were used to recruit primary care practitioners and support community-based interventions. Incentives included income and hiring tax credits, loan repayment assistance, priority participation in the Maryland Patient Centered Medical Home Program and grant funding provided by the Maryland Community Health Resources Commission (CHRC). HEZs were required to be small enough for incentives to have a significant and measurable impact. The Health Improvement and Disparities Reduction Act provided $4 million per year over a four-year period (2013-2016) to support the Maryland Health Enterprise Zones Initiative (DHMH, 2014).

In a previous analysis, the Health Enterprise Zones Initiative was associated with a reduction of 18,562 inpatient hospital stays, an increase of 40,488 emergency department visits and a net savings of $93.4 million for Maryland's health care system (Gaskin et al, 2018). The increase in emergency department visits was probably due to two phenomena. One, patients who were not seeking care because of the healthcare aware the HEZ raised in the community, these patients began seeking care. Two, patients who normally would have been admitted to the hospitals through the emergency room were now being sent home because there were follow-up resources available in the community. There was anecdotal evidence from residents and healthcare providers to support the latter explanation. The purpose of this white paper is to examine the associated health impacts of the five Health Enterprise Zones piloted in Maryland.

## Overview of Maryland's Five Health Enterprise Zones

In collaboration, the Maryland Department of Health and Mental Hygiene (DHMH) and the Community Health Resources Commission administered the HEZ initiative in three stages: (1) Public Comment & Community Forums, (2) HEZ Selection Process and (3) Implementation & Evaluation. Nonprofit community-based organizations and local government agencies were eligible to apply for HEZ designation based on the following criteria (DHMH, 2012):

1. An HEZ must be a community, or a contiguous cluster of communities, defined by zip code boundaries (one or multiple zip codes).
2. An HEZ must have a resident population of at least 5,000 people.
3. An HEZ must demonstrate economic disadvantage by: Medicaid enrollment rate; or WIC participation rate above the median value for Maryland.
4. An HEZ must demonstrate poor health outcomes by: a lower life expectancy or higher percentage of low birth weight infants based on the median value for Maryland.

The HEZ call for proposals resulted in 19 applications from various areas across Maryland. In January 2013, the DHMH designated five Health Enterprise Zones based on the recommendations of an independent HEZ Review Committee and the CHRC. The five HEZs, depicted below, represent rural, suburban and urban communities from across the state.


**Figure 1: Map of Maryland's Health Enterprise Zones, January 2013**
(Source: Dwyer, 2017)

During the four-year implementation and evaluation period (2013-2016), each HEZ focused on improving the health care needs of their respective community. Although there was variation in approaches, each HEZ targeted specific clinical conditions/diseases with the common goal of reducing health disparities, increasing health care access and improving health outcomes. The health impacts of each HEZ are described below and Table 1 provides a summary of HEZ characteristics. This table provides the county where the HEZ was located, the zip codes that comprised the HEZ, the HEZ's population, the lead organization coordinating the HEZ, the HEZ budget, and the chronic health conditions the HEZ addressed.

## *Annapolis Community Health Partnership (ACHP) HEZ*

The ACHP utilized HEZ funds to establish a new primary care health center in the Morris H. Blum senior citizen public housing facility. The primary goal of the HEZ was to screen and treat patients for cardiovascular risk factors, including diabetes, hypertension, obesity and smoking. In addition, the ACHP HEZ aimed to reduce preventable emergency room visits and hospital admissions among this community of high utilizers. Services were available to the Morris Blum residents and low-income adults in the surrounding community at reduced or no cost.

The Morris Blum Clinic opened in October 2013 and began providing services with one physician, one registered nurse/case manager and two medical office assistants (Hussein, 2014). After three years in operation, the clinic provided 7,089 patient visits to 4,191 individuals who resided in the Morris Blum facility and surrounding community, including 1,037 patients with diabetes (MDHMH, 2017). The clinic also received Level 3 recognition by the National Committee for Quality Assurance as a Patient Centered Medical Home. As compared to the total HEZ population, the Morris Blum Clinic served higher proportions of Black/African American and Hispanic/Latino patients.

The ACHP employed a number of strategies to improve patient outcomes in the HEZ including: care coordination services, utilization of an integrated electronic health record, patient registries, onsite lab services, chronic disease management programs and trainings in bias awareness, trauma informed care and cultural competency for all staff. To prevent additional emergency room visits or readmissions, the clinic linked patients recently discharged from the hospital into follow up care. In addition to annual depression and behavioral health screenings, the clinic also partnered with community mental health providers to offer timely behavioral health care, when needed. Other activities conducted by the ACHP HEZ included home visits, annual domestic violence screenings, medication reconciliation, and a variety of nutrition classes and walking groups to support patient self-management.

As a result of these efforts, the following patient outcomes were accomplished by September 30, 2016:

- 480 individuals provided smoking cessation workshop
- 426 patients provided care coordination services
- 1,113 participants in blood pressure screening
- 62 participants in the diabetes self-management program
- 410 participants in healthy lifestyle activities
- 1,106 participants in community health events

Metrics reported for the ACHP HEZ and Morris Blum Clinic in 2018 show continued growth in chronic disease management and improved health outcomes. The clinic exceeded baseline performance and improvement goals in all four measures: poorly controlled A1C, hypertension control, measurement of BMI and follow-up of abnormal BMI, and screening/cessation intervention for tobacco use (Cameron, 2018).

Overall, the ACHP HEZ was able to increase and maintain medical service capacity, provide health care to thousands of patients, and offer a number of interventions to address cardiovascular risk factors, diabetes, hypertension, obesity and smoking in the Annapolis community. Navigational services and community partnerships to address non-medical needs such as housing and food insecurity were also important components of the ACHP strategy.

## *Competent Care Connections (CCC) HEZ*

The CCC HEZ utilized funds to expand primary care and behavioral health services in rural Caroline and Dorchester Counties; targeting workforce development and increasing community health resources. The primary goal of the HEZ was to reduce risk factors and improve outcomes related to diabetes, hypertension, asthma and behavioral health.

The CCC HEZ expanded the primary care and community health workforce by adding over 30 jobs (30.1 FTEs) to the area including primary care providers, community health outreach workers (CHOWs), care coordinators and peer recovery support specialists for mental health and substance use; all whom received training in cultural competency, trauma informed care and health literacy (MDHMH, 2017). The HEZ partnered with community organizations such as the Choptank Community Health System and Associated Black Charities CHW Team to provide care coordination services, develop a HEZ electronic health record, and offer an assortment of health education and wellness programs. In particular, the CCC HEZ supported an intensive obesity treatment program (Maryland Healthy Weighs) for low-income patients, offered telehealth services, and established the Dorchester School Based Wellness Center which implemented an evidence-based asthma management program and provided mental health care and counseling services (Mercier, 2018 & Gaskin et al., 2018).

The CCC HEZ also created a new Mobile Crisis Team (MCT) that delivered mental health/behavioral health crisis intervention, assessment, and referral services to community members in need. As of September 30, 2016, the MCT had served 636 individuals and had reduced the response time to mental health crises in Caroline and Dorchester Counties from over one hour to just 19 minutes. The MCT generated potential savings of nearly $1.2 million by facilitating 545 emergency department diversions and 1,525 initial and follow-up dispatches (MDHMH, 2017). In addition, the CCC HEZ opened the Federalsburg clinic, a community-based, outpatient mental health clinic for adults, which had served 430 patients in 10 months.

As a result of these efforts, the following patient outcomes were accomplished by September 30, 2016 (MDHMH, 2017):

- 27,087 visits provided throughout the CCC HEZ to 6,098 unduplicated patients and clients (Mercier, 2018)
- 464 participants in peer recovery support
- 534 participants in weight management program
    - In 121 patients who completed Maryland Healthy Weighs for more than 8 weeks, the average BMI was reduced by 13%, resulting in an estimated savings of $11,000 in annual medical costs for each patient (Mercier, 2018).
    - In a subset of patients who completed at least eight weeks of the program from April-September 2016, all (100%) of the diabetic patients had a reduction or elimination of diabetic medications and 67% of hypertensive patients had a reduction or elimination of high blood pressure medications. (MDHMH, 2017)
- 409 patients provided care coordination services
- 940 students provided somatic health services
- 521 students provided mental health services

- Over 3,200 individuals provided education or health screenings by CHOWs
- Additional 28 hours/per week of Nurse Practitioner coverage at Dorchester School Based Wellness Center

Overall, the CCC HEZ increased access to primary care services and behavioral health resources in some of the most underserved communities in Caroline and Dorchester counties. This resulted in improvements in chronic diseases (diabetes, hypertension and asthma), behavioral health outcomes and reduced medical costs. Most CCC HEZ participants were White (52.6%), but as compared to the total HEZ population, the CCC HEZ served a higher proportion of Black/African American patients (40.2% vs. 29.0%).

### *Greater Lexington Park (GLP) HEZ*

The GLP HEZ utilized funds to expand access to primary care, behavioral health and dental services in a community of St. Mary's County that chronically lacked primary care providers. A primary goal of the HEZ was to improve outcomes related to hypertension, asthma, diabetes, congestive heart failure and chronic obstructive pulmonary disease (COPD).

The GLP HEZ expanded access to health services by adding over 16 jobs (16.2 FTEs) to the Greater Lexington Park community including primary care physicians, a physician assistant, a nurse practitioner and a buprenorphine-certified physiatrist. The GLP HEZ also facilitated the opening of a new primary care office at MedStar St. Mary's Hospital (MSMH) until the construction for the HEZ supported community health center, East Run Medical Center, was completed in the spring of 2017. The medical center includes a medical clinic, behavioral health and dental services.

In addition to recruiting new providers, the GLP HEZ also developed a clinical care coordination program, implemented an electronic prescription system, utilized community health workers, integrated care coordination software system with MSMH's electronic medical record, and provided a selection of evidence-based health programming, including the Hair, Heart and Health Program. To address transportation barriers experienced by community members, the GLP HEZ established a 16-stop mobile medical route to be used for rides to medical appointments and other human services. The HEZ also equipped a mobile dental van and expanded the transportation program to include a high-demand specialty transportation service. Integrating the work of HEZ practitioners with existing community resources such as MedStar St. Mary's "Get Connected to Health" mobile clinic allowed the GLP HEZ to collectively provide 22,139 visits to 3,847 patients. The GLP HEZ served a higher proportion of Black/African American patients as compared to the total HEZ population. Trauma informed care training was provided for all staff of the HEZ and MSMH.

As a result of these efforts, the following patient outcomes were accomplished by September 30, 2016:

- 1,415 patients served by "Get Connected to Health" mobile clinic
- 2,335 patients provided behavioral health services
- 981 patients received care at MSMH Primary Care Office

- 77 patients provided serves by mobile dental van
- 11,359 patient encounters with community health workers
- 1,464 patients provided care coordination services
- 15,364 rides provided by HEZ Mobile Medical Route
- 738 rides provided by medical specialty service

Overall, the GLP HEZ significantly increased access to primary care, behavioral health and community health resources in St. Mary's County by expanding and integrating services with community partners. Through connecting thousands of patients to primary care and specialty services, the HEZ was able to reduce risk factors and improve outcomes related to hypertension, asthma, diabetes and other cardiovascular diseases.

## *Prince George's County (PGC) HEZ*

The PGC HEZ utilized funds to increase access to primary care services in Capitol Heights by expanding the health workforce and establishing four Patient Centered Medical Homes (PCMH) and one specialty care practice. The primary goals of the HEZ were to provide services to at least 10,000 residents and improve outcomes related to asthma, diabetes, and cardiovascular disease.

The PGC HEZ added over 18 jobs (18.3 FTEs) in Prince George's County including physicians and nurse practitioners. Collectively, through enhanced practices with community partners, 63,748 visits to 38,343 patients were provided throughout the HEZ. The PGC HEZ utilized community health workers, care coordination services targeting high risk patients, a case management software system for tracking patient activities, and the use of individualized patient Wellness Plans. In addition, the PCMHs in the HEZ were supported by a robust Community Care Coordination Team and a county-wide Public Health Information Network that linked to the Maryland health information exchange. The Care Coordination Team established partnerships with two local hospitals, eight County agencies, state/federal partners and numerous other providers in the area including Fire/EMS personnel, case managers, home health providers and pharmacists. To link HEZ clients to medical, clinical and social services, the Community Care Coordination Team created over 20 standardized, evidence-based Care Pathways (Gaskin & Thorpe, 2018).

A Health Literacy Mobile App and comprehensive health literacy campaign was also developed by the PGC HEZ, inclusive of Health Literacy Ambassadors and cultural/linguistic competency training for all HEZ providers and staff. Community health workers were also required to complete training in management of chronic conditions, diabetes self-management and trauma informed care. Five health literacy community forums were held and 8,000 "Medical Action Plan" booklets were distributed to households in Capitol Heights (Carter, 2018). In concordance with the total HEZ population, the PGC HEZ primarily served Black/African American patients (84.4%), but also served a higher proportion of Hispanic/Latino patients as compared to the total HEZ population (14% vs. 6.7%).

The PGC HEZ also deployed Prime Time Sister Circles, a behavioral health intervention operated by the Gaston and Porter Health Improvement Center, designed to assist African American women with addressing stress management, nutrition, fitness and hypertension.

As a result of these efforts, the following patient outcomes were accomplished by September 30, 2016:

- 896 patients served by CHW Care Coordination Program
- 14,587 patient encounters with care coordinators
- 2,232 Wellness Plans created for HEZ patients
- 11,574 completed client resource connections
- 87% of women attending Prime Time Sister Circles reported gaining additional knowledge and skills; significantly decreasing their stress and unhealthy nutrition habits; and increasing their exercise behaviors (Carter, 2018)

Overall, the PGC HEZ increased access to primary care in the Capitol Heights community and exceedingly reached their goal of providing services to 10,000 residents. The HEZ expanded the community health workforce, increased community health literacy and engaged with a number of community partners to establish an effective population health approach to care. In turn, these efforts reduced risk factors related to asthma, diabetes, and cardiovascular disease.

### *West Baltimore Primary Care Collaborative (WBPCC) HEZ*

The WBPCC utilized HEZ funds to increase access to primary care and community health resources in Baltimore City. The primary goal of the HEZ was to improve outcomes related to cardiovascular disease, diabetes, hypertension and obesity.

The WBPCC HEZ increased the primary care workforce by adding nearly 10 jobs (9.8 FTEs) in West Baltimore and extensively integrating health care practices with community partners. Collectively, the HEZ and their community partners provided 187,981 visits to 118,339 patients throughout the zone. Most of the residents in the WBPCC HEZ were Black/African American, but the HEZ also served higher proportions of Hispanic-Latino and Asian patients as compared to the total HEZ population. HEZ providers and staff received extensive cultural competency training.

The WBPCC HEZ strategy included: developing a two-tier (30 day and 60 day) care coordination program with special emphasis on high emergency department utilizers, training and deploying community health workers for targeted outreach, facilitating PCMH training for clinical partners, and offering chronic disease self-management classes and fitness programs. Community health workers provided health screenings, education and conducted patient visits in the emergency department, home and clinic. In addition, the HEZ provided over 100 health or social service career scholarships and internships to HEZ residents. These scholarships were predominantly awarded to students in entry level health professional programs and are anticipated to add a significant number of future FTEs in the community.

To support programs and strategies to improve cardiovascular health, the HEZ also provided 16 mini-grants to community-based organizations. Community outreach and health education events held in the HEZ included health fairs, a bi-monthly Produce Market, and free health promotion courses on nutrition, healthy cooking, physical activity, blood pressure screenings and smoking cessation. Weekly fitness classes offered free of charge through neighborhood recreation centers

included activities such as kick-boxing, line dancing, yoga, and Zumba. To further incentivize risk reduction, the WBPCC HEZ also implemented the Passport to Health Program which enrolled participants and awarded points for healthy behaviors.

As a result of these efforts, the following patient outcomes were accomplished by September 30, 2016:

- 10,368 individuals connected with a community health worker
- 430 participants in Stanford Chronic Disease Self-Management Program
- 4,151 participants in WB CARE Fitness Program
    - Average weight loss of 15 pounds and reduction in 1.5 of BMI among 2,017 sample of fitness class participants
- 6,121 residents enrolled in Passport to Health Program
- 25,000 residents served through community cardiovascular disease prevention programs

Overall, the WBPCC HEZ increased capacity for primary care and community health resources in West Baltimore. Through enhanced care coordination services for targeted patients and offering extensive community-based health programming like walking groups and cooking classes, the HEZ was able to reduce risk factors and improve health outcomes related to cardiovascular disease, diabetes, hypertension and obesity.

## Summary & Conclusion

Maryland's five Health Enterprise Zones were each able to improve the health of their respective community members. Although there was variation between the activities conducted by each HEZ, the common goals were to reduce health disparities, improve health care access and health outcomes, and reduce healthcare costs and hospital admissions/readmissions. All of the HEZs sought to reduce diabetes and cardiovascular disease related illnesses and associated risk factors. In addition, some HEZs also addressed asthma, behavioral/mental health and obesity. The main activities of each HEZ are briefly described below:

- The Annapolis Community Health Partnership HEZ established a primary care medical home in a residential public housing facility to provide care and coordination services to residents living in and around the building, especially high utilizers of hospital care.
- The Caroline/Dorchester Counties' HEZ expanded primary care and behavioral health services in a rural area by establishing a school-based wellness center, opening an adult mental health clinic, providing a community health worker training program, offering care coordination services through community partnerships, supporting an intensive obesity treatment program and deploying a mobile mental health crisis team.
- The Prince George's County HEZ established four Patient Centered Medical Homes and one specialty care practice, created a Community Care Coordination Program to link high-risk patients with services and implemented a Public Health Information Network and comprehensive Health Literacy Campaign.
- The Greater Lexington Park HEZ expanded primary and behavioral health care services in St. Mary's County by opening a primary care office, community health center and a mobile dental van, in addition to implementing a transportation program and providing clinical care coordination services to high utilizers.

- The West Baltimore HEZ developed a tiered care coordination program to target high utilizers, awarded health career scholarships and career readiness trainings, provided community-based health education programs and health screenings, and delivered fitness classes to reduce risk factors for obesity and other chronic conditions.

Each HEZ utilized the financial incentives of the HEZ initiative to expand the availability of primary care in their communities and to employ community health workers to address clinical and social risk factors of vulnerable patients. In total, the five HEZs provided over 300,000 visits to more than 170,000 individual patients during this pilot program.

In addition, residents and providers in the HEZs both had positive experiences with the initiative. During interviews and focus groups with HEZ residents, the majority expressed that they were either very satisfied or satisfied with the services they received and that the quality of care was either excellent or good. Residents also reported improved access to health care services and that the HEZ initiative helped them change their health behavior or healthcare practices. For instance, participants shared examples of increased physical fitness and decreased alcohol consumption. Participants unanimously thought that the HEZ should continue. During interviews with HEZ providers, all expressed that the objectives of the HEZ initiative were well suited to the needs of the community. All providers felt that the HEZ initiative had been successful in improving access to care and also helping patients with chronic disease management. In particular, HEZ providers highlighted the importance of preventive services and health education for patient populations that are often marginalized.

Overall, the Health Enterprise Zones were able to positively impact individual health behaviors and favorably influence health in the community. Improved health outcomes associated with diabetes, cardiovascular related illness and other chronic conditions are the result of a variety of creative community-based solutions. The Health Enterprise Zones Initiative can serve as a model for future programs aiming to address racial/ethnic health disparities, improve access to health care, and reduce health care costs in low-income and medically underserved communities.

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Table 1: The Location, Size, Lead Organization and Disease Focus of Each Health Enterprise Zone.

| Health Enterprise Zone | Jurisdiction | Community (Zip Codes) | Population | Coordinating Organization /Coalition | Budget (2013-2016) | Core Disease States/Focus |
|---|---|---|---|---|---|---|
| Annapolis Community Health Partnership | Anne Arundel County | Annapolis, Morris Blum Public Housing Building (21401) | 36,805 (Suburban) | Anne Arundel Medical Center | $800,000 | - Diabetes<br>- Hypertension<br>- Obesity<br>- Smoking |
| Competent Care Connections | Caroline & - Dorchester Counties | Mid-Shore Region (21613, 21631, 21643, 21835, 21659, 21664, 21632) | 36,123 (Rural) | Dorchester County Health Department | $2,936,000 | - Asthma<br>- Behavioral/Mental Health<br>- Diabetes<br>- Hypertension<br>- Obesity |
| Greater Lexington Park | St. Mary's County | Greater Lexington Park (20634, 20653, 20667) | 34,035 (Rural) | MedStar St. Mary's Hospital | $3,000,000 | - Asthma<br>- Behavioral/Mental Health<br>- Congestive Heart Failure<br>- COPD<br>- Diabetes<br>- Hypertension |
| Prince George's County | Prince George's County | Capitol Heights (20743) | 38,626 (Suburban) | Prince George's County Health Department | $4,400,000 | - Asthma<br>- Diabetes<br>- Hypertension |
| West Baltimore Primary Care Access Collaborative | Baltimore City | West Baltimore (21216, 21217, 21223, 21229) | 137,823 (Urban) | Bon Secours Baltimore Health System | $4,200,000 | - Diabetes<br>- Heart disease<br>- Hypertension<br>- Obesity |

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# The Maryland Health Enterprise Zone Initiative Reduced Hospital Cost And Utilization In Underserved Communities

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**ABSTRACT** **The State of Maryland implemented the Health Enterprise Zone Initiative in 2013 to improve access to health care and health outcomes in underserved communities and reduce health care costs and avoidable hospital admissions and readmissions. In each community the Health Enterprise Zone Initiative was a collaboration between the local health department or hospital and community-based organizations. The initiative was designed to attract primary care providers to underserved communities and support community efforts to improve health behaviors. It deployed community health workers and provided behavioral health care, dental services, health education, and school-based health services. We found that the initiative was associated with a reduction of 18,562 inpatient stays and an increase of 40,488 emergency department visits in the period 2013–16. The net cost savings from reduced inpatient stays far outweighed the initiative's cost to the state. Implementing such initiatives is a viable way to reduce inpatient admissions and reduce health care costs.**

Health disparities continue to be a problem in the United States. Disparities in health outcomes are due in part to inadequate access to medical care and poor health behaviors; they are also associated with social and environmental risk factors.[1–5] Previous studies have shown that multicomponent community-based interventions can be effective in improving access to care and health outcomes.[6,7] The Health Enterprise Zone Initiative is a program created and implemented by the State of Maryland to address health and health care disparities among residents who are members of minority groups or have low socioeconomic status living in medically underserved areas by improving their access to care and providing services that improve their health behaviors.[8] The initiative provided support to coalitions of health departments, other local government agencies, health care providers, and community-based social services organizations in working together to address health care needs in a designated underserved community.

Although there was a great deal of programmatic variation among the Health Enterprise Zones, the primary elements of the initiative included recruiting primary care physicians to underserved areas, recruiting and deploying community health workers, improving care coordination, providing health education and screening, and increasing access to both health services and relevant social services. Each Health Enterprise Zone was configured to meet its community's unique combination of barriers to access to care, health problems faced in the zone, and availability of community-based services.

There is evidence that programs such as the initiative have the potential to improve access to care and health outcomes. The initiative's design is similar to that of the recent Accountable Health Communities Model of the Centers for

Medicare and Medicaid Services (CMS). That model addresses health-related social needs by linking health services providers and the community to improve health outcomes and reduce cost.[9] Like the Health Enterprise Zone Initiative, the goal of Accountable Health Communities was to build capacity within a community to address residents' health-related needs.[10] Another model, Hennepin Health in Minnesota, was a community-based intervention that combined health care and social services. A study found that Hennepin Health shifted care from the hospital to the outpatient care setting and improved the quality of care for people with chronic conditions.[11] In addition, several studies evaluating the impact of community health worker interventions on disease management and health outcomes found that community health worker programs enhanced patients' self-management and improved their quality of life.[12–14] There is also evidence that approaches involving tax incentives, grants, loans, technical assistance, job training, and community serviceshave been effective in addressing health and social issues.[3,7]

Two goals that Maryland policy makers had for the Health Enterprise Zone Initiative were to reduce health care costs and to reduce potentially avoidable hospital admissions and readmissions in the five Health Enterprise Zone communities. This study examined whether the initiative was associated with reductions in hospital use.

## Description Of The Initiative

Contiguous geographic communities, defined by ZIP code boundaries, with populations of at least 5,000 people who demonstrated economic disadvantage and poor health outcomes were eligible to apply for the Health Enterprise Zone Initiative.[15] Specifically, a ZIP code was eligible if its Medicaid enrollment rate was above the median for all Maryland ZIP codes or its Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) participation rate was above the median for all Maryland ZIP codes. Additional eligibility requirements stipulated that the ZIP code have a life expectancy below the state median or percentage of low-birthweight infants above the state median. In October 2012 nineteen Health Enterprise Zone applications were submitted by local health departments, hospitals, or community-based nonprofit organizations from seventeen jurisdictions in Maryland.[16] In January 2013 the Maryland Community Health Resources Commission and the Maryland Department of Health designated five geographic areas as Health Enterprise Zones: Annapolis/Morris Blum, in Anne Arundel County; Capitol Heights, in Prince George's County; Caroline and Dorchester Counties; Greater Lexington Park, in St. Mary's County; and West Baltimore, in Baltimore City.[3] In three of the zones (Annapolis/Morris Blum, Greater Lexington Park, and West Baltimore), hospital systems led the effort, while the other two (Capitol Heights and Caroline and Dorchester Counties) were led by the local health departments. The five zones varied in population density—one urban, two suburban, and two rural.[15]

The state provided each zone with resources and incentives to attract private health care practitioners to medically underserved communities. The lead organization received the funds and subcontracted with partners in its coalition to provide an array of services to residents of the zone, specifically targeting diabetes, cardiovascular disease–related illnesses, asthma, obesity, and behavioral health problems. (See online appendix exhibit S1 for a description of each zone.)[17] The resources and incentives included grant funding from the Community Health Resources Commission, priority for entering Maryland's multipayer Patient Centered Medical Home Program, loan repayment assistance, and tax credits for income and hiring. The zones used these resources to, for example, open new community health centers; operate mobile medical, mental health, and dental care units; deploy community health workers; implement healthy food programs; and offer school-based services. In addition, the initiative encouraged leaders of local health care and social service organizations to work together to address the health needs of residents in their communities.

## Study Data And Methods

**DATA SOURCES** The primary data sources for this study were hospital inpatient stay and emergency department (ED) visit data for 2009–16 from the Maryland Health Services Cost Review Commission and hospital readmissions data for 2012–15 from the Chesapeake Regional Information System for our Patients.[18,19] These data contain a census of inpatient and ED use by Maryland residents in Maryland hospitals. We obtained ZIP code–level Medicaid enrollment data for 2009–16 from the Maryland Medicaid program through the Hilltop Institute at the University of Maryland, Baltimore County. We combined these data with publicly available sociodemographic data from the 2010 US census and from the 2010–14 American Community Survey. We used those five years of survey data to compute reliable estimates of the composition of each ZIP code's population by age, race/ethnicity, poverty status, median household income,

educational attainment, employment status, household composition, and marital status, as well as the occupancy rate of homes in each ZIP code.[20]

**OUTCOMES** ZIP codes were our primary unit of analysis. There are 458 ZIP codes in Maryland. Health care providers and community-based organizations serving residents in 110 ZIP codes were eligible for Health Enterprise Zone funding (see appendix exhibit S2).[17] We compared adult hospital utilization rates in Health Enterprise Zone–awarded communities located in sixteen ZIP codes with rates in Health Enterprise Zone–eligible communities located in ninety-four ZIP codes. For each ZIP code, we computed the number of inpatient stays, readmissions, and ED visits per 1,000 residents for each study year. We excluded inpatient stays and ED visits with a diagnosis of cancer, trauma, injury, normal delivery, or delivery with complications because the initiative did not target these conditions. We computed utilization rates for subsets of inpatient stays and ED visits for specific conditions as defined by Prevention Quality Indicators and Health Enterprise Zone–related conditions. We used the Agency for Healthcare Research and Quality's Prevention Quality Indicator composite measure, which includes the following conditions: short- and long-term diabetes, perforated appendix, chronic obstructive pulmonary disease (COPD) or asthma in older adults, hypertension, heart failure, dehydration, bacterial pneumonia, urinary tract infection, uncontrolled diabetes, asthma in younger adults, and lower extremity amputation among patients with diabetes.[21] As stated above, Health Enterprise Zone–related conditions are diabetes, cardiovascular disease–related illnesses, asthma, obesity, and behavioral health problems; for this study, we included inpatient stays or ED visits with a primary diagnosis of one of those conditions.

To estimate the economic impact of the initiative, for each ZIP code we calculated charges per 1,000 residents for inpatient stays and ED visit outcomes. This entailed summing the allowable charge amounts for every inpatient stay or ED visit by ZIP code and dividing by the population by 1,000. Because Maryland is an all-payer state, charges measure what insurers (including Medicare and Medicaid) and patients pay for hospital services.

**STATISTICAL ANALYSIS** We conducted a multivariate difference-in-differences analysis to determine whether implementation of the Health Enterprise Zone Initiative was associated with changes in hospital use.[22] Given that the zones required time to fully implement their programs once they were awarded funds in 2013, we used a dummy variable to indicate that a ZIP code was in a community that had been awarded funds and interacted it with dummy variables for the application year (2012) and each implementation year (2013, 2014, 2015, and 2016). This allows the estimate of the impact of the initiative to vary over time. Preliminary analyses showed that there were no significant differences between the ZIP codes in the pre-implementation period. The interactions for 2010 and 2011 were not significantly different from the interaction with 2009 ($p > 0.10$). We expected the coefficients on the pre-implementation interaction terms to be nonsignificant and those on the implementation interaction terms to be significant. Readmission data were not available for years before 2012. Therefore, for this outcome, 2012 was used as the reference year to compare changes in readmissions during the implementation period of 2013–16.

We estimated these linear regression models using both fixed and random effects. The fixed-effects models included annual Medicaid enrollment in each ZIP code. In the random-effects models, we added ZIP code–level control variables for demographic and socioeconomic characteristics. Hausman tests consistently rejected the null hypothesis that the random-effects models were more efficient. Therefore, we report the results from the fixed-effects models only. (See appendix exhibit S3 for random-effects results.)[17]

We used the coefficients on the zone-year interaction terms from the fixed-effects models to estimate the impact of the initiative on inpatient stays, inpatient charges, ED visits, and ED charges. To calculate the total change in stays, visits, and charges, we multiplied these coefficients by the population in the ZIP codes where Health Enterprise Zone funds had been awarded. We converted the charges to 2016 dollars using the Consumer Price Index for Medical Care. The regression models were weighted by the ZIP code population and estimated using Stata, version 14.

**QUALITATIVE INTERVIEWS** To provide context for the quantitative findings, we conducted structured interviews with thirty-one residents and twenty-one health care providers (including physicians, nurse practitioners, pharmacists, and care coordinators) and focus groups with eighteen residents from the five Health Enterprise Zones. We asked participants how the initiative had affected access to care and health behaviors for residents of the zones.

**SENSITIVITY ANALYSES** As a sensitivity analysis, we estimated semi-log models because the outcome variables are skewed. The results were consistent with those of our main analysis. The

coefficients had the same sign but were not significant. However, the linear models had more explanatory power than the semi-log models (see appendix exhibit S4).[17] Finally, we estimated the models using ZIP codes not eligible to participate in the initiative as the comparison group (see appendix exhibit S5).[17]

To test the robustness of our findings, we conducted falsification tests.[23] We explored the impact of the Health Enterprise Zone Initiative on inpatient stays and ED visits for marker conditions that are not sensitive to timely ambulatory care (appendicitis/appendicitis with appendectomy, gastrointestinal obstruction, and fracture of the hip or femur)[24,25] and for pregnancy, childbirth, or the puerperium. By definition, we did not expect the initiative to have an impact on the marker and pregnancy conditions.

**LIMITATIONS** The study had some limitations. First, the analysis included the hospital use of all residents in the Health Enterprise Zone ZIP codes, including residents who did not actively participate in the initiative. Second, we did not observe hospital use by residents of neighboring jurisdictions.

Third, we did not have data on nonemergency outpatient visits and ambulatory care services. Care may have shifted from relatively costly inpatient settings to less expensive outpatient and ambulatory care settings. Also, the Health Enterprise Zone Initiative may have encouraged new episodes of care, with residents using additional nonemergency outpatient and ambulatory care services. The costs of these services could partially offset associated reductions in charges for inpatient care.

Fourth, we did not control directly for two programs that were implemented during the study period: Maryland's All-Payer Global Budget Cap Model in 2014 and CareFirst BlueCross BlueShield's Patient-Centered Medical Home Program in 2011. Lastly, the findings of this study might not be generalizable because Maryland has an all-payer global budget payment program; this structure creates an incentive in the hospital industry that is not typical in other states.[26–28]

## Study Results

**DEMOGRAPHICS AND PAYER MIX** Compared to the ZIP codes that were eligible to participate in the Health Enterprise Zone Initiative but did not receive awards, ZIP codes that received Health Enterprise Zone awards had higher percentages of black residents, lower socioeconomic status, lower marriage rates, and higher percentages of vacant homes (exhibit 1). The payer mix of the two groups of ZIP codes also varied (data not shown). In 2016 a higher percentage of hospital use was covered by Medicaid in awarded ZIP codes (56.6 percent versus 43.7 percent for ED visits, and 38.8 percent versus 28.9 percent for inpatient stays) than in eligible ZIP codes. This gap was completely offset by differences in the percentages of ED visits and inpatient stays cov-

**EXHIBIT 1**

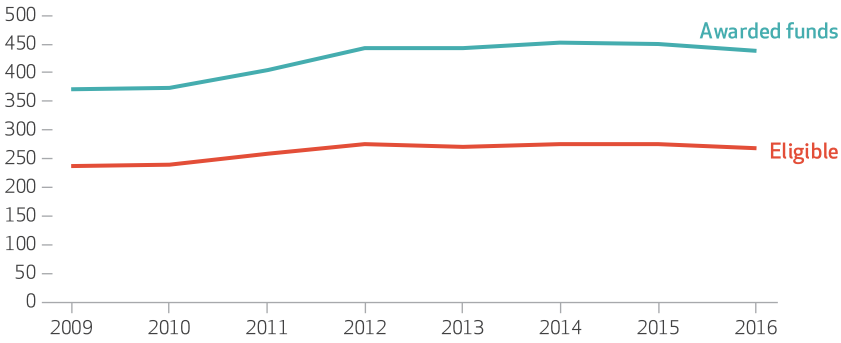
**Selected characteristics of ZIP codes that were eligible for or awarded funds from the Health Enterprise Zone Initiative in Maryland**

| | Awarded funds ($n = 16$) | Eligible ($n = 94$) | $p$ value |
|---|---|---|---|
| Mean population | 17,580.4 | 26,196.4 | 0.048 |
| Race/ethnicity | | | |
| White | 29.2% | 42.5% | 0.150 |
| Black | 62.1 | 39.7 | 0.029 |
| Asian | 1.6 | 4.3 | <0.001 |
| Native American/other | 2.4 | 2.9 | 0.230 |
| Hispanic | 4.6 | 10.6 | 0.002 |
| Age range (years) | | | |
| 0–17 | 23.3% | 22.8% | 0.649 |
| 18–24 | 10.1 | 10.1 | 0.996 |
| 25–44 | 26.1 | 29.0 | 0.012 |
| 45–64 | 26.8 | 25.8 | 0.072 |
| 65–79 | 9.8 | 8.8 | 0.205 |
| 80 or more | 3.6 | 3.3 | 0.513 |
| Income distribution (percent of FPL) | | | |
| 0–99 | 21.0 | 13.6 | 0.048 |
| 100–124 | 4.4 | 3.5 | 0.207 |
| 125–149 | 5.1 | 3.8 | 0.051 |
| 150–174 | 5.3 | 4.1 | 0.097 |
| 175–184 | 1.7 | 1.7 | 0.774 |
| 185–199 | 2.7 | 2.5 | 0.536 |
| 200 or more | 63.5 | 74.1 | 0.043 |
| Median household income | $49,989 | $60,564 | 0.141 |
| Employment status | | | |
| Unemployed | 8.6% | 6.6% | 0.072 |
| Employed | 54.0 | 61.6 | 0.004 |
| Not in the labor force | 36.9 | 31.4 | 0.016 |
| Highest level of education | | | |
| No high school | 4.9% | 6.0% | 0.224 |
| Some high school | 13.0 | 8.8 | 0.017 |
| Finished high school | 32.5 | 30.0 | 0.304 |
| Some college | 22.2 | 20.8 | 0.237 |
| Associate's degree | 5.4 | 6.3 | 0.017 |
| College degree | 12.9 | 16.3 | 0.147 |
| Advanced degree | 9.0 | 11.8 | 0.240 |
| Marital status | | | |
| Married | 32.2% | 40.5% | 0.040 |
| Never married | 45.3 | 39.5 | 0.104 |
| Widowed | 7.1 | 6.1 | 0.019 |
| Separated | 4.0 | 3.2 | 0.049 |
| Divorced | 11.4 | 10.8 | 0.149 |
| Homes | | | |
| Occupied | 81.3% | 90.0% | 0.021 |
| Vacant | 18.7 | 9.9 | 0.021 |

**SOURCE** Authors' analysis of data for 2010 from the Decennial Census of Population and Housing and for 2010–14 from the American Community Survey. **NOTES** Eligibility for the initiative is explained in the text. Percentages were weighted by the ZIP code population. FPL is federal poverty level.

**EXHIBIT 2**

**Numbers of emergency department visits per 1,000 residents of ZIP codes that were eligible for or awarded funds from the Health Enterprise Zone Initiative in Maryland, 2009–16**




**SOURCE** Authors' analysis of hospital utilization data for 2009–16 from the Maryland Health Services Cost Review Commission. **NOTES** Eligibility for the initiative, which was implemented in 2013, is explained in the text. Visits for childbirth, trauma, or cancer were excluded. Results were weighted by the ZIP code population.

ered by commercial insurance. Medicare covered similar percentages of ED visits and inpatient stays (about 16 percent and 43 percent, respectively) in awarded ZIP codes compared to eligible ZIP codes.

**EMERGENCY DEPARTMENT VISITS AND HOSPITAL STAYS** The awarded ZIP codes had higher rates of hospital ED visits and inpatient stays than eligible ZIP codes did (exhibits 2 and 3). ED visits per 1,000 residents rose from 2010 to 2012 and then flattened out in both groups of ZIP codes. Inpatient stays per 1,000 residents declined in both groups of ZIP codes throughout the study period, although the difference between the two groups narrowed over time.

Exhibit 4 presents coefficients from the fixed-effects difference-in-differences model, which estimate the effects of the Health Enterprise Zone Initiative on emergency department visits and inpatient stays. There is evidence that the Health Enterprise Zone Initiative was associated with a reduction in numbers of inpatient stays and an increase in numbers of ED visits throughout the study period. For example, the initiative was associated with a reduction of 13.73 inpatient stays per 1,000 residents in 2013, which increased to a reduction of 18.03 in 2014. The magnitude of the estimates was similar for 2015 and 2016 (reductions of 16.76 and 17.47, respectively). The findings were stronger for stays related to Prevention Quality Indicators or conditions targeted by the initiative: For the former, inpatient stays had decreases ranging from 3.43 in 2013 to 10.84 in 2016, and readmissions had decreases ranging from 1.33 in 2013 to 3.78 in 2016. The estimates for Health Enterprise Zone–related (targeted) conditions showed decreases as well.

The initiative was associated with increases in ED visits per 1,000 residents of 32.40 in 2013, 41.01 in 2014, 38.78 in 2015, and 31.75 in 2016. It was also associated with increases in ED visits for conditions related to the Prevention Quality Indicators and targeted by the initiative.

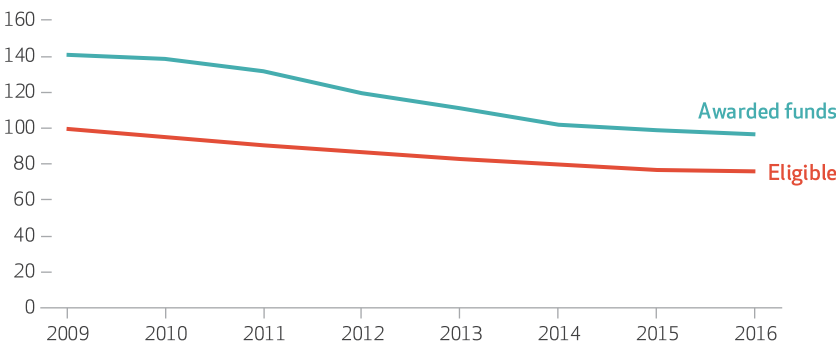
**EMERGENCY DEPARTMENT AND HOSPITAL INPATIENT CHARGES** The pattern for charges per 1,000 residents was similar to that observed for inpatient stays and ED use (exhibit 4). For inpatient stay charges, the initiative was associated with a reduction of $149,997 in 2013, $125,308 in 2014, $166,764 in 2015, and $156,593 in 2016. Conversely, for ED visit charges, it was associated with an increase of $48,702 in 2013. The pattern from 2013 to 2016 is an inverted U shape, rising to $63,553 in 2014 and falling back to $46,301 in 2016.

The random-effects models yielded results similar to those of the fixed-effects models, and all but one of the coefficients were significant (appendix exhibit S3).[17] The estimate using ZIP codes not eligible for the initiative as the comparison group also yielded similar results. The estimated reduction in inpatient stays tended to be larger and was always significant (see appendix exhibit S5).[17]

For our falsification tests, we explored the impact of the initiative on inpatient stays for the marker and pregnancy-related conditions. First, for the marker conditions, we expected to see no difference in the number of inpatient stays and ED visits per 1,000 residents after the initiative was implemented; indeed, we found that implementation was not associated with such a change (exhibit 4). The results were similar for the pregnancy-related conditions, with the exception of

**EXHIBIT 3**

**Numbers of inpatient stays per 1,000 residents of ZIP codes that were eligible for or awarded funds from the Health Enterprise Zone Initiative in Maryland, 2009–16**




**SOURCE** Authors' analysis of hospital utilization data for 2009–16 from the Maryland Health Services Cost Review Commission. **NOTES** Eligibility for the initiative, which was implemented in 2013, is explained in the text. Stays for childbirth, trauma, or cancer were excluded. Results were weighted by the ZIP code population.

**EXHIBIT 4**

**Estimated differences in emergency department (ED) visits and inpatient stays and in charges, per 1,000 residents, between ZIP codes that received funds and those that were eligible for funds from the Health Enterprise Zone Initiative in Maryland, 2013–16**

| | 2013 | 2014 | 2015 | 2016 |
|---|---|---|---|---|
| **EMERGENCY DEPARTMENT VISITS** | | | | |
| All visits | | | | |
| Number | 32.40*** | 41.01*** | 38.78** | 31.75*** |
| Charges | $48,702** | $63,554** | $54,501** | $46,301** |
| PQI-related visits | | | | |
| Number | 6.05*** | 5.15* | 5.71*** | 2.89 |
| Charges | $9,663** | $9,429** | $11,138** | $7,252** |
| Targeted condition visits | | | | |
| Number | 4.21* | 7.16** | 6.31* | 3.53* |
| Charges | $8,231* | $14,933** | $13,418** | $7,987** |
| **INPATIENT STAYS** | | | | |
| All stays | | | | |
| Number | −13.73*** | −18.03** | −16.76* | −17.47* |
| Charges | −$149,997*** | −$125,308 | −$166,764* | −$156,593** |
| PQI-related stays | | | | |
| Number | −3.43*** | −4.26*** | −3.56** | −10.84**** |
| Charges | −$35,334** | −$28,729 | −$31,114* | −$44,340* |
| Targeted condition stays | | | | |
| Number | −1.79* | −3.37** | −3.54* | −5.16* |
| Charges | −$20,372* | −$19,626 | −$29,949* | −$47,908* |
| Readmissions[a] | | | | |
| Number | −1.33* | −2.87** | −2.31* | −3.78* |
| **FALSIFICATION TEST RESULTS** | | | | |
| Marker conditions | | | | |
| ED visits | −0.12 | −0.12 | −0.11 | −0.11 |
| Inpatient stays | −0.03 | 0.08 | 0.05 | 0.14 |
| Pregnancy-related conditions | | | | |
| ED visits | −1.93 | −1.11 | −1.10 | −2.30 |
| Inpatient stays | −0.03 | −0.58 | −0.85** | −0.88** |

**SOURCE** Authors' analysis of data for 2010 from the Decennial Census of Population and Housing, for 2010–14 from the American Community Survey, for 2009–16 from the Maryland Health Services Cost Review Commission, and for 2012–16 from the Chesapeake Regional Information System for our Patients (CRISP). **NOTES** Results are expressed as coefficients from fixed-effects difference-in-differences models. Eligibility for the initiative is explained in the text. Charges were adjusted for inflation to 2016 dollars. Marker conditions (listed in the text) are not sensitive to timely ambulatory care. Pregnancy-related includes pregnancy, childbirth, and the puerperium. PQI is Prevention Quality Indicators of the Agency for Healthcare Research and Quality. [a]We did not have charge data for readmissions. *$p < 0.10$ **$p < 0.05$ ***$p < 0.01$ ****$p < 0.001$

significant reductions in inpatient stays for deliveries in 2015 and 2016. The initiative discouraged risky sexual behavior but did not include family planning services. Therefore, we expected to find no difference in deliveries per 1,000 residents associated with its implementation.

**SAVINGS AND PROGRAM COSTS** We compared the net savings in hospital charges to the cost of the program. During 2013–16 the ZIP codes that were awarded funds from the initiative had an increase of 40,488 ED visits, which cost insurers and patients $59.9 million (exhibit 5). However, this was offset by an overall reduction of 18,562 inpatient stays, which saved insurers and patients $168.4 million. The state spent $15.1 million on the initiative in the same period, and combining that amount with the net reduction in charges of $108.5 million suggests an overall net savings of $93.4 million for Maryland's health care system. All five Health Enterprise Zones had net savings. West Baltimore saved the most, $50.1 million, which compared favorably to $4.2 million spent there by the state. Annapolis had the greatest return on investment, receiving $800,000 from the state and saving $13.1 million.

**QUALITATIVE FINDINGS** The qualitative findings from the structured interviews and focus groups support the quantitative findings reported above. Residents and health care providers indicated that the initiative improved access to care and enabled residents to adopt health behaviors and practices that improved their health outcomes. Residents started becoming aware of their health, exercising more, and monitoring their diets. Providers also felt that

**EXHIBIT 5**

**Estimated impact of the Maryland Health Enterprise Zone Initiative on emergency department (ED) visits, inpatient stays, and charges, for each zone and all ZIP codes combined that were awarded funds, 2013–16**

| | Annapolis/ Morris Blum | Dorchester and Caroline Counties | Capitol Heights | Greater Lexington Park | West Baltimore | All ZIP codes |
|---|---|---|---|---|---|---|
| **VISITS AND INPATIENT STAYS** | | | | | | |
| ED visits | 5,184 | 5,036 | 5,559 | 4,448 | 20,261 | 40,488 |
| Inpatient stays | −2,376 | −2,309 | −2,549 | −2,039 | −9,289 | −18,562 |
| **CHARGES (MILLIONS OF DOLLARS)** | | | | | | |
| ED visits | $7.67 | $7.45 | $8.23 | $5.08 | $29.99 | $59.93 |
| Inpatient stays | −$21.56 | −$20.95 | −$23.12 | −$18.50 | −$84.27 | −$168.39 |
| **FINANCIAL IMPACT OF INITIATIVE (MILLIONS OF DOLLARS)** | | | | | | |
| Cost to the state | $0.80 | $2.87 | $4.30 | $2.90 | $4.20 | $15.07 |
| Net cost savings | −$13.09 | −$10.63 | −$10.59 | −$10.52 | −$50.08 | −$93.39 |

**SOURCE** Authors' analysis of data for 2010 from the Decennial Census of Population and Housing, 2010–14 from the American Community Survey, 2009–16 from the Maryland Health Services Cost Review Commission, and 2012–16 from the Chesapeake Regional Information System for our Patients (CRISP). **NOTE** Charges were adjusted for inflation to 2016 dollars.

the initiative helped patients manage chronic conditions. They highlighted the importance of the provision of preventive services and health education that enabled patients who are often marginalized to improve their health-seeking behavior and be more aware of their health-related issues.

## Discussion

The objective of the study was to examine changes in hospital use and associated health care costs for the five Health Enterprise Zones in Maryland. The results demonstrate that the Health Enterprise Zone Initiative was associated with a reduction in inpatient stays and an increase in ED visits per 1,000 residents, even though two unrelated statewide changes took place at the same time.

The rate of inpatient stays statewide was decreasing in part because a global budget payment model was implemented on January 1, 2014.[28] Under the global budget payment model, all Maryland hospitals are encouraged to decrease potentially avoidable use of care. However, the decrease in inpatient stays observed in the Health Enterprise Zones was even greater than that observed statewide. This may be because the initiative targeted high users of hospital care as well as people with chronic conditions, and it may have helped residents better manage those health conditions—thus reducing the need for inpatient care. Indeed, it is unlikely that our findings can be attributed to the implementing of global budgets. A 2018 study showed that the All-Payer Global Budget Cap Model did not have a consistent impact on hospital use for Medicare beneficiaries.[29] This differs from our finding of reductions in inpatient stays.

A second change taking place statewide was the CareFirst Patient Centered Medical Home Program. Evaluations of this program found that it reduced hospital inpatient and ED use.[30,31] However, only one of the Health Enterprise Zones had a patient-centered medical home operating in it, and just 16 percent of hospital patients in the zones were covered by commercial insurance. Consequently, the CareFirst Patient Centered Medical Home Program could affect only relatively few residents of Health Enterprise Zone ZIP codes.

Although we found a decrease in inpatient stays when we compared Health Enterprise Zone residents to residents in eligible ZIP codes whose communities were not included in the zones, there was also a relative increase in ED use. The reduction in inpatient stays was consistent with our expectations, but the increase in ED visits was unexpected. One possible explanation is that hospitals were more likely to send ED patients home instead of admitting them because the patients had access to Health Enterprise Zone resources. Another reason for the relative increase in ED use is that the Maryland Health Services Cost Review Commission encouraged hospitals to use observation status instead of short inpatient stays after 2010, which would allow patients to receive observation services (for example, x-rays, lab tests, and medications) in the ED and depress the numbers of inpatient stays. CMS's Two-Midnight rule, which followed a few years later, did the same.[32] However, it is unclear why this would disproportionately affect Health Enterprise Zones. In addition, as a result of the Affordable Care Act, Medicaid enrollment expanded in Maryland, and prior re-

search shows that previously uninsured people increase their ED use when they obtain Medicaid coverage.[33] However, we controlled for Medicaid enrollment in our analysis. While the Health Enterprise Zone–awarded ZIP codes had more Medicaid enrollees than the eligible ZIP codes that did not receive Health Enterprise Zone awards, the expansion increased their Medicaid enrollment by similar proportions.

Our findings are consistent with those of other studies that show that interventions that improve both access to care and health behaviors of underserved populations can result in a significant reduction in their hospital use.[34,35] The initiative improved access to primary care and preventive services and encouraged health behaviors through care coordination, health education, and patient engagement, which likely reduced the use of costly inpatient care.

This study had several strengths. We analyzed eight years of data, including sufficient observations before and after the Health Enterprise Zone Initiative was implemented. We applied a quasi-experimental study design with a comparison group (residents of ZIP codes eligible to participate in the initiative but not awarded funds by it), and we used a difference-in-differences model to control for fixed differences in hospital utilization between the comparison group and the ZIP codes that were awarded funds. We also examined a subset of conditions that should be sensitive to the intervention's activities. Our falsification tests suggest that our findings of reductions in inpatient stays were valid. Lastly, in the cost analysis we used charge data for the state—which, because of Maryland's all-payer model, is closely aligned to resource use since it is what insurers and patients actually pay for services.[26]

## Conclusion

Improving access to care and reducing health care costs are key factors in reducing health care disparities. The Health Enterprise Zone Initiative demonstrated how states can use funds to create opportunities for community-based organizations and health care systems to leverage resources to benefit underserved communities. The initiative provided incentives and funding to attract health care providers to underserved communities, since limited access to health care professionals such as primary care providers, behavioral health specialists, and community health workers contributes to health disparities.[4,5] It also supported the coordination of health care and social services for vulnerable populations. The program was associated with improved access to care and reduced inpatient admissions and their associated costs. These reductions could justify continued financial investment from the State. Policy makers should consider promulgating the intervention to other eligible communities. Additional support could be provided by the health plans that benefit the cost savings as a result of lower hospital use, or hospitals could fund additional zones as part of their community benefit responsibility. ■

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