



**CONNECTICUT
STATE INNOVATION MODEL
POPULATION HEALTH COUNCIL**

**HEALTH ENHANCEMENT COMMUNITY
MODEL DESIGN**

**DRAFT PROPOSAL
FOR POPULATION HEALTH COUNCIL REVIEW**

October 22, 2018

Prepared with support from
Health Management Associates

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ACKNOWLEDGEMENTS

The Population Health Council, charged with making recommendations regarding the establishment of Health Enhancement Communities, submits this report to the Healthcare Innovation Steering Committee.

The Health Enhancement Community (HEC) strategy is an initiative of the Connecticut State Innovation Model (SIM), which is jointly implemented by the Office of Health Strategy (OHS) and the Department of Public Health (DPH). The HEC team comprised Mark Schaefer, PhD; Faina Dookh; Mehul Dalal, MD; Mario Garcia, MD; Amy Smart; Kristin Sullivan; and Trish Torruella. Report contributors: Diane Aye, Yongwen Jiang, Celeste Jorge, Laura Hayes, Lloyd Mueller, and Xi Zheng.

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1. EXECUTIVE SUMMARY

Improving the health and well-being of residents in Connecticut and reducing the rising trends of Connecticut's health care costs depends on preventing people from experiencing poor health and not just waiting until people get sick and need health care. The conditions in communities and across the state that contribute to people experiencing poor health are complex and driven by many factors. Connecticut needs a strategy that can rise to that challenge, move the needle on prevention in communities and statewide, and be sustained over time.

The Health Enhancement Community (HEC) model is designed to build on and complement—not duplicate—the significant community-based and statewide prevention activities underway across the state, including a State Health Improvement Plan.

The design emphasizes:

- Leveraging what is already working in communities and statewide
- Connecting interventions and structures across sectors to maximize impact
- Filling intervention gaps
- Creating financing streams that can support long-term sustainability

The HEC Initiative envisions having sustainable, multi-sector collaboratives in every geography in Connecticut that align and implement prevention and health equity strategies in their communities and collectively prevent poor health and health risk, improve health equity, and reduce costs and cost trends for critical health priorities for the entire state.

As detailed in this report and based on extensive stakeholder input from across Connecticut, the Population Health Council proposes the establishment of HECs. In the recommended model:

- HECs will be collaboratives that include community members and partners from multiple sectors.
 - Examples: residents, community-based organizations, health care providers, local health departments, local government,

SUSTAINABILITY

The upfront emphasis on sustainability is a defining feature of the HEC model. Many community health improvement initiatives and cross-sector efforts have struggled with sustainability or ceased to exist because they have been supported through time-limited funding. The current health care payment system also does not support sustainability of prevention or community health interventions or structures because it is missing a critical piece of the equation: paying for preventing health conditions not just treating them. Historically, health care payment models reimbursed providers on a fee-for-service basis. Each service, treatment, or hospitalization was paid “per unit” or “per day,” which meant that providers earned more money when their patients were ill. More recent payment models, such as shared savings arrangements, promote better health care by sharing cost savings tied to better care with health care providers. However, neither of these models promote preventing illness. While preventing health conditions saves money and can produce other economic benefits, those savings or benefits do not generally accrue to the communities and organizations that helped produce the results. Paying for prevention—and ensuring that the dollars go to who produced the result—requires the innovative financing strategies described in this report.

social services agencies, schools, housing agencies, and others

- HECs will be accountable for improving prevention, health risk, and healthy equity outcomes and reducing costs and cost trends for the health priorities.
- Each HEC will have a defined geographic area that it serves.
- HECs will have formal governance structures and defined ways of making decisions together.
- HECs will identify and implement strategies that address the root causes of poor health, health inequity, and preventable costs.
- HECs will be sustainable, including through financing that rewards HECs for prevention, health improvement, and the savings and economic value they produce.

At the heart of the recommended HEC Initiative are:

- **Goals** that are ambitious in the potential magnitude of their impact but achievable over the next 5-10 years
- **Health priorities** that are focused, can make a significant impact on the health of and health inequity among Connecticut's residents across the lifespan, and for which there are existing or new interventions that work
- **Structures**—either existing, altered, or new—across Connecticut that can implement coordinated, multi-pronged strategies among multiple sectors and achieve defined outcomes
- **Financing** that can support and sustain community prevention strategies and accrue to who produces the savings and other economic benefits through those strategies

Goals

The HEC Initiative has three ambitious but achievable goals:

- Make Connecticut the healthiest state in the country.
- Make Connecticut the best state for children to grow up.
- Slow the growth of Connecticut's health care spending.

Although Connecticut ranks fifth in overall health nationwide—behind Massachusetts, Hawaii, Vermont, and Utah,¹ it fell two spots from being ranked third in 2016.² Additionally, between 2015 and 2017, Connecticut experienced a downward trend in rankings related to healthy weight, including physical activity and diabetes, as well as measures related to child well-being, including children in poverty, low

¹ America's Health Rankings, 2017 Annual Report. <https://www.americashealthrankings.org/learn/reports/2017-annual-report/state-summaries-connecticut>. Date accessed 8/14/18.

² America's Health Rankings, 2016 Annual Report. https://assets.americashealthrankings.org/app/uploads/ahr_annual-report_executive_summary_v1.pdf. Date accessed 8/14/18.

birthweight births, and infant mortality.^{3,4} Across these 5 measures, Connecticut currently ranks well below the top 10 states.⁵ Connecticut could rise to be the healthiest state in the country through efforts to help residents and communities live longer and healthier lives. This would need to include addressing the significant disparities in health outcomes and health risks in many communities and improving the health trajectories for Connecticut's children and aging population. A rise in health ranking could also boost the state and local economies by supporting a healthy and productive workforce. The goal of the HEC Initiative is to move Connecticut into first place for overall health within 10 years.

Connecticut is also ranked fifth among the states for children to grow up—behind New Jersey, Massachusetts, Vermont, and New Hampshire.⁶ This ranking is based on measures of infant mortality, food insecurity, high school graduation, violence-related injury deaths, and teen birth rates. The goal of the HEC Initiative is to move Connecticut into first place as the best state for children to grow up within 10 years.

Connecticut is a higher-cost state in overall health care spending per person relative to the national average, and health care spending has consistently outpaced growth in the state economy. Although the state's health care spending growth was slightly lower than the national average between 2004 and 2014, Medicare spending data show that Connecticut is both high-cost and higher-growth relative to national averages.⁷ Connecticut is also the highest cost state for Medicare in New England. Taken together, these historical trends demonstrate the need for Connecticut to control health care spending. In contrast to Medicare, Connecticut Medicaid has reduced its per-person spending by a greater percentage than any other state in the country.^{8,9} However, the goal of the HEC Initiative is to further reduce Connecticut's overall trajectory of per person health care spending related to the rising incidence and prevalence of acute and chronic illness and related health inequities, opportunities that are especially prominent among low income populations, including those enrolled in Medicaid.

Health Priorities

To achieve these goals, the Population Health Council recommends that the HEC Initiative focus on two health priority aims:

³ America's Health Rankings, 2016 Annual Report.

https://assets.americashealthrankings.org/app/uploads/ahr_annual-report_executive_summary_v1.pdf. Date accessed 8/14/18.

⁴ America's Health Rankings, 2015 Annual Report.

<https://www.americashealthrankings.org/explore/annual/measure/Overall/state/CT?edition-year=2015>. Date accessed 10/17/18.

⁵ The 2017 Connecticut rankings for the five measures are as follows: Physical Activity – 18, Diabetes – 19, Children in Poverty – 21, Low Birthweight Births – 22, and Infant Mortality – 15.

⁶ End of Childhood Report 2018. *Save the Children*. <https://www.savethechildren.org/us/about-us/resource-library/end-of-childhood>. Date accessed 8/14/18.

⁷ Medicare Geographic Variation Public Use File, 2007-2016.

⁸ Financial Trends in the Connecticut HUSY Health Program, Presentation to the MAPOC 2/9/18.

https://www.cga.ct.gov/med/council/2018/0209/20180209ATTACH_HUSKY%20Financial%20Trends%20Presentation.pdf. Date accessed 10/12/18.

⁹ Lassman, D., Sisko, A.M., Catlin, A., Barron, M.C., Benson, J., Cuckler, G.A., Hartman, M., Martin, A.B., and Whittle, L. (2017). Health Spending By State 1991-2004: Measuring Per Capita Spending By Payers and Programs. *Health Affairs*, 36(7). doi: <https://doi.org/10.1377/hlthaff.2017.0416>.

- **Improving Child Well-Being in Connecticut Pre-Birth to Age 8 Years:** Assuring all children are in safe, stable, and nurturing environments¹⁰
- **Improving Healthy Weight and Physical Fitness for All Connecticut Residents:** Assuring that individuals and populations maintain a healthy or healthier body weight, engage in regular physical activity, and have equal opportunities to do so

Achieving these aims would prevent a host of serious health conditions and early death of residents throughout the state. These aims can be achieved by reducing the prevalence of adverse childhood experiences and the prevalence of overweight and obesity as well as associated serious health conditions and consequences for both. Both are important by themselves but were also selected because they significantly contribute to increased morbidity and mortality, diminished quality of life, and increased health care costs of other health conditions, and thereby produce a compounding impact.

In addition to the health priorities, improving health equity¹¹ will be a central feature throughout the entire HEC Initiative. This is because much of what is driving poor health outcomes for these priorities is related or due to health inequities. The recommended HEC Initiative includes health equity throughout the design, including having specific measures of health equity and envisioning that HECs will align existing interventions and implement new interventions that specifically address health equity.

Improving Child Well-Being Pre-Birth to Age 8 years

Adverse childhood experiences (ACEs) are stressful or traumatic events, including abuse, neglect, and household dysfunction.¹² A 2016 survey of child caretakers in Connecticut found that 19.4 percent children aged birth to 17 years had two or more ACEs. More than half of adults in Connecticut report experiencing at least one ACE in childhood and 21.3 percent report three or more ACEs.¹³

Ample evidence reveals the associations between ACEs and risky health behaviors, chronic conditions, diminished life potential, and early death and shows that health risks increase as an individual's number of ACEs increases.¹⁴ For example, one study found that individuals with six or more ACEs died 20 years earlier on average compared to individuals who had none.¹⁵ The economic cost of child abuse and neglect in the U.S. in 2008 has been estimated at \$124 billion, with an estimated lifetime cost per victim of \$212,012.¹⁶

¹⁰ Centers for Disease Control and Prevention's Essentials for Childhood Framework.

<https://www.cdc.gov/violenceprevention/childabuseandneglect/essentials.html>. Date accessed 8/6/18.

¹¹ Disparities, Healthy People 2020. (n.d.). *Office of Disease Prevention and Health Promotion*.

<https://www.healthypeople.gov/2020/about/foundation-health-measures/Disparities>. Date accessed 8/8/18.

¹² Adapted from the Substance Abuse and Mental Health Services Administration.

<https://www.samhsa.gov/capt/practicing-effective-prevention/prevention-behavioral-health/adverse-childhood-experiences>. Date accessed 10/8/18.

¹³ Connecticut Department of Public Health (CT DPH), 2017

¹⁴ Centers for Disease Control and Prevention.

https://www.cdc.gov/violenceprevention/acestudy/about_ace.html. Date accessed 10/8/18.

¹⁵ Brown, DW, Anda, RF, Tiemeier, H, et al. (2009) Adverse childhood experiences and the risk of premature mortality. *Am J Prev Med*, 36(5), 389-96.

¹⁶ Fang X, Brown DS, Florence CS, Mercy JA. (2012) The economic burden of child maltreatment in the United States and implications for prevention. *Child Abuse Negl*. 36(2), 156–165.

Increasing Healthy Weight and Physical Fitness

Overweight and obesity is a significant problem for all ages. More than a quarter (25.3 percent) of Connecticut adults are obese, with rates higher among adults who are Black or African American, Hispanic or Latino, have not graduated high school, or have annual household income below \$25,000.¹⁷ An estimated 16.2 percent of Connecticut children are obese and consistent disparities are present in data related to healthy weight and physical fitness of children in Connecticut.¹⁸

The contribution of overweight and obesity to morbidity and mortality have been well studied. Individuals who have obesity have been shown to have an increased risk for many conditions, including hypertension, Type 2 diabetes, coronary heart disease, stroke, gallbladder disease, osteoarthritis, sleep apnea and respiratory problems, and some types of cancer.¹⁹ Estimates of the economic cost of obesity total \$149.4 billion in 2014 dollars nationally.²⁰ In 2014, an estimated \$1.36 billion in medical expenditures in Connecticut were attributable to obesity in the 855,000 obese adult residents, \$439 million of which were attributable to Medicare and \$140 million to Medicaid.²¹

Structures

Described in greater detail in this report, the Population Health Council recommends implementing HECs throughout Connecticut. HECs will be existing, altered, or new collaboratives with defined structures, including formal governance structures and locally owned and directed community organizing groups. The collaboratives will operate in a defined geographic area. HECs will comprise community members and partners from multiple sectors. Depending on the needs and circumstances in a geographic area, HECs are expected to include community members, community-based organizations, health care providers, local health departments, local government, social services agencies, schools, housing agencies, and others. HECs will select and implement strategies that address the root causes of poor health, health inequity, and preventable costs and be accountable for improving prevention, health risk, and healthy equity outcomes and reducing costs and cost trends for the health priorities. HECs will be sustainable, including through financing that rewards HECs for prevention, health improvement, and the savings and economic value they produce.

HEC Design Principles

Several principles emerged throughout the stakeholder engagement process that guide the development of the HEC design.

- **Community Engagement and Involvement:** Given their unique and essential perspectives and insights about their communities, HECs' success depends on the ongoing involvement of community members and community members making decisions about things that matter most to them. In addition to community members being involved in HEC formation and operation, the

¹⁷ CT DPH, BRFSS 2015.

¹⁸ CT DPH, BRFSS 2011-2015.

¹⁹ Clinical Guidelines on the Identification, Evaluation, and Treatment of Overweight and Obesity in Adults: the Evidence Report, 1998.

²⁰ Kim, D.D. et al. (2016). Estimating the Medical Care Costs of Obesity in the United States: Systematic Review, Meta-Analysis, and Empirical Analysis. *Value in Health*, 19(5), 602 – 613.

²¹ Wang YC, Pamplin J, Long MW, et al. (2015). Severe obesity in adults cost state Medicaid programs nearly \$8 billion in 2013. *Health Affairs*, 34(11), 1923-1931.

HEC structure should also support community organizers and locally owned and directed community organizing groups within communities that identify needs and assets and develop and implement strategies for improving prevention and community health.

- **Root Causes and Upstream Interventions:** HECs will focus on preventing poor health by addressing the root causes that contribute to the prevalence of ACEs and overweight and obesity in Connecticut, including social determinants of health.²² HECs will implement “upstream” interventions that address root causes, such as affordable and fair housing, access to healthy foods and beverages, and economic opportunity, and/or will align with existing efforts. HECs may also implement or align with “midstream” interventions that prevent risks of developing health conditions.
- **Health Equity:** Because much of what is driving poor health outcomes is related to health inequities, health equity²³ will be a central feature of the HEC Initiative. HECs and the State will embed a focus on health equity throughout the HEC Initiative.
- **Focus:** The HEC design includes components that will be the focus across all HECs. Requiring all HECs to be aligned in key areas increases the likelihood of achieving state-level prevention benchmarks. It also enables the State to better coordinate and support HECs.
- **Flexibility:** The design balances that focus with flexibility for HECs in several areas. The design reflects the need for HECs to have the flexibility to adapt how they are structured and what they do to address the needs of their communities and partners effectively.
- **Speed to Action:** The design reflects the desire to have HECs established and implementing interventions as quickly as possible. Although some planning and ramp up time is essential, the intent of the design is to build on previous collaborations and efforts and provide targeted support so that HECs can more readily and effectively advance to the action phase.
- **Leveraging Existing Assets:** Communities and the State have a strong foundation of community members, state and local agencies, community collaboratives, providers, other stakeholders, and groups committed to improving population health and health equity. Each HEC and the HEC Initiative will leverage these key assets and align existing efforts to maximize benefit while attracting new resources needed for HECs and new interventions. They also will leverage existing efforts to improve health outcomes, such as existing Medicaid Person-Centered Medical Home Plus (PCMH+)²⁴ Participating Entities and Medicare Accountable Care Organizations, organizations that are focused on population health improvement and community integration as a means to succeed in these shared savings programs.

²² Social determinants of health are conditions in the environments in which people are born, live, learn, work, play, worship, and age that affect a wide range of health, functioning, and quality-of-life outcomes and risks. Healthy People 2020. <https://www.healthypeople.gov/2020/topics-objectives/topic/social-determinants-of-health>. Date accessed 10/8/18.

²³ Healthy People 2020 health equity definition in text box:

<https://www.healthypeople.gov/2020/about/foundation-health-measures/Disparities>. Date accessed 8/8/18.

²⁴ Medicaid’s PCMH+ provides person-centered, comprehensive and coordinated care to HUSKY members. The PCMH+ program works to improve HUSKY member’s overall health and assists with access to services like access to healthy food, transportation to appointments and assistance in finding community agencies that support housing or employment.

HEC Geographies

The Population Health Council recommends that about 8-12 HECs be established. This would ensure a manageable number of HECs, correspond with many existing community collaboratives, and ensure that every geography in Connecticut is included in an HEC. HECs will have defined geographies in which they will align and implement interventions and be accountable for achieving defined outcomes. HEC geographies will be defined during an iterative State procurement process. During that process, prospective HECs will propose geographies based on criteria that ensures there will be no overlapping HEC boundaries, that there will be minimum population thresholds, and that there will be rational and effective boundaries that do not leave any high-need communities behind.

HEC Interventions

The likelihood of achieving state-level prevention outcomes increases by having all HECs focused on the same prevention aims while ensuring that each HEC has the flexibility to adapt interventions to best achieve the outcomes in their communities.

- **Improving Child Well-Being for Connecticut Pre-Birth to Children Age 8 years:** To address the child well-being priority aim, HECs will implement interventions to prevent ACEs and increase protective factors that build resilience. Interventions would seek to prevent the exposure and consequences of adverse childhood experiences such as physical sexual, and emotional abuse; mental illness, problematic drinking or alcoholism, and illegal street or prescription drug use of a household member; divorce or separation of a parent; domestic violence towards a parent; incarceration of a household member; and other types of trauma or distress such as food insecurity, housing instability, or poor housing quality. HEC interventions may focus on families, children, parents, and expectant parents to prevent ACEs and children and teens over age 5 years to build resilience and prevent ACEs in the next generation.
- **Improving Healthy Weight and Physical Fitness for All Connecticut Residents:** To address the healthy weight and physical fitness priority aim, HECs will implement interventions to prevent overweight and obesity across the lifespan and the associated risks of developing serious health conditions, such as interventions increasing access to and consumption of healthy foods and beverages and physical activity space and reducing deterrents to healthy behaviors.

HEC Interventions Framework

Moving the needle on improving child well-being and healthy weight and physical fitness requires implementing multi-pronged strategies that address the root causes of ACEs and overweight and obesity. HEC interventions will span four key categories: programs, systems, policies, and cultural norms.²⁵ Interventions are expected to include connecting, improving, or expanding existing interventions as well as new interventions that are needed to fill critical gaps. Interventions are also expected to be interrelated or mutually reinforcing. For example, an HEC could implement systems and policies to better support and sustain an existing program. Although the intervention framework will be a focus of the HEC Initiative, HECs will have the flexibility to select interventions in those categories that are most relevant in their communities and among their partners. The State or other entities such as large employers also may sponsor interventions that could have statewide impact.

²⁵ Cultural norms in communities and institutions

HEC Engagement and Inclusion of Key Sectors

HECs will have to address the multiple, interrelated root causes of ACEs and overweight and obesity. That necessitates having multiple sectors involved in HECs, including sectors that can address those root causes but have not been at the table among many community collaboratives to date. Each HEC will need to define the roles of the different sectors and entities. While the stakeholder engagement process thus far has identified HECs as being in the best position to define those roles based on their geographies and interventions, they should be guided by options and examples in this report.

HEC Governance

HECs will have a defined structure, with a formal governance structure and community organizing groups. The formal governance structure will have clearly defined decision-making roles, authorities, and processes. The community organizing groups will have ownership and decision-making authority over the things that matter most to them and will lead the identification and implementation of interventions in their communities. The structures must enable HECs to perform key operational and governance functions and be effective and nimble. The intent is also for HECs to quickly progress from structural decisions to implementing strategies in their communities. This report outlines HEC structure requirements that will ensure functionality and flexibility. HECs will have to determine structures within the parameters of those requirements that will work best in their circumstances.

HEC Prevention Measures and Benchmarks and HEC Outputs

HECs will be held accountable for a core set of prevention outcome measures that will be consistent statewide and directly relate to the two priority aims. The primary prevention measures for the health priority aims are: 1) a composite measure²⁶ of a child's safety, stability, and school success and 2) the prevalence of adult and child obesity. The HECs also will be accountable for additional secondary prevention and health equity measures that will complement the primary prevention measures. To track progress, each HEC will also report on process and outcome measures related to their chosen interventions.

HEC Measurement and Reporting

While HECs will be responsible for tracking HEC-specific process and outcome measures, the HEC Initiative requires a statewide data solution to collect, aggregate, and provide the necessary data to HECs and to the State to monitor and evaluate HEC performance. Through a complementary SIM data exchange initiative, Connecticut is developing a Core Data Analytics Solution (CDAS). CDAS will aggregate data from multiple sources, produce timely data for HECs, and accept process and outcome measure data from HECs. CDAS will allow the State to monitor state-level progress obtained by HECs.

HEC Workforce

HECs will require both an administrative workforce within a defined backbone organization that can perform or contract for the key functions required to operate an HEC and a workforce for implementing interventions in the communities. Central to the HEC Initiative will be deploying a non-clinical workforce such as community organizers and Community Health Workers (CHWs). The HEC workforce strategy will include aligning current resources and hiring new staff. The new jobs created by HECs will create employment opportunities and contribute to the local and state economies.

²⁶ A composite measure is a combination of two or more individual measures in a single measure.

State Support for HECs

Using Connecticut’s Behavioral Health Partnership²⁷ as a model, the Population Health Council recommends establishing a multi-agency partnership, the State Partnership for Health Enhancement (State Partnership), to oversee and administer the HEC Initiative. The State Partnership would comprise multiple State agencies that have purviews that include child well-being and healthy weight and physical fitness. As with the Behavioral Health Partnership, agencies would support HECs in multiple ways. This includes pursuing legislative and regulatory changes that will support HECs and enable the HEC Initiative. This also includes enabling the provision of a centralized resource for technical assistance and other types of support as HECs form and implement interventions and establishing an HEC Advisory Committee that would advise on the implementation and performance of the HEC Initiative.

HEC Financing

A central element of the HEC program design is creating a financing model that provides significant capital, including near- and long-term financing for HECs. The report outlines a pathway for creating an HEC financing model, both in the near term (the first five years of implementation) and in the long term (beyond five years). The near-term financing options will serve as a bridge to long-term financial sustainability options that will primarily rely on collaboration with health care purchasers—Medicare, Medicaid, commercial payers, and self-insured employers including state employees. The HEC financing model includes several models and mechanisms that fall into these categories: existing value-based models, HEC financing options, HEC financing distribution, and estimates of potential savings and benefits including through a potential Medicare opportunity and other purchasers. The magnitude of the financial opportunity is vast. The compounding effect of prevention-oriented interventions will yield an increasing amount of annual health care savings over time. Even a small decrease in health care expenditures over a 10-year time horizon would result in billions of dollars saved. Reinvesting a modest portion of those savings in prevention presents an opportunity for both a positive return on investment as well as the chance to improve long-term health and quality of life for all of Connecticut’s residents.

Conclusion

The HEC Initiative can create the right combination of conditions for moving the needle on prevention at a state level and help usher in a new era with prevention at the forefront of how Connecticut and the nation pursues—and pays for—the health and well-being of its residents. The HEC strategy is designed to address the complex and multi-factorial needs and challenges facing communities and “monetize” prevention so that activities and interventions that produce results can be sustained. With focused health priorities, effective structures, and appropriate financing, Connecticut can be the healthiest state

²⁷ The Connecticut Behavioral Health Partnership’s goal is to provide access to a more complete, coordinated, and effective system of community-based behavioral health services and support. It was established through legislation (PA05-280 and later PA10-119) and comprises the Department of Children and Families (DCF), the Department of Social Services, the Department of Mental Health and Addiction Services, Beacon Health Options, and a legislatively mandated Oversight Council. The Oversight Council comprises legislators and their designees, behavioral health consumers and advocates, medical and mental health practitioners, state agencies, and insurers. The partnership is designed to create an integrated behavioral health service system for Connecticut’s Medicaid populations, including children and families who are enrolled in HUSKY Health and DCF Limited Benefit programs.

in the country and the best state for children to grow up, slowing the growth of Connecticut’s health care spending.

EXAMPLE OF HEALTH ENHANCEMENT COMMUNITY

This hypothetical HEC example illustrates what the vision of an HEC is and what an HEC can do to improve child well-being and healthy weight and physical fitness. Note that this example is to show how the different HEC elements described in this report could operate together. *All details are for illustrative purposes only.*

Geography: As a prospective HEC, an existing community collaborative reached out to two neighboring communities and negotiated their inclusion in the HEC based on data analysis that showed some similar patterns of need, community resident listening sessions and key informant interviews, and previous successful joint efforts. Their proposed geography includes urban and suburban rural areas and meets the State’s requirements.

Community Assets and Needs: To develop their application to become an HEC and their implementation plan, the prospective HEC collected and collectively reviewed data and information from multiple existing and new quantitative and qualitative sources to gain a detailed and nuanced understanding of assets and needs. These included community organizing activities throughout their proposed geography; recent community needs assessments; and input from community-based organizations, local agencies, health care providers, faith-based organizations, child care providers, and schools. The HEC also used the State data exchange system, CDAS, to identify “hot spots” related to child well-being being and healthy weight and physical fitness indicators as well as indicators related to the root causes of ACEs and overweight/obesity. The data and information were used to identify HEC strategies.

Partnerships: The original community collaborative comprised 30 organizations, including multiple health and health care-related community-based organizations; the local health department, a federally qualified health center that is a Medicaid PCMH+ Participating Entity; two hospitals that are part of a joint Accountable Care Organization; multiple health and health care focused community-based organizations; the YMCA; Planned Parenthood; United Way; and a local a community foundation. Given their analysis and knowledge of what is contributing to ACEs and overweight/obesity in their geography, they expanded their partners to include existing community organizing groups; the Community Action Agency; housing agencies; schools and school districts; community colleges; government agencies and departments; community-based and social service organizations that contribute to community health; social justice organizations and advocates; faith-based, civic, and cultural organizations; economic development offices; Community Development Corporations; elected officials; policy and advocacy organizations; law enforcement agencies; Chambers of Commerce; employers; substance use disorder providers; behavioral health providers; and transit districts. They developed a participant agreement that clarified roles and expectations, including those related to resources from and for each partner. One of the local employers, the two hospitals, and the health center have all agreed to identify ways they can further support community health by contributing to the economic vitality of the communities in which they operate.

Structure: The prospective HEC developed a structure that includes a formal governance structure that administers the HEC (e.g., oversight, staffing, evaluation, performance management, fundraising, and

other support), and includes community-specific community organizing groups that identify and implement community-based strategies with support from community organizers. Given that they brought many new partners to the table, they recognized the need to develop a governance structure that balanced the need to make decisions quickly with methods for including all their partners in some way to guide good decision-making and keep partners engaged in the HEC process. They formed a governing body with an upper limit of 20 members, which is responsible for oversight of the HEC and routine decisions. They ensured that each sector had balanced representation on the governing body. They also established a full membership committee and other key committees (e.g., finance, performance) that include other participants. The governing bodies and committees, the processes for electing members and officers to that governing body and terms of service, the scope of authorities, the process by which the governing body makes decisions, the roles and responsibilities of its members, etc., were codified in a partnership agreement and bylaws, which each member had to sign. They created a new unaffiliated backbone organization and housed it in one of the local organizations. The backbone organization employs an HEC director and HEC staff to manage the HEC and support community organizing groups. They contract with one of their local hospitals as a fiduciary agent and contract with a local law firm for as-needed legal support.

Interventions: The HEC first identifies existing entities, interventions, and efforts to address the root causes of child well-being and healthy weight and physical fitness in their geography and develops a plan to leverage what is already working and fill gaps by implementing new interventions. Led by the community organizing groups, the HEC identifies several interventions. As examples, for child well-being they implemented interventions aimed at:

- **Programs:** Aligning existing home visitation programs to create a unified approach and a seamless experience for families. Securing financing to expand affordable housing in a community identified as a “hot spot.”
- **Systems:** Developing agreements among HEC organizations to offer employment to formerly incarcerated parents. Implementing transportation services to transport formerly incarcerated parents to job sites.
- **Policy:** Expanding access to legal aid services related housing quality and discrimination. Community advocacy to ensure enforcement of existing housing policies.
- **Cultural Norm:** Implementing “Breaking the Cycle” social marketing campaign, which helps parents understand and stop the cycle of abuse and addresses the stigma associated with parents needing help in parenting as well as a campaign to promote community and institutional norms for a shared, community-wide responsibility for child well-being. Implementing Partnering with Parents, which is a parent-designed curriculum to help service organizations develop better partnerships with parents.

Measures and Performance Monitoring: Through an iterative process with community organizing groups and HEC partners, the HEC identifies process and outcome measures for each of their interventions, using validated measures where they exist. They also are accountable for performance under the State’s prevention and health equity scorecard and benchmarks. The HEC’s Performance Committee, which is part of its governance structure, is charged with continually monitoring performance, reporting to the State and supporting community organizing groups in developing corrective action plans. The HEC uses the CDAS dashboards and the data that are stratified across

race/ethnicity, socioeconomic status, and other population characteristics to continually identify the needs of their population and assess performance. They also develop specifications and processes for collecting data from their partners and other sources and upload their process and outcome measure data directly to CDAS. They develop and release periodic, easy-to-understand updates about HEC progress and performance throughout their network and communities, including at community meetings where they can get additional design and implementation feedback.

HEC Advisory Committee: The HEC has a member on a statewide HEC Advisory Committee. Among other actions, members create and HECs advocate for a policy to alter SNAP benefits to provide incentives for healthier foods.

State Partnership Support: The HEC also uses the sample agreements and bylaws in the Governance Package released by the State Partnership and receives training and technical assistance from experts on interventions that improve health equity, group facilitation skills, and using CDAS, among other support.

Financing: The HEC is supported by a local Wellness Trust that was developed to support the HEC Initiative with funds from the two hospitals' community benefits funds; local and state foundations; and, later in the lifecycle of the HEC, a portion of shared savings from health care purchasers such as Medicare and Medicaid. The Wellness Trust distributes funding based on pre-established policies governed by a Wellness Trust Board of Directors. The HEC also receives upfront financing from health care purchasers and has a braided funding pool that coordinates funds from various federal, state, and local sources and allocates them towards services. The HEC also supported their housing partners in pursuing a Low-Income Housing Tax Credit for low-income housing. The HEC is part of the Multi-Payer Demonstration, which enables the HEC to secure significant, long-term financing through the overall HEC Initiative achieving defined prevention and cost benchmarks.

2. THE NEED FOR HEALTH ENHANCEMENT COMMUNITIES IN CONNECTICUT

Although Connecticut ranks fifth in overall health nationwide—behind Massachusetts, Hawaii, Vermont, and Utah,²⁸ between 2015 and 2017, Connecticut experienced a downward trend in rankings related to healthy weight, including physical activity and diabetes, as well as measures related to child well-being, including children in poverty, low birthweight births, and infant mortality.^{29,30} Across these 5 measures, Connecticut currently ranks well below the top 10 states.³¹ Additionally, significant health disparities persist, with Connecticut currently ranking 43rd in disparities in health status, creating gaps in health outcomes across population groups and resulting in many Connecticut residents and communities faring poorly across numerous health indicators. The HEC Initiative aims to reverse the downward trend in measures related to physical activity and child well-being and move Connecticut's rankings into the top 10 states across these 5 measures within 10 years.

Connecticut is also ranked fifth among the states for children to grow up—behind New Jersey, Massachusetts, Vermont, and New Hampshire.³² This ranking is based on measures of infant mortality, food insecurity, high school graduation, violence-related injury deaths, and teen birth rates—all measures aligned with the priority aims of the HEC Initiative. One of the three goals of the HEC Initiative is to move Connecticut into first place as the best state for all children to grow up, regardless of background or socioeconomic status, within 10 years.

Connecticut is a higher-cost state in overall health care spending per person relative to the national average, and health care spending has consistently outpaced growth in the state economy. Although the state's health care spending growth was slightly lower than the national average between 2004 and 2014, Medicare spending data show that Connecticut is both high-cost and higher-growth relative to national averages.³³ Connecticut is also the highest cost state for Medicare in New England. Taken together, these historical trends demonstrate the need for Connecticut to control health care spending. In contrast to Medicare, Connecticut Medicaid reduced its per-person spending by a greater percentage (5.7 percent) than any other state in the country.³⁴ However, the HEC Initiative aims to further reduce Connecticut's health care spending by reducing the prevalence of avoidable health problems and associated health inequities, which predominate in low-income and otherwise vulnerable populations

²⁸ America's Health Rankings, 2017 Annual Report. <https://www.americashealthrankings.org/learn/reports/2017-annual-report/state-summaries-connecticut>. Date accessed 8/14/18.

²⁹ America's Health Rankings, 2016 Annual Report. https://assets.americashealthrankings.org/app/uploads/ahr_annual-report_executive_summary_v1.pdf. Date accessed 8/14/18.

³⁰ America's Health Rankings, 2015 Annual Report. <https://www.americashealthrankings.org/explore/annual/measure/Overall/state/CT?edition-year=2015>. Date accessed 10/17/18.

³¹ The 2017 Connecticut rankings for the five measures are as follows: Physical Activity – 18, Diabetes – 19, Children in Poverty – 21, Low Birthweight Births – 22, and Infant Mortality – 15.

³² End of Childhood Report 2018. Save the Children. <https://www.savethechildren.org/us/about-us/resource-library/end-of-childhood>. Date accessed 8/14/18.

³³ Medicare Geographic Variation Public Use File, 2007-2016.

³⁴ Lassman, D., Sisko, A.M., Catlin, A., Barron, M.C., Benson, J., Cuckler, G.A., Hartman, M., Martin, A.B., and Whittle, L. (2017). Health Spending By State 1991-2004: Measuring Per Capita Spending By Payers and Programs. *Health Affairs*, 36(7). doi: <https://doi.org/10.1377/hlthaff.2017.0416>.

including those covered by Medicaid. One of the three goals of the HEC Initiative is to reduce Connecticut’s overall trajectory of health care spending per person.

Two health priority aims have emerged that will help Connecticut achieve those three goals:

- Improving Child Well-Being in Connecticut from Pre-Birth to Age 8 years
- Improving Healthy Weight and Physical Fitness for All Connecticut Residents

These priorities have been identified because achieving these aims would prevent a host of serious health conditions and early death of residents throughout the state. These aims can be achieved by preventing adverse childhood experiences (ACEs) and overweight and obesity for all Connecticut residents, which, due to their significant contributions to increased morbidity and mortality, diminished quality of life, and increased health care costs of other health conditions, have a compounding impact.

This section will address:

- The significance of these two priority aims
- The health burden of ACEs and overweight and obesity
- The cost burden of ACEs and overweight and obesity

2.1. Significance of the Priority Aims

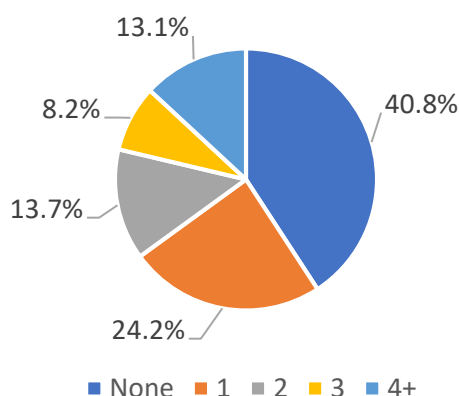
2.1.1. Improving Child Well-Being Pre-Birth to Age 8 years

Safe, stable, nurturing relationships and environments in the first five years of life increase a child’s opportunity for a healthy adulthood. Achieving this aim for children throughout Connecticut requires preventing adverse childhood experiences (ACEs). ACEs are stressful or traumatic events experienced by children. Ample evidence reveals the associations between ACEs and health conditions and indicators leading to adult morbidity and mortality. The Behavioral Risk Factor Surveillance System (BRFSS), a household phone survey of adults, defines ACEs based on several types of abuse and adverse experiences: emotional, physical, and sexual abuse; intimate partner violence; household substance abuse; household mental illness; parental separation or divorce; and incarcerated household member.

More than half of adults in Connecticut report experiencing at least one ACE and 13.1 percent report experiencing four or more (Figure 1).³⁵

³⁵ CT DPH, 2017

Figure 1. Percent of Adults Who Report Adverse Childhood Experiences, By Number of Adverse Childhood Experiences, Connecticut, 2017



Source: CT DPH, 2017

A 2016 survey of child caretakers in Connecticut found that 19.4 percent of children aged birth to 17 had two or more ACEs.³⁶ The survey used an expanded definition of ACEs compared to BRFSS with the additions of experiencing the death of a parent, socioeconomic hardship, and being treated or judged unfairly due to race/ethnicity and did not include questions related to sexual or emotional abuse. Notably, 57.4 percent of Hispanic respondents and 53.6 percent of Non-Hispanic, Black respondents reported at least one ACE, compared to 42.2 percent of respondents overall. Additionally, children living in households with incomes over 400 percent of the Federal Poverty Level experienced at least one ACE less frequently (25.6 percent) than respondents overall (42.2 percent). According to the Centers for Disease Control and Prevention (CDC), an estimated one in seven children have experienced child abuse and neglect in the past year, and rates of child abuse and neglect are higher among children in poverty.³⁷

A study conducted by Kaiser Permanente in collaboration with the CDC examined the relationship between multiple measures of adult risk behavior, health status, and disease and seven ACE categories: psychological, physical, or sexual abuse; violence against the mother; living with household members who were substance abusers, mentally ill or suicidal, or ever imprisoned.³⁸ Adults who had experienced four or more categories of childhood exposure compared to those who had none were more likely to

³⁶ 2016 National Survey of Children's Health. The survey defined adverse family experiences as: (1) socioeconomic hardship, (2) divorce/separation of parent, (3) death of parent, (4) parent served time in jail, (5) witness to domestic violence, (6) victim of violence or witness of neighborhood violence, (7) lived with someone who was mentally ill or suicidal, (8) lived with someone with alcohol/drug problem, (9) treated or judged unfairly due to race/ethnicity.

³⁷ Fortson, B. L., Kleven, J., Merrick, M. T., Gilbert, L. K., & Alexander, S. P. (2016). *Preventing child abuse and neglect: A technical package for policy, norm, and programmatic activities*. Atlanta, GA: National Center for Injury Prevention and Control, Centers for Disease Control and Prevention.
<https://www.cdc.gov/violenceprevention/childabuseandneglect/index.html>. Accessed 8/14/2018.

³⁸ Felitti, VJ, Anda, RF, Nordenberg, D, et al. (1998). Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults: the Adverse Childhood Experiences (ACE) Study. *Am J Prev Med* 14(4), 245-258.

have multiple health risk factors. They were seven times more likely to experience alcohol abuse, four times more likely to use illicit drugs, 12 times more likely to attempt suicide, and two times more likely to be a smoker. The study also showed a graded dose-response relationship to ischemic heart disease, cancer, chronic lung disease, skeletal fractures and liver disease. A follow-up assessment of adults surveyed during 1995-1997 was conducted in 2009 and found that individuals with six or more ACEs compared to those who had none died 20 years earlier on average.³⁹

Analyses of BRFSS have also shown a relationship between ACEs and health indicators. Similar to previous studies, individuals with four or more ACEs had greater odds of reporting myocardial infarction, asthma, fair/poor health, frequent mental distress and disability, and those with one to six ACEs had greater odds of diabetes.⁴⁰ In addition to having a cumulative effect of ACEs on health indicators, individual ACEs have also been found to have differential relationships with risky behaviors and comorbidity.⁴¹ Based on a meta-analysis in 2016, the strongest associations were found for problematic drug use and interpersonal and self-directed violence, potentially leading to greater ACE risk for the next generation.⁴²

An initiative led by Chris Kelleher of the Center for Evidence-based Policy in Oregon integrated data from various state agencies and sources to identify characteristics of a mother at the time of a child's birth that increased the marginal risk of child maltreatment and entry into foster care.⁴³ This list included the maternal/child characteristics of smoking during pregnancy, low birthweight, and teenage pregnancy as well as socioeconomic, educational, correctional, and other characteristics of the caregivers and home life.

Tobacco is used during pregnancy for 3.5 percent of all births, with the highest rates attributable to White, Non-Hispanic mothers, 4.1 percent. An estimated 7.9 percent of Connecticut births classify as low birthweight, weighing less than 2,500 grams, and across the state, disparities persist. Approximately 12.8 percent of births to Black or African American mothers, 8.5 percent of births to Hispanic mothers, and 9.5 percent of births to mothers who have not completed high school classify as low birthweight. Disparities also exist for teenage births in Connecticut. As shown in Figure 2, the birth rate among White, Non-Hispanic women 15-19 years of age is only 3.5 per 1,000, compared to 28.9 per 1,000 Hispanic women ages 15-19.⁴⁴

³⁹ Brown, DW, Anda, RF, Tiemeier, H, et al. (2009). Adverse childhood experiences and the risk of premature mortality. *Am J Prev Med*, 36(5), 389-96.

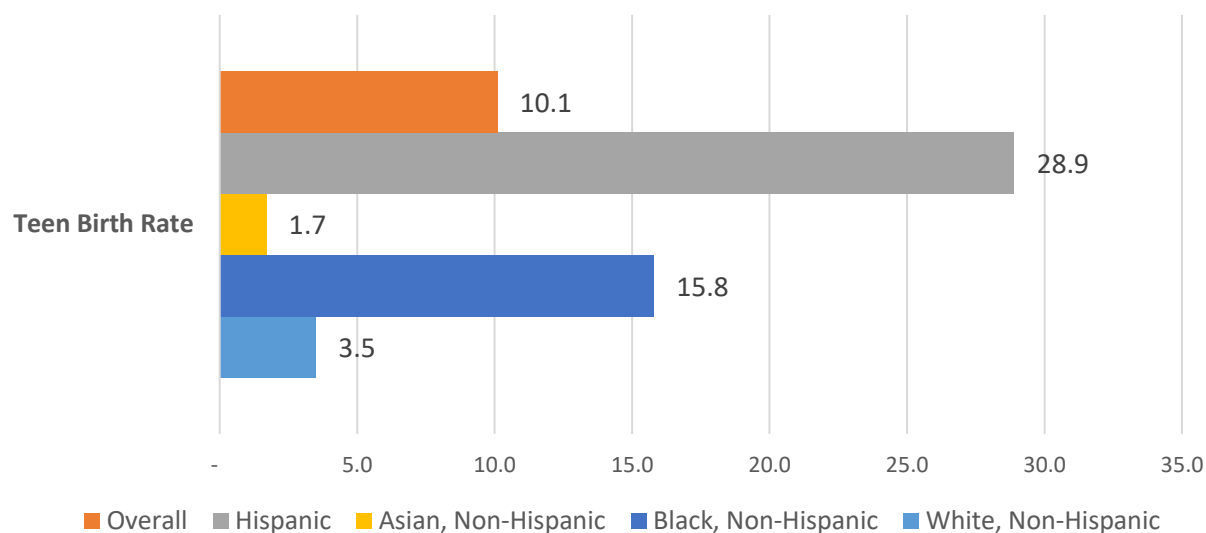
⁴⁰ Gilbert, LK, Breiding, MJ, Merrick, MT, et al. (2010). Childhood adversity and adult chronic disease: an update from ten states and the District of Columbia. *Am J Prev Med*, 48(3), 345-349.

⁴¹ Campbell, JA, Walker, RJ, Egede, LE. (2015) Associations between adverse childhood experiences, high-risk behaviors, and morbidity in adulthood. *Am J Prev Med*, 50(3), 344-352.

⁴² Hughes, K, Bellis, MA, Hardcastle, KA, et al. (2017) The effect of multiple adverse childhood experiences on health: a systematic review and meta-analysis. *Lancet Public Health*, 2, e356-66.

⁴³ Data, Evidence, and Modeling: The Oregon Experience. Chris Kelleher. Center for Evidence-based Policy presentation at Southern California Open DataFest. January 24, 2017.

⁴⁴ Connecticut Office of Vital Records, 2015.

Figure 2. Teen (15-19 Years) Birth Rate Per 1,000 Population By Race/Ethnicity, 2015

Source: Connecticut Office of Vital Records 2015

The health effects of early childhood adversity have also been explained by neurobiological factors and the impact of chronic stress on early brain development.⁴⁵ Childhood maltreatment has been associated with changes in the amygdala, hippocampus, and the prefrontal cortex, areas of the brain that have been shown to play a role in learning and memory, emotional processing, and ability to adapt to stress. Integrating the evidence of the impact of adversity on physical and mental health, studies have suggested that this early damage could lead to loss of functioning that could lead to chronic diseases, and cognitive and social disruption that could result in risky behaviors.^{46,47}

Addressing early childhood adversity may have a broader impact on health and life opportunities. While studies on the effect of ACEs on health indicators often control for socioeconomic variables, ACEs have also been shown to be associated with education, unemployment, and poverty status.⁴⁸ Individuals with four or more ACEs were 2.34 times as likely to not graduate high school, 2.3 times as likely to be unemployed, and 1.5 times as likely to live in a household reporting poverty.

2.1.2. Increasing Healthy Weight and Physical Fitness

More than a quarter (25.3 percent) of Connecticut adults are obese, and rates are higher among adults who are Black or African American, Hispanic or Latino, have not graduated high school, or have

⁴⁵ McCrory, E, De Brito, SA, Viding, E. (2011). The impact of childhood maltreatment: a review of neurobiological and genetic factors. *Frontiers in Psychiatry*, 2(48), 1-14.

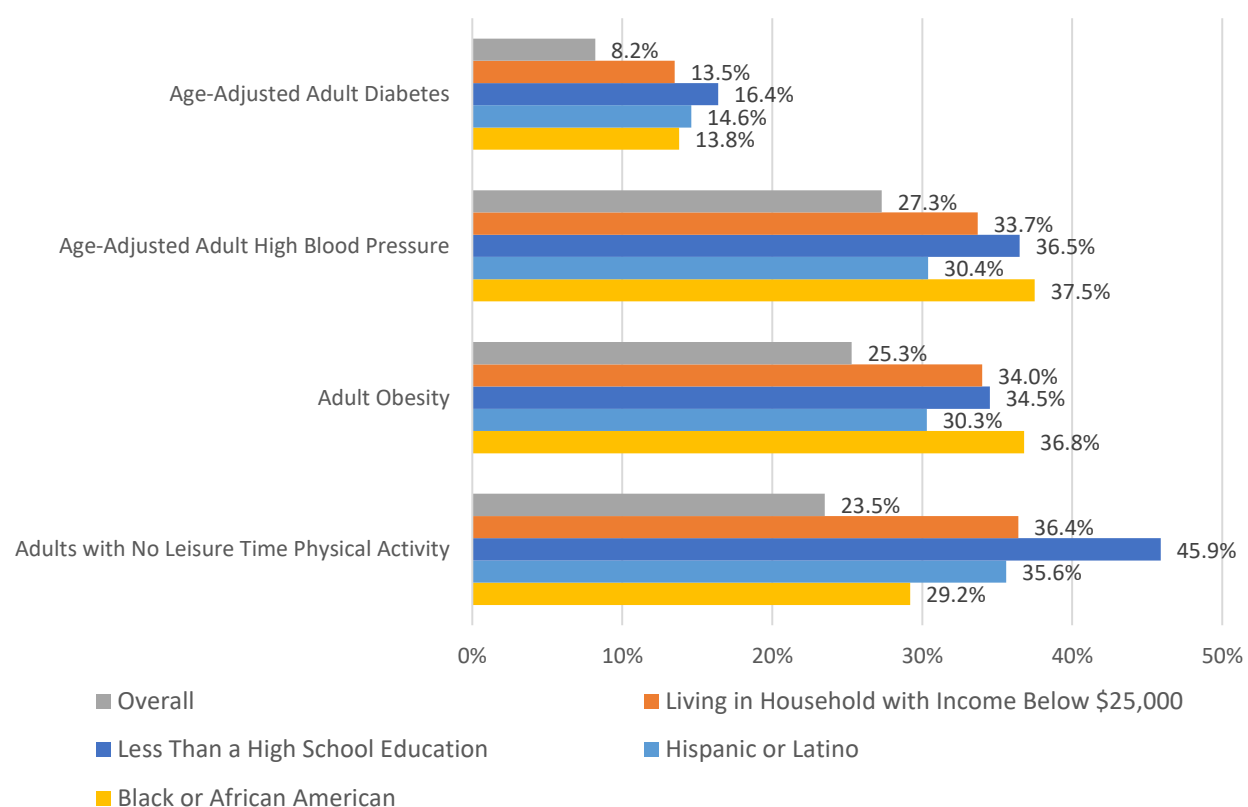
⁴⁶ Shonkoff, JP, Garner, AS, and The Committee on Psychosocial Aspects of Child and Family Health, Committee on Early Childhood, Adoption, and Dependent Care, and Section on Developmental and Behavioral Pediatrics. (2012). The Lifelong Effects of Childhood Adversity and Toxic Stress. *Pediatrics*, 129, e232-e246.

⁴⁷ Campbell, JA. (2015) Ibid.

⁴⁸ Metzler, M, Merrick, MT, Klevens, J, et al. (2016). Adverse childhood experiences and life opportunities: Shifting the narrative. *Children and Youth Services Review*, 72, 141-149.

household income below \$25,000.⁴⁹ Adults fitting these characteristics also exhibit higher rates of diabetes, high blood pressure, and inadequate physical fitness. Black or African American adults exhibit an estimated age-adjusted diabetes prevalence rate of 13.8 percent compared to the overall Connecticut adult rate of 8.2 percent and exhibit an estimated obesity rate 11.5 percent higher than the overall Connecticut adult rate.⁵⁰ (Figure 3)

Figure 3. Connecticut Adult Prevalence by Characteristic, 2015



Source: CT DPH, BRFSS 2015

Body mass index (BMI), although not diagnostic, is used as a screening tool to define adult overweight and obesity.⁵¹ According to the BMI Index Chart, BMI < 25 kg/m² is the normal or underweight range, BMI of 25-30 is the overweight range, and BMI > 30 is the obese range. Clinical guidelines for the treatment of the overweight or obese patient include: 1) an assessment of the degree of overweight and overall risk

⁴⁹ CT DPH, BRFSS 2015

⁵⁰ *Ibid*

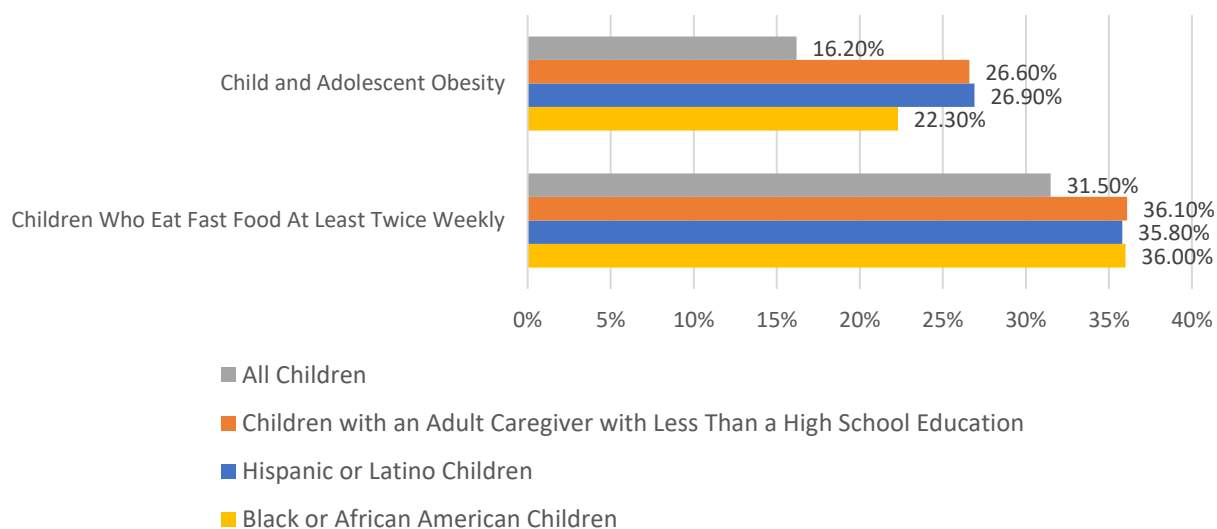
⁵¹ Defining Adult Overweight and Obesity. (n.d.). *Centers for Disease Control and Prevention*. <https://www.cdc.gov/obesity/adult/defining.html>. Date accessed 8/14/18.

status, and 2) management, which includes both reducing excess body weight and instituting other measures to control accompanying risk factors.⁵²

Nationwide, in 2015-2016, an estimated 39.8 percent of adults and 18.5 percent of youth were obese, and Hispanic adults (47 percent) and Non-Hispanic Black adults (46.8 percent) had a higher prevalence of obesity compared to Non-Hispanic White adults (37.9 percent).⁵³ Of particular concern is that the prevalence of obesity has shown an increasing trend. Obesity prevalence in 2015-2016 had increased 9.3 percentage points for adults and 4.6 percentage points for youth, compared to the 1999-2000 rates.

An estimated 16.2 percent of Connecticut children are obese and consistent disparities are present in data related to healthy weight and physical fitness of children in Connecticut. As shown in Figure 4, of children with an adult caregiver without a high school degree, an estimated 36.1 percent eat fast food at least twice weekly compared to 31.5 percent of all Connecticut children and are 10 percent more likely to be obese than children overall. (Figure 4)

Figure 4. Connecticut Child Prevalence by Characteristic, 2011-2015



Source: CT DPH, BRFSS 2011-2015

Additionally, certain behaviors of adult caregivers in Connecticut correlate with child health outcomes. Children living with a parent who does not participate in leisure time physical activities show a greater prevalence of obesity (23.1 percent) compared to children living with a parent participating in leisure time physical activities (14.3 percent).⁵⁴

⁵² Clinical Guidelines on the Identification, Evaluation, and Treatment of Overweight and Obesity in Adults: the Evidence Report. (1998). NIH Publication No. 98-4083, Bethesda, MD: National Institutes of Health.

⁵³ Hanes, CM, Carroll, MD, Fryar, CD, Ogden, CL. (2017). Prevalence of Obesity Among Adults and Youth: United States, 2015-2016. NCHS Data Brief No. 288, Hyattsville, MD: National Center for Health Statistics.

⁵⁴ CT DPH, BRFSS 2011-2015

While the relationship between obesity and income and education is complex, data show a lower prevalence of obesity is observed among individuals in the highest income groups (with incomes greater than 350 percent of the Federal Poverty Level) and among college graduates, although patterns were not consistent across all sex and racial/Hispanic origin subgroups.⁵⁵ Data suggest that the cause of obesity involves the integration of multiple factors that include family history and genetics, behavior, and social and environmental factors. Studies have shown evidence of obesity predisposing genes that affect biological pathways and have been associated with food intake in children and adults.⁵⁶ However, complex interactions between multiple genes and factors such as age, gender, ethnicity, physical activity, and diet can modulate genetic predisposition to obesity and response to treatment.

The contribution of overweight and obesity to morbidity and mortality has been well studied. Individuals who have obesity have been shown to have an increased risk for many conditions, including hypertension, Type 2 diabetes, coronary heart disease, stroke, gallbladder disease, osteoarthritis, sleep apnea and respiratory problems, and some types of cancer.⁵⁷ An age-adjusted analysis from the Framingham Heart Study showed that BMI was significantly positively associated with multiple risk factors for coronary heart disease, which included systolic blood pressure, fasting glucose levels, plasma total cholesterol, VLDL cholesterol, and LDL cholesterol, and inversely associated with HDL cholesterol levels.⁵⁸ Data from the National Health and Nutrition Examination Survey (NHANES) show that the prevalence of high blood pressure and high blood cholesterol was associated with higher BMI,⁵⁹ and the prevalence ratio was found to be highest for Type 2 diabetes and gallbladder disease.⁶⁰ In a 10-year study between 1986-1996, developing diabetes, gallstones, hypertension, colon cancer, heart disease and stroke increased with degree of overweight, and women and men with hypertension and high cholesterol had higher risk of developing additional morbidities.⁶¹

Hispanic and Black or African American adults in Connecticut exhibit higher rates of hospitalizations for obesity-related conditions such as coronary heart disease and heart failure. As shown in Figure 5 below, age-adjusted estimated inpatient hospitalization rates for Black or African American adults for heart failure (410.9 per 100,000) are more than twice as high as those for White adults (196.0 per 100,000).⁶²

⁵⁵ Ogden, CL, Fakhouri, TH, Carroll, MD, et al. (2017). Prevalence of Obesity Among Adults, by Household Income and Education-United States, 2011-2014. *MMWR Morb Mortal Wkly Rep* 2017, 66, 1369-1373.

⁵⁶ Choquet, H, and Meyre, D. (2011). Genetics of Obesity: What have we Learned? *Current Genomics*, 12(3), 169-179.

⁵⁷ Clinical Guidelines on the Identification, Evaluation, and Treatment of Overweight and Obesity in Adults: the Evidence Report. (1998). NHLBI Obesity Education Initiative Expert Panel on the Identification, Evaluation, and Treatment of Obesity in Adults (US), Bethesda, MD: National Heart, Lung, and Blood Institute.

⁵⁸ Lamon-Fava, S., Wilson, P.W.F, and Schaefer, E.J. (1996). Impact of Body Mass Index on Coronary Heart Disease Risk Factors in Men and Women: The Framingham Offspring Study. *Arteriosclerosis, Thrombosis, and Vascular Biology*, 16(12), 1509-1515.

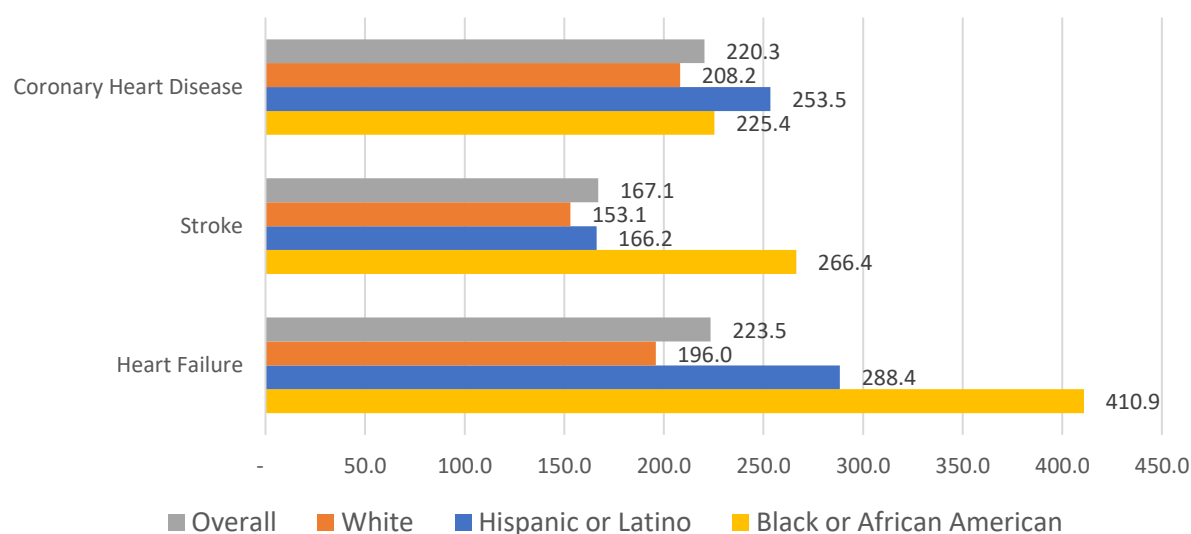
⁵⁹ Brown, C.D., Higgins, M., Donato, K.A., et al. (2000) Body Mass Index and Prevalence of Hypertension and Dyslipidemia. *Obesity Research*, 8(9), 605-619.

⁶⁰ Must, A., Spadano, J., Coakley, E.H., et al. (1999). The Disease Burden Associated with Overweight and Obesity. *JAMA*, 282(16), 1523-1529.

⁶¹ Field, A.E., Coakley, E.H., Must, A., et al. (2001). Impact of Overweight on Risk of Developing Common Chronic Diseases During a 10-Year Period. *Arch Intern Med*, 161(13), 1581-1586.

⁶² Connecticut Hospital Inpatient Discharge Database, 2014 data

Figure 5. Connecticut Adult Age-Adjusted Inpatient Hospital Discharge Rate Per 100,000 by Race/Ethnicity, 2014



Source: Connecticut Hospital Inpatient Discharge Database, 2014 data

An analysis conducted in 1993 to identify the major external factors that contribute to death in the U.S. concluded that a combination of dietary factors and sedentary activity patterns accounted for at least 300,000 deaths (14 percent of deaths) in 1990.⁶³ In 2000, analysis showed that poor diet and physical inactivity accounted for 365,000 deaths.⁶⁴ Although the association between BMI and mortality rates is complex, mortality rates from all causes for individuals with BMI>30 was generally 50-100 percent above individuals with BMI between 20-25.⁶⁵

Studies also point to strategies that address the social and environmental factors that contribute to food consumption and physical activity.⁶⁶ Interventions that included modifications of the environment to create opportunities for healthier choices around physical activity and food intake have shown effects on physical activity or weight-related outcomes in children and adolescents.⁶⁷

2.2. Root Causes of Priority Aims

Health Enhancement Communities (HECs) will focus on preventing poor health by addressing the root causes that contribute to the prevalence of ACEs and overweight and obesity in Connecticut. Root causes are factors that directly and indirectly influence the health status of individuals within the

⁶³ McGinnis, J.M., and Foege, W.H. (1993). Actual causes of death in the United States. *JAMA*, 270(18), 2207-12.

⁶⁴ Mokdad, A.H., Mark, J.S., Stroup, D.F., and Gergerding, J.L. (2004). Actual causes of death in the United States. *JAMA*, 291(10), 1238-45.

⁶⁵ Clinical Guidelines on the Identification, Evaluation, and Treatment of Overweight and Obesity in Adults: the Evidence Report. (1998).

⁶⁶ James, W.P. (1995). A public health approach to the problem of obesity. *Int J Obes Relat Metab Disord*, 19(Suppl 3), S37-S45.

⁶⁷ Lipek, T., Igel, U., Gausche, R., et al. (2015). Obesogenic environments: environmental approaches to obesity prevention. *J Pediatr Endocr Met*, 28(5-6), 485-495.

environment in which they live. They fall into two groups: structural inequities, commonly reflected in racial and ethnic disparities, and social determinants of health. Root causes can include lack of education/educational opportunities, inequities related to culture and language, economic instability/socioeconomic position and inequities, lack of access to healthy foods/food deserts, housing instability, inadequate built environment/residential environment, physical insecurity (e.g., crime, violence), racial and ethnic disparities and inequities, lack of social and community supports, chronic and toxic stress and trauma, and poor access to health care. Community-level health outcomes result from unique combinations of root causes.

The subsections below detail select root causes contributing to adverse outcomes related to weight, physical fitness, and child well-being. Although not exhaustive, the following root causes and their relation to poor health speak to the need for HECs to include interventions that address these root causes.

2.2.1. Lack of Education and Educational Opportunities

As previously noted, a higher prevalence of adverse health behaviors associated with chronic diseases, such as limited physical activity and unhealthy diets, is found in individuals with lower educational attainment or lower incomes. Additionally, children of mothers who did not graduate high school show an increased risk for maltreatment and entry into foster care.⁶⁸

Overall, 87.9 percent of Connecticut high schoolers graduate within four years; however, the range of the graduation rates across school districts varies considerably. Some of the largest school districts statewide have significantly lower four-year graduation rates such as Hartford School District (68.8 percent), Bridgeport School District (74.5 percent), and Waterbury School District (75.6 percent). These three school districts represent more than 1,100 students in the 2016-2017 school year cohort that did not graduate within the four-year window.⁶⁹ Overall, 10.7 percent of Connecticut students were chronically absent in the 2017-18 school year, meaning they missed more than 10 percent of school days. Hispanic/Latino and Black or African American students exhibited higher rates (16.9 percent and 15.3 percent, respectively) than their White peers (7.2 percent). Additionally, 18.8 percent of students eligible for free lunch were chronically absent compared to 5.8 percent of those ineligible for free or reduced lunch.⁷⁰ BRFSS ACEs data show that when compared to participants with no ACEs, those with ACEs are more likely to report high school non-completion, unemployment, and living in a household below the Federal Poverty Level.⁷¹

2.2.2. Economic and Housing Instability

In 2017, Connecticut ranked 48th across all states in income equity, and the measure of inequity in the state has trended upward over the past 25 years at a faster rate than the nation overall.⁷² Low

⁶⁸ Kelleher, C. (2017). Data, Evidence, and Modeling: The Oregon Experience. *Center for Evidence-based Policy presentation at Southern California Open DataFest*.

⁶⁹ Connecticut State Department of Education EdSight, 2016-17 school year

⁷⁰ Connecticut State Department of Education EdSight, 2017-18 school year

⁷¹ Metzler, M., Merrick, M.T., Klevens, J., Ports, K.A., and Ford, D.C. (2017). Adverse childhood experiences and life opportunities: Shifting the narrative. *Children and Youth Services Review*, 72, 141-149.

⁷² America's Health Rankings. (2017). <https://www.americashealthrankings.org/learn/reports/2017-annual-report/state-summaries-connecticut>. Date accessed 6/14/18.

socioeconomic status increases risk of diabetes-related mortality.⁷³ Without access to resources, individuals are limited in the type and level of care they can obtain, the quality and quantity of healthy foods they can eat, and the level of access to and time available for leisure time physical activity, among countless other factors that influence health.

Across measures of health, poor health outcomes increase as incomes decrease. More than 360,000 Connecticut residents live in poverty and 23.3 percent of residents have incomes below 200 percent of the Federal Poverty Level.⁷⁴ The statewide point-in-time count of individuals experiencing homelessness decreased by more than 1,000 individuals since 2014; however, 3,387 individuals experiencing homelessness remain statewide. The State Health Assessment found that when looking at health characteristics by town, a correlation exists between the wealthy towns and better health and the urban core towns and poor health, despite some wealthy and urban core towns being located side-by-side.⁷⁵

The Eviction Lab at Princeton University compiled and published a dataset of evictions in America, ranking cities by the percentage of renter homes evicted per year. Three Connecticut towns made the top 40: Waterbury at number 22 with an eviction rate of 6.1 percent, Hartford at number 29 with an eviction rate of 5.7 percent, and Bridgeport at 39 with an eviction rate of 5.0 percent.⁷⁶

Housing insecurity has shown correlation with intimate partner violence even when controlling for age, family income, race/ethnicity, education, and marital status.⁷⁷ Witnessing intimate partner violence meets the definition of an ACE.

Across the state, 18.8 percent of households have at least one of four severe housing problems: incomplete kitchen facilities, incomplete plumbing facilities, more than 1.5 persons per room, and a ratio of housing costs to household income greater than 50 percent.⁷⁸

2.2.3. Lack of Access to Healthy Foods and Physical Inactivity

Access to low-cost, healthy foods is a concern across the state. Connecticut ranks low relative to the rest of the nation in terms of fruits and vegetables eaten each day (39th in average number of fruits eaten each day and 34th in vegetables consumed).⁷⁹ Improving access to healthy foods for children has shown linkages to healthier students and better achievement.⁸⁰

⁷³ Saydah S, Lochner K. Socioeconomic Status and Risk of Diabetes-Related Mortality in the U.S. *Public Health Reports*. 2010;125(3):377-388.

⁷⁴ U.S. Census American Community Survey 5-Year Estimates, 2012-2016

⁷⁵ Healthy Connecticut 2020 State Health Assessment. (2014). *Health Resources in Action*.

⁷⁶ Eviction Lab at Princeton University. <https://evictionlab.org/> Accessed 10/5/2018.

⁷⁷ Breiding, M.J., Basile, K.C., Klevens, J., Smither, S.G. (2017). Economic Insecurity and Intimate Partner and Sexual Violence Victimization. *Am J Prev Med*, 53(4), 457-464.

⁷⁸ U.S. Department of Housing and Urban Development Comprehensive Housing Affordability Strategy, 2011-2015

⁷⁹ America's Health Rankings. (2017). <https://www.americashealthrankings.org/learn/reports/2017-annual-report/state-summaries-connecticut>. Date accessed 6/14/18.

⁸⁰ Bradley, B., Green, A.C. (2013). Do Health and Education Agencies in the United States Share Responsibility for Academic Achievement and Health? A Review of 25 years of Evidence About the Relationship of Adolescents' Academic Achievement and Health Behaviors. *Journal of Adolescent Health*, 52(5), 523–532.

As shown in Figure 4, 31.5 percent of Connecticut children eat fast food more than twice a week and are more likely to be obese if a parent participates in no leisure time physical activity. An estimated 29.9 percent drink soda or other sugar-sweetened beverages at least once per day. An estimated 43.2 percent of children aged 2-17 exceed the threshold of excessive screen time (more than two hours) daily.⁸¹

An estimated 23.1 percent of adults report no leisure time physical activity.⁸² Rates are even higher for those without a high school degree (46.1 percent) and those with household income of less than \$25,000 (35.7 percent).⁸³

2.2.4. Neighborhood, Environment, and Physical Insecurity

Housing quality and exposure to harmful environments also impact child well-being. In calendar year 2015, more than 3,000 Connecticut children under age 6 tested positive for some level of lead in their blood. More than 900 children were at levels two to four times the baseline at which a child is considered poisoned. Further, those numbers may be underestimated due to significant gaps in screening across the state. The health disparities for lead poisoning between races and between Hispanic and Non-Hispanic ethnicities remain significant. Black children (5.0 percent) were found more than twice as likely to be lead poisoned than White children (2.2 percent), and Hispanic children (3.9 percent) were found 1.6 times as likely to be lead poisoned than Non-Hispanic children (2.5 percent).⁸⁴

Many school-aged children feel unsafe on the way to/from and at school, creating a barrier to obtaining an education. Approximately 6.9 percent of Connecticut high school students who did not go to school on one or more days in the past 30 days did not attend because they felt they would be unsafe at school or on their way to/from school. Additionally, 5.4 percent of high school students reported carrying a weapon on school property and 7.1 percent reported being threatened or injured with a weapon on school property.⁸⁵ In the 2015 DataHaven Community Well-Being survey, 29 percent of Connecticut residents reported feeling unsafe walking in their neighborhood at night.⁸⁶

2.2.5. Chronic and Toxic Stress and Trauma

Across the state, children and adolescents continue to experience stress and trauma at home and in their social lives. In state fiscal year 2016, Connecticut saw 9.66 unique substantiated victims of maltreatment per 1,000 children.⁸⁷ In calendar year 2015, Non-Hispanic, Black or African American children were 1.9 times as likely and Hispanic children were 2.6 times as likely to be substantiated victims as compared to Non-Hispanic, White children.⁸⁸

⁸¹ BRFSS. (2011-2015). CT DPH.

⁸² CT DPH, BRFSS 2015

⁸³ *Ibid*

⁸⁴ Connecticut Department of Public Health Childhood Lead Poisoning Prevention and Control 2015 Annual Disease Surveillance Report. (2017).

⁸⁵ Connecticut YRBS. (2017).

⁸⁶ Communities and Neighborhood Profiles. <http://ctdatahaven.org/communities>. Date accessed 8/7/18.

⁸⁷ Connecticut State Department of Children and Families 2016 Abuse and Neglect Data

⁸⁸ Connecticut Department of Children and Families Report Card. <https://portal.ct.gov/DCF/RBA/Report-Cards>. Date accessed 8/7/18.

As of April 2016, 53.67 percent of those currently incarcerated in Connecticut reported being a caregiver, totaling over 17,000 dependents in the state with a caregiver behind bars. Over 12,000 of those dependents are from single-parent homes.⁸⁹

Data also suggest linkages between childhood trauma and increased risk of severe obesity later in life, providing a connection between the two health priorities.⁹⁰

2.3. Current Cost of Health Care

Improving child well-being in Connecticut from pre-birth to age 8 years and healthy weight and physical activity for all Connecticut residents will reduce the trajectory of health care cost increases. The economic cost of child abuse and neglect in the U.S. in 2008 has been estimated at \$124 billion, with an estimated lifetime cost per victim at \$212,012.⁹¹ Estimates of the economic cost of obesity total \$149.4 billion in 2014 dollars nationally.⁹² Estimates of the economic cost of obesity total \$149.4 billion in 2014 dollars nationally.⁹³ In 2014, an estimated \$1.36 billion in medical expenditures in Connecticut were attributable to obesity in the 855,000 obese adult residents, \$439 million of which were attributable to Medicare and \$140 million to Medicaid.⁹⁴

Connecticut is a higher-cost state in overall health care spending per person relative to the national average. This reveals an opportunity to reduce costs.

⁸⁹ A Shared Sentence: Incarceration of Caregivers and Its Impact on Connecticut's Children. https://d3n8a8pro7vhmx.cloudfront.net/ctassetbuilding/pages/167/attachments/original/1476997702/CIP-State-Specific-Presentation_FINAL.pdf?1476997702. Date accessed 8/14/18.

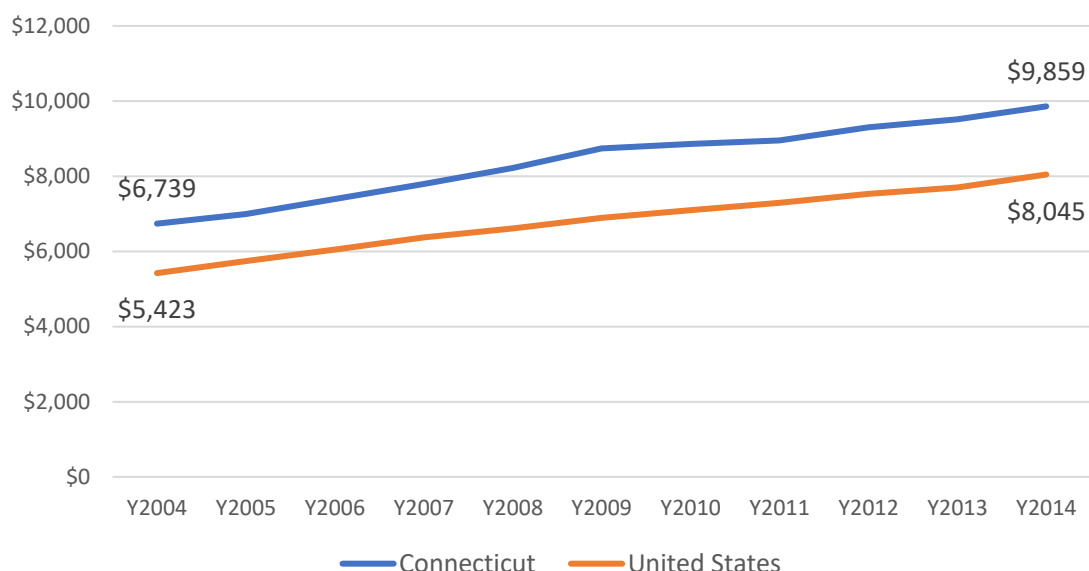
⁹⁰ Richardson, A.S., Dietz W.H., Gordon-Larsen, P. (2014). The association between childhood sexual and physical abuse with incident adult severe obesity across 13 years of the National Longitudinal Study of Adolescent Health. *Pediatric obesity*, 9(5), 351-361. doi:10.1111/j.2047-6310.2013.00196.x.

⁹¹ Fang X, Brown DS, Florence CS, Mercy JA. (2012). The economic burden of child maltreatment in the United States and implications for prevention. *Child Abuse Negl.* 36(2), 156–165.
Child Abuse and Neglect: Consequences. (n.d.). *Centers for Disease Control and Prevention*.
<https://www.cdc.gov/violenceprevention/childabuseandneglect/consequences.html>. Date accessed 8/14/2018.

⁹² Kim, David, D. et al. (2016). Estimating the Medical Care Costs of Obesity in the United States: Systematic Review, Meta-Analysis, and Empirical Analysis. *Value in Health*, 19(5), 602 – 613. doi: 10.1016/j.jval.2016.02.008

⁹³ Kim, D.D. et al. (2016). Estimating the Medical Care Costs of Obesity in the United States: Systematic Review, Meta-Analysis, and Empirical Analysis. *Value in Health*, 19(5), 602 – 613.

⁹⁴ Wang YC, Pamplin J, Long MW, et al. (2015). Severe obesity in adults cost state Medicaid programs nearly \$8 billion in 2013. *Health Affairs*, 34(11), 1923-1931.

Figure 6. Total All-Payer Per Capita Personal Health Care Spending, 2004-2014 ⁹⁵

Source: CMS National Health Expenditure Data

However, the Connecticut health care spending growth rate was slightly lower than the national average between 2004 and 2014.

Table 1. All Payer Per Capita Spending Growth

Compound Annual Growth Rate, 2004-2014	
Connecticut	3.88%
United States	4.02%

Source: Bureau of Economic Analysis, U.S. Department of Commerce

During this same period, growth in the Connecticut economy, measured by Gross Domestic Product, was 2.0 percent.⁹⁶ Health care spending is outpacing growth in the Connecticut economy by a significant margin.

While Connecticut is a comparatively high cost Medicaid state, Connecticut's Medicaid program led the nation in controlling cost trends on a per enrollee basis for the period from 2010-2014.⁹⁷ Connecticut reduced its per-person spending by a greater percentage (5.7 percent) than any other state in the country. Overall and in Connecticut, Medicaid tracked lower than private health insurance and

⁹⁵ CMS National Health Expenditure Data; available at <https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData>. Date accessed 8/6/18.

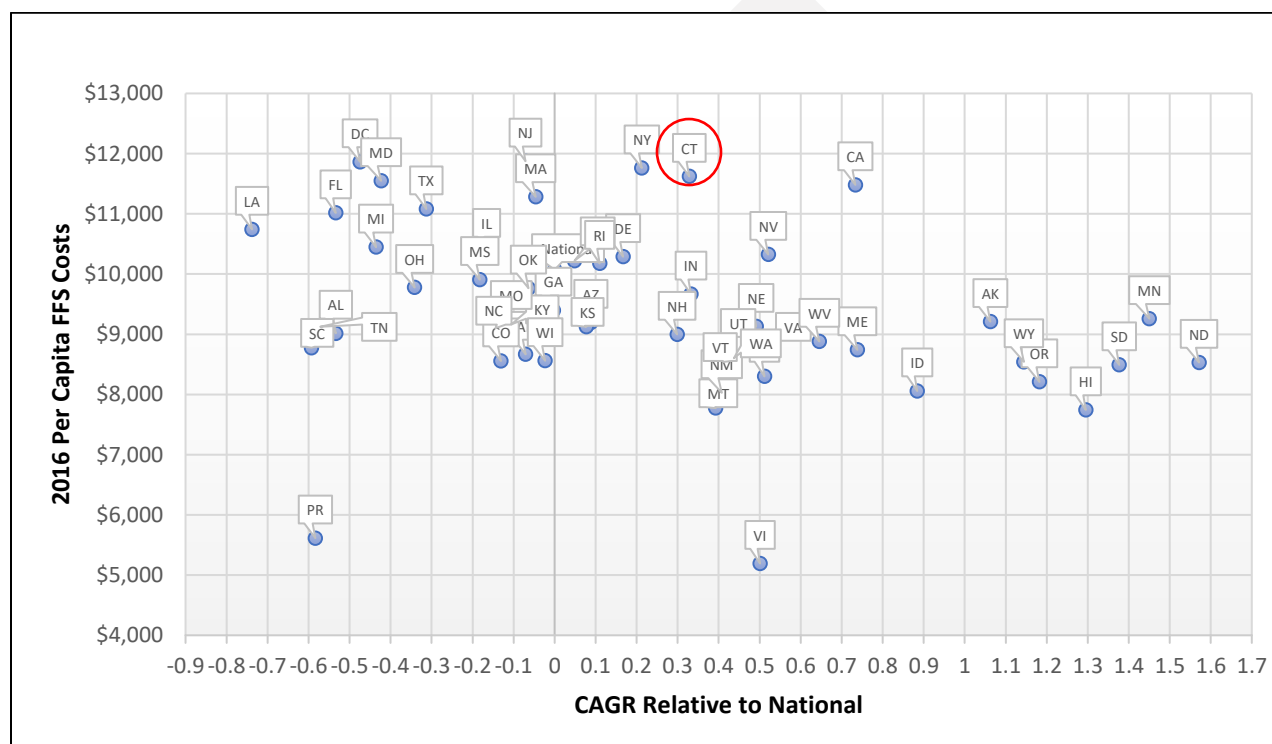
⁹⁶ Bureau of Economic Analysis, U.S. Department of Commerce; data available at <https://www.bea.gov/iTable>

⁹⁷ Lassman, D., Sisko, A.M., Catlin, A., Barron, M.C., Benson, J., Cuckler, G.A., Hartman, M., Martin, A.B., and Whittle, L. (2017). Health Spending By State 1991-2004: Measuring Per Capita Spending By Payers and Programs. *Health Affairs*, 36(7). doi: 10.1377/hlthaff.2017.0416.

Medicare.⁹⁸ This is likely due to Medicaid’s innovative efforts to control costs through their managed fee-for-service model and PCMH initiatives, maintaining regulatory control over provider rates, and changes in case mix related to the Medicaid expansion.

Medicare spending data for Connecticut, by contrast, shows a state that is both high-cost and higher-growth relative to national averages. Figure 7 shows each state’s 2016 per capita Medicare costs and its 2007-2016 Medicare spending compound average growth rate (CAGR) relative to the national average. Connecticut had among the highest per capita cost as well as higher than average growth.⁹⁹

Figure 7. State Per Capita Medicare Fee-For-Service Costs Relative to National

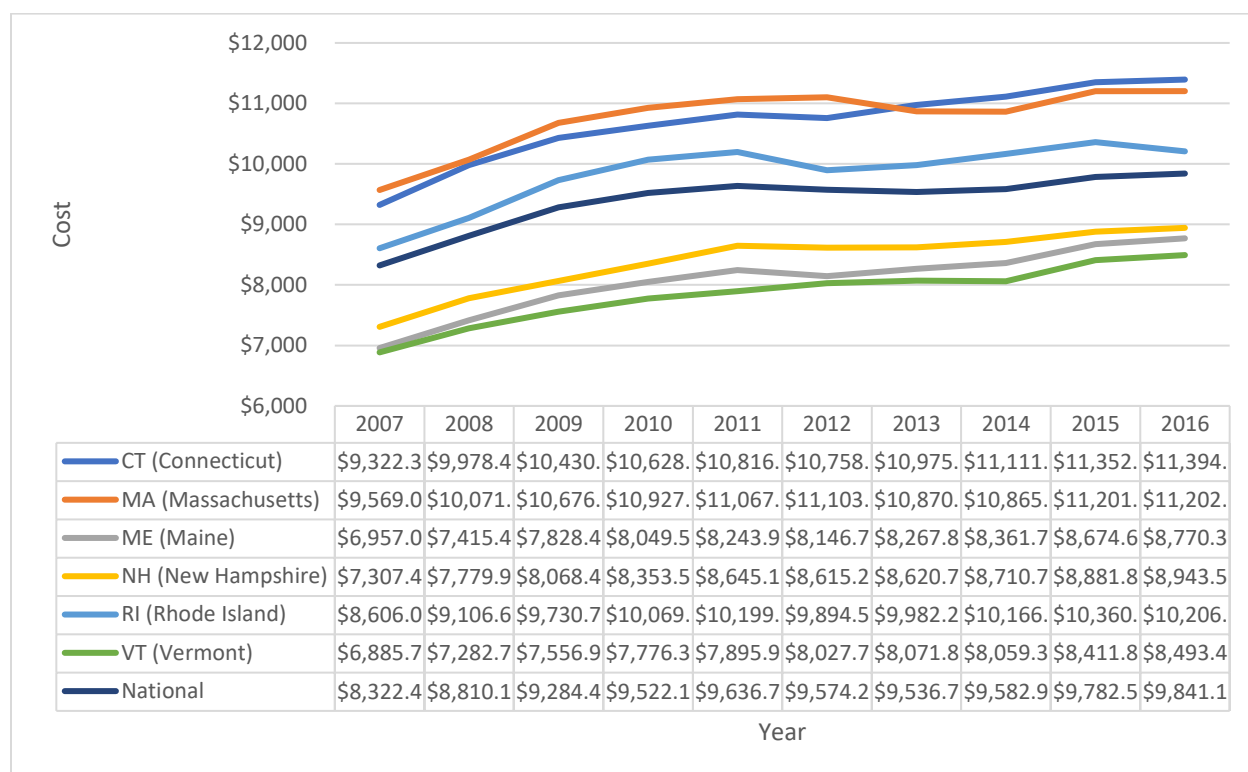


Source: Medicare Geographic Variation Public Use File, 2007-2016

Connecticut is also the highest-cost state for Medicare in New England. Figure 8 shows Connecticut Medicare Parts A and B per capita spending alongside other New England states and the national average.

⁹⁸ Health Affairs, June 2017

⁹⁹ Medicare Geographic Variation Public Use File, 2007-2016.

Figure 8. Annual Medicare Fee-For-Service Per Capita Costs by State: Over 65 (2007-2016)

Source: Medicare Geographic Variation Public Use File, 2007-2016

Taken together, these historical trends demonstrate why it is important for Connecticut to control health care spending. From the federal government's perspective, Connecticut is a high-cost state for Medicare and that problem is being exacerbated by higher growth relative to national trends. From the State's perspective, health care spending has consistently outpaced growth in the state economy.

Rising health care costs affect both employers, who are purchasers of health insurance, and families, who are assuming a larger share of the burden of health care costs and earning depressed wages. From 2006 to 2016, consumer out-of-pocket spending rose by 54 percent from an average of \$525 in 2006 to \$806 in 2016. Wages, meanwhile, rose by only 29 percent during the same period.¹⁰⁰ Employers focus on total compensation costs, meaning both benefits and wages, and health care costs are an important factor in slowing wage growth. Average wages net of insurance premiums grew by only 0.7 percent from 2000 to 2009.¹⁰¹

¹⁰⁰ Claxton, Levitt, Rae, and Sawyer, Kaiser Family Foundation, *Increases in Cost-Sharing Payments Continue to Outpace Wage Growth*, Peterson-Kaiser Health System Tracker. <https://www.healthsystemtracker.org/brief/increases-in-cost-sharing-payments-have-far-outpaced-wage-growth/#item-start>. Date accessed 6/15/18.

¹⁰¹ Komisar, *The Effects of Rising Health Care Costs on Middle-Class Economic Security*, AARP Public Policy Institute, January 2013. https://www.aarp.org/content/dam/aarp/research/public_policy_institute/security/2013/impact-of-rising-healthcare-costs-AARP-ppi-sec.pdf. See also DeNavas-Walt, Proctor, and Smith, *Income, Poverty, and*

There are many different possible explanations for why Connecticut is a higher-cost state for health care, and the impact of health care spending on the overall Connecticut economy is complex and surely includes the important role that hospitals and other providers play as employers. For the purposes of this report, it is important to establish baseline data concerning overall Connecticut spending and to understand that it will be important to assess and interpret potential changes on the economy, employers, and consumers as the State advances goals under this initiative.

Health Insurance Coverage in the United States: 2011, U.S. Census Bureau, Current Population Reports, P60-243 (Washington, DC: U.S. Government Printing Office, 2012). <https://www.census.gov/prod/2011pubs/p60-239.pdf>.

3. HEALTH ENHANCEMENT COMMUNITY DEFINITION AND KEY ELEMENTS

3.1. Health Enhancement Community Initiative Goal

The HEC Initiative has three ambitious but achievable goals:

- Make Connecticut the healthiest state in the country.
- Make Connecticut the best state for children to grow up.
- Slow the growth of Connecticut's health care spending.

To achieve these goals, the Population Health Council recommends developing HECs across Connecticut that will focus on two priority aims:

- **Improving Child Well-Being in Connecticut Pre-Birth to Aged 8 Years:** Assuring all children are in safe, stable, and nurturing environments
- **Improving Healthy Weight and Physical Fitness for All Connecticut Residents:** Assuring that individuals and populations maintain a healthy or healthier body weight, engage in regular physical activity, and have equal opportunities to do so

This section will define and describe the key recommended elements of HECs, including:

- The definition of an HEC
- The core principles of HEC design
- How the geography of HECs will be defined
- What health priorities HECs will address
- The intervention framework HECs will use
- Potential roles for key sectors
- HEC governance structures

3.2. HEC Definition

HECs will have these essential features, described in greater detail in Section 3.3:

- HECs will be collaboratives that include community members and partners from multiple sectors. *Examples: residents, community-based organizations, health care providers, local health departments, local government, social services agencies, schools, housing agencies, and others.*
- HECs will be accountable for improving prevention, health risk, and healthy equity outcomes and reducing costs and cost trends for the health priorities.
- Each HEC will have a defined geographic area that it serves.
- HECs will have formal governance structures and defined ways of making decisions together.
- HECs will select and implement strategies that address the root causes of poor health, health inequity, and preventable costs.

- HECs will be sustainable, including through financing that rewards HECs for prevention, health improvement, and the savings and economic value they produce.

3.3. HEC Key Design Elements and Structure

3.3.1. Design Principles

The HEC Initiative continues to be designed with extensive stakeholder input (Appendix 2). Out of that process thus far, key principles emerged that guided the development of the HEC design in this section. (See Section 5 for detail.)

3.3.1.1. *Community Engagement and Involvement*

Community members should be involved in all stages of HEC formation and operation. HEC success depends on community members shaping and making decisions about what HECs are and do by sharing their perspectives about their lived experience within communities, including:

- Nuanced insights about needs, opportunities, and preferences
- Informal and formal resources and networks that can support HEC activities and lasting change in their communities
- Real-world experience with what has worked and not worked in the past.

3.3.1.2. *Root Causes and Upstream Interventions*

Unlike clinical initiatives, HECs will focus on preventing poor health by addressing its root causes in Connecticut's communities. HECs will implement "upstream" interventions that address root causes such as access to affordable and fair housing, access to healthy foods and beverages, and economic opportunity, and/or will align with existing efforts. HECs may also implement interventions that address "midstream" interventions that prevent risks of developing health conditions.

3.3.1.3. *Health Equity*

Because much of what is driving poor health outcomes is related to health inequities, health equity¹⁰² will be a central feature of the HEC Initiative. To that end, HECs and the State will embed a focus on health equity¹⁰³ throughout the HEC Initiative. HECs will be accountable for demonstrating improvements in health equity in

WHAT IS HEALTH EQUITY?

Equity in health refers to how uniformly services, opportunities and access are distributed across groups and places, according to the population group. Equity in health implies that ideally everyone could attain their full health potential and that no one should be disadvantaged from achieving this potential because of their social position or other socially determined circumstance. Efforts to promote equity in health are therefore aimed at creating opportunities and removing barriers to achieving the health potential of all people. It involves the fair distribution of resources needed for health, fair access to the opportunities available, and fairness in the support offered to people when ill.

Adapted from the World Health Organization Concept Paper as cited by the American Medical Student Association

¹⁰² Disparities, Healthy People 2020. (n.d.). *Office of Disease Prevention and Health Promotion*. <https://www.healthypeople.gov/2020/about/foundation-health-measures/Disparities>. Date accessed 8/8/18.

¹⁰³ Disparities, Healthy People 2020. (n.d.). *Office of Disease Prevention and Health Promotion*. <https://www.healthypeople.gov/2020/about/foundation-health-measures/Disparities>. Date accessed 8/8/18.

their geographies based on specific measures of health equity. The HECs will align existing interventions as well as implement new interventions that specifically address health equity.

3.3.1.4. Focus

The HEC design includes health priorities and intervention categories that will be required across all HECs. Having statewide focus in key areas increases the likelihood of achieving state-level prevention benchmarks. It also enables better coordination and fosters cross-HEC collaboration.

3.3.1.5. Flexibility

The design balances that focus with flexibility for HECs in several areas. The design reflects the need for HECs to have the flexibility to adapt how they are structured and what they do to address the needs of their communities and partners effectively.

3.3.1.6. Speed to Action

The design reflects the desire to have HECs established and implementing interventions as quickly as possible. Although some planning and ramp up time is essential, the intent of the design is to build on existing collaborations and efforts and provide targeted support so that HECs can more readily and effectively advance to the action phase.

3.3.1.7. Leveraging Existing Assets

Communities and the State have a strong foundation of community members, state and local agencies, community collaboratives, providers, other stakeholders, and groups committed to improving population health and health equity. Each HEC and the HEC Initiative will leverage these key assets and align existing efforts to maximize benefit while attracting new resources needed for HECs and new interventions. Each HEC and the HEC Initiative will also leverage existing local and state resources and efforts to improve health outcomes such as existing Medicare Accountable Care Organizations and Medicaid's Person-Centered Medical Home Plus (PCMH+)¹⁰⁴ Participating Entities that are part of shared savings programs.



¹⁰⁴ Medicaid's PCMH+ provides person-centered, comprehensive and coordinated care to HUSKY members. The PCMH+ program works to improve HUSKY member's overall health and assists with access to services like access to healthy food, transportation to appointments and assistance in finding community agencies that support housing or employment.

3.3.2. Defining HEC Geographies

HECs will have defined geographies for which they are accountable. In defining those geographies, a central objective of this initiative is to have every geography in Connecticut included in an HEC. Establishing geographic boundaries for each HEC is necessary to determine a service area for:

- Implementing interventions
- Establishing clear accountability for populations and outcomes
- Measuring health outcomes
- Financing for achieving outcomes¹⁰⁵

The final number of HEC geographies will be defined during an iterative State procurement process (See Section 3.3.7 for detail); however, the provisional intent is to designate between 8 to 12 HECs. The Population Health Council recommends that prospective HECs propose geographies based on criteria defined by the State Partnership and provide a rationale for their proposed geography.

3.3.2.1. *Minimum Criteria for HEC Geographies*

The Population Health Council recommends that the minimum criteria for HEC geographies include:

- An HEC will not overlap boundaries with another HEC.
- Each HEC will need to demonstrate that their proposed geography meets both of the following minimum population thresholds:¹⁰⁶
 - At least 20,000 Medicare beneficiaries
 - At least 150,000 people
- Each HEC shall provide justification for their proposed geography and demonstrate how the boundaries are rational, do not exclude high-need geographies, and are functional from a governing perspective.

In some instances, existing community collaboratives may already meet the geographic criteria for HECs stated above. For others, collaboratives may need to join other regions or include a geographic area that has not been included previously. There are some parts of the state that may need to create new collaborations to form an HEC.

The Population Health Council recognizes that many rural communities will not meet the population thresholds yet may have compelling reasons to define their HEC based on a geography that only includes rural areas. Therefore, the Population Health Council recommends that rural areas may request that the population threshold criteria be waived for the purpose of forming an HEC so long as there is alternative methodology for reliably measuring the population for the purpose of assessing performance (e.g., establishing agreements with other rural areas to be measured jointly).

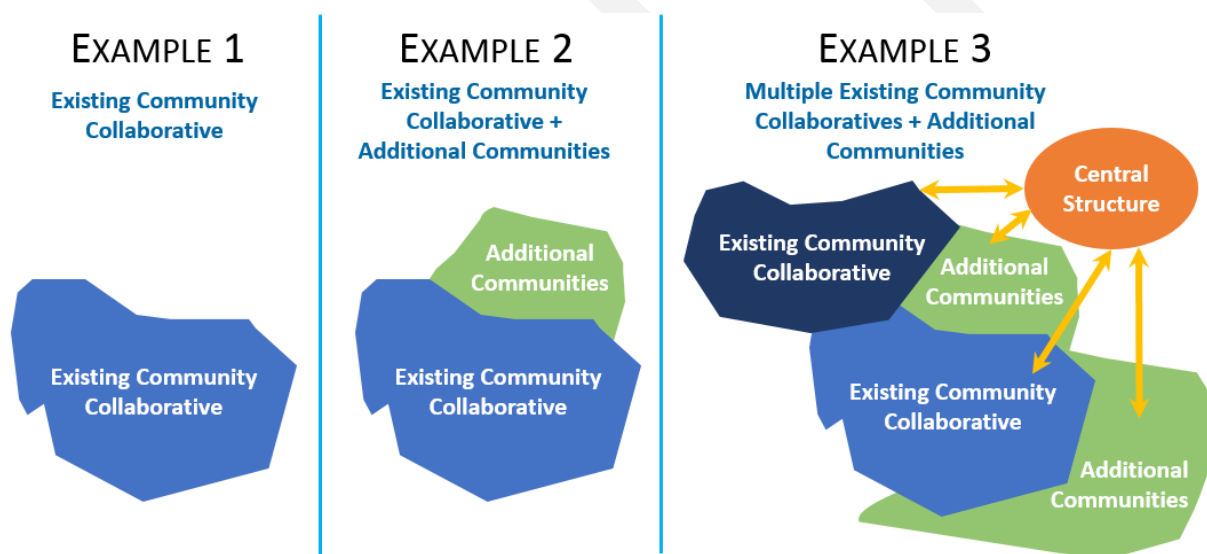
¹⁰⁵ See Section 7.2.3.2 for proposed attribution model related to potential financing arrangements.

¹⁰⁶ The purpose of these thresholds is to have enough Medicare beneficiaries for a potential Medicare financial arrangement.

3.3.2.2. HEC Geographic Configurations

The Population Health Council recommends that HECs will have the flexibility to determine the configuration of their proposed geography relative to their existing collaborations and partnerships. As illustrated below, some existing community collaboratives may apply for HEC designation and propose their existing service area (Example 1). Other existing community collaboratives may propose including additional communities in their geography because, for example, an adjacent community has similar needs or has requested inclusion, or the existing collaborative does not meet the minimum population threshold without including additional communities, or for other reasons (Example 2). In a third scenario, existing community collaboratives may decide to apply jointly to be a single HEC and include other communities. They may also decide to develop a central structure that can coordinate activities among them, provide services, and/or govern the HEC. In this example (Example 3), the communities may retain some independence in governance and work together on all or some interventions. In addition to these examples, other configurations may also be proposed and will be considered under the HEC procurement process.

Figure 9. Possible Health Enhancement Community Geographic Configurations



3.3.3. HEC Health Priorities: A Focused Approach

As stated, the likelihood of achieving state-level prevention outcomes increases by having all HECs focused on the same prevention aims while ensuring that each HEC has the flexibility to adapt interventions to best achieve the outcomes in their communities.

All HECs will focus on two aims:

Improve Child Well-Being in Connecticut Pre-Birth to Age 8 Years

Increase Healthy Weight and Physical Fitness for All Connecticut Residents

3.3.3.1. Improving Child Well-Being in Connecticut Pre-Birth to Age 8 years

For the HEC Initiative, the goal for child well-being is **assuring safe, stable, nurturing relationships and environments**. The CDC defines these three characteristics as follows:

- **Safety:** The extent to which a child is free from fear and secure from physical or psychological harm within their social and physical environment
- **Stability:** The degree of predictability and consistency in a child's social, emotional, and physical environment
- **Nurturing:** The extent to which a parent or caregiver is available and able to sensitively and consistently respond to and meet the needs of their child¹⁰⁷

The Population Health Council recommends that HECs will implement interventions to prevent Adverse Childhood Experiences (ACEs) and increase protective factors that build resilience and focus on pre-birth to age 8 years. Interventions will focus on one or more of the following ACEs:

- Physical, sexual, and emotional abuse
- Emotional and physical neglect
- Mental illness of a household member
- Problematic drinking or alcoholism of a household member
- Illegal street or prescription drug use by a household member
- Divorce or separation of a parent
- Violence in the household and/or community
- Incarceration of a household member

HECs may also implement interventions that address other types of trauma or distress such as death of a parent or guardian, separation from a caregiver, poor nutrition, food insecurity, housing instability,

¹⁰⁷ Essentials for Childhood Framework: Creating Safe, Stable, Nurturing Relationships and Environments for All Children. (n.d.) Centers for Disease Control and Prevention. <https://www.cdc.gov/violenceprevention/childabuseandneglect/essentials.html>. Date accessed 8/6/18.

poor housing quality, bullying, and discrimination.¹⁰⁸ HEC interventions may focus on families, children, parents, and expectant parents to prevent ACEs.

3.3.3.2. *Improving Healthy Weight and Physical Fitness*

For the HEC Initiative, the goal for healthy weight and physical fitness is **assuring individuals and populations maintain a healthy or healthier body weight, engage in regular physical activity, and have equal opportunities to do so.**

Healthy weight and physical fitness are defined as:

- **Healthy Weight:** Maintaining a healthy or healthier body weight¹⁰⁹
- **Physical Fitness:** At least 150 to 300 minutes of moderate-intensity activity per week to prevent weight gain¹¹⁰

The Population Health Council recommends that HECs implement interventions to prevent overweight and obesity across the lifespan and the associated risks of developing serious health conditions. Interventions will target:

- Access to and consumption of healthy foods and beverages
- Access to safe physical activity space
- Deterrents to healthy behaviors

Interventions will also support individuals who are already overweight or obese but who lose weight and retain the weight loss as it still reduces their risk of developing or delays the onset of serious health conditions such as diabetes, heart disease, and stroke.

3.3.4. *HEC Interventions: Focus and Flexibility*

Moving the needle on improving child well-being and healthy weight and physical fitness requires HECs to coordinate and implement multi-pronged strategies and interrelated “upstream” interventions addressing the root causes of ACEs and overweight and obesity.

¹⁰⁸ Examples of ACEs adapted from The Adverse Childhood Experiences (ACE) Study. Atlanta, Georgia: Centers for Disease Control and Prevention, National Center for Injury Prevention and Control, Division of Violence Prevention. May 2014, the Center for Youth Wellness (<https://centerforyouthwellness.org/health-impacts/#hi-sec-1>), and stakeholder feedback.

¹⁰⁹ A healthy weight for adults means having a Body Mass Index (BMI) below 25 kg/m². A BMI at or greater than 25 kg/m² is overweight and at or greater than 30 kg/m² is obese. For children and teens, a BMI at or above the 85th percentile and below the 95th percentile for children and teens of the same age and sex. Obesity is defined as a BMI at or above the 95th percentile for children and teens of the same age and sex. <https://www.cdc.gov/obesity/adult/defining.html> and <https://www.cdc.gov/obesity/childhood/defining.html>. Date accessed 8/6/18.

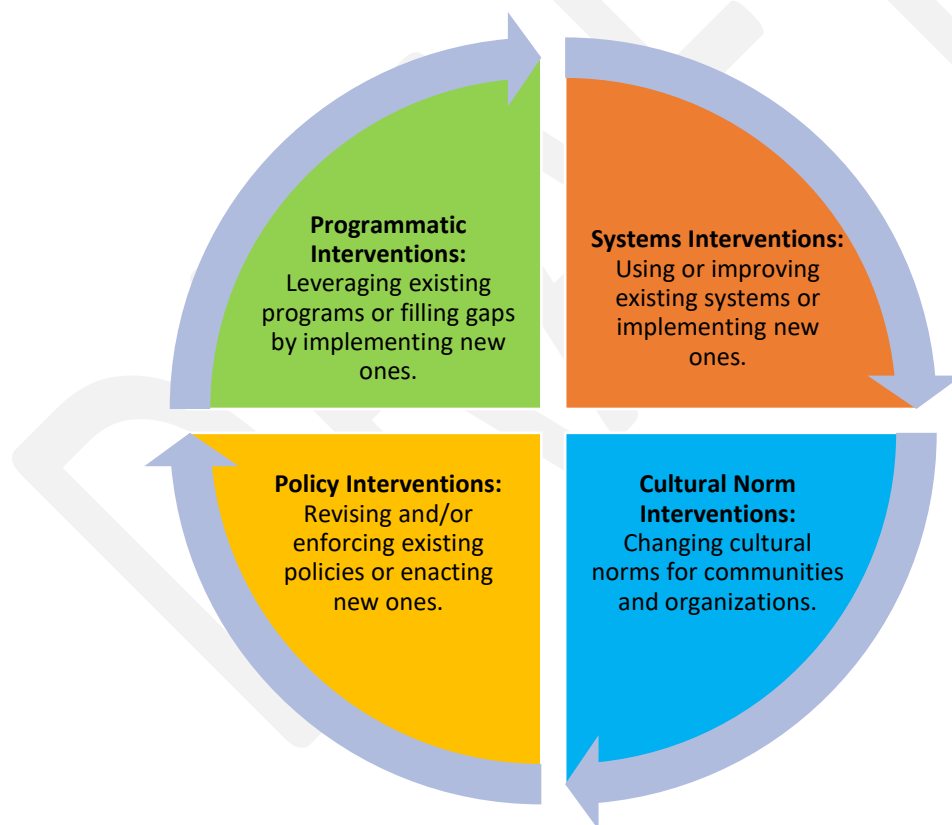
¹¹⁰ Or could engage in 150 minutes of vigorous-intensity aerobic physical activity per week or an equivalent combination of moderate- and vigorous-intensity activity. https://www.cdc.gov/cancer/dcpc/prevention/policies_practices/physical_activity/guidelines.htm. Date accessed 8/6/18.

Based on feedback from Reference Communities and other stakeholders, the Population Health Council recommends that HECs be required to select and implement interventions that span four key areas (Figure 10):

- Programs
- Systems
- Policies
- Cultural norms¹¹¹

While HECs will identify and implement interventions in each of these areas, HECs will have the flexibility to select interventions that are most relevant in their communities and among their partners. The expectation is that HECs will connect, improve, and/or expand existing interventions and implement new interventions to fill gaps.

Figure 10. HEC Intervention Framework



Interventions will be required in each of the four categories with some interventions mutually reinforcing each other (Figure 11).

¹¹¹ "Cultural norms" are intended to include cultural norms in communities and organizations/institutions.

3.3.4.1. *Programmatic Interventions*

HECs will implement programs aimed at preventing ACEs and overweight and obesity and improving health equity.

Examples of programs that HECs could implement:

- Expanded early childhood home visitation programs provide services and support focused on child development, health, and well-being, and parental support to expectant parents, parents, and children in their homes.
- Faith-based organizations and community centers across a community create social support networks for healthy eating combined with opportunities for physical activity.

ALIGNING EXISTING RESOURCES

In addition to implementing new interventions, HECs would also focus on “connecting the dots,” improving, or expanding existing resources and interventions. For example, there are existing programs that do home visits—often to the same families. Better alignment among these programs could create a more satisfying and seamless experience for families and ensure that new resources are used to fill gaps, not duplicate what it already in place.

3.3.4.2. *Systems Interventions*

HECs will develop new systems or change or leverage existing systems to support interventions and sustain the improved outcomes. Examples of systems changes that HECs could implement:

- Coordination among various home visiting programs operated by different organizations, including developing systems and common trainings to have people conducting home visits implement multiple interventions (e.g., lead and/or mold remediation, weatherization, healthy feeding, and parent training. parent training)
- Common training and systems that enable Community Health Workers, care coordinators, or Community Care Teams¹¹² working for various HEC partners to assist community members in accessing affordable healthy food options through a partner agency that works with local farmers and urban agriculture programs

3.3.4.3. *Policy Interventions*

HECs will advocate for local and state policy changes that are necessary to successfully implement and/or sustain their strategies, for example:

- Policies that reduce eviction, which increases housing instability for families (e.g., amending the State’s eviction prevention program policies so that it does not require that the renter receive a notice to quit before being eligible for assistance, new policies to guarantee all low-income tenants a right to legal counsel)
- Competitive pricing policies at schools, worksites, grocery stores, other food retail outlets, cafeterias, and vending machines with lower costs through subsidies, incentives, or discounts for

¹¹² A Community Care Team (CCT) is a team comprising hospital staff, local community providers, and other stakeholders organized to meet the specific needs of individuals with a behavioral health diagnosis who are frequent visitors to the Emergency Department, high users of other behavioral health care services, or any other identified population. Building A Community Care Team: A Webinar Guidebook. Connecticut BHP. Fall 2015.

healthy foods and beverages¹¹³ coupled with zoning measures to decrease outdoor advertising for unhealthy foods and beverages that are more common in low-income communities

3.3.4.4. *Cultural Norm Interventions*

HECs will assess cultural norms and implement strategies to enhance or create positive values, beliefs, attitudes, and behaviors among community members, organizations, and agencies related to the needed improvements. Examples of cultural norm interventions that HECs could implement:

- Social marketing campaigns to promote community and institutional norms for a shared responsibility for child well-being and/or a campaign to change behaviors related to child abuse and neglect¹¹⁴
- Cross-sector campaigns to increase awareness and perceived value of local options for healthy eating and physical activity, increase food and nutrition literacy, and provide direct experiences with healthy eating and activities

3.3.4.5. *Portfolio of Interventions*

HECs will be expected to have a balanced portfolio of interventions that span the four categories. This includes interventions that are already working in their communities; better connected, improved, or expanded interventions; and new interventions to fill gaps.

The Population Health Council proposes that the State Partnership provide a menu of interventions that includes interventions that are evidence based or evidence informed and have evidence of a return on investment (ROI) in distinct timeframes. Having HECs implement interventions with an ROI that can be achieved over different time periods will be critical to securing dollars throughout the lifespan of HECs and from potential financing sources (See Section 7 for detail). However, HECs may propose implementing interventions that do not appear on the menu.

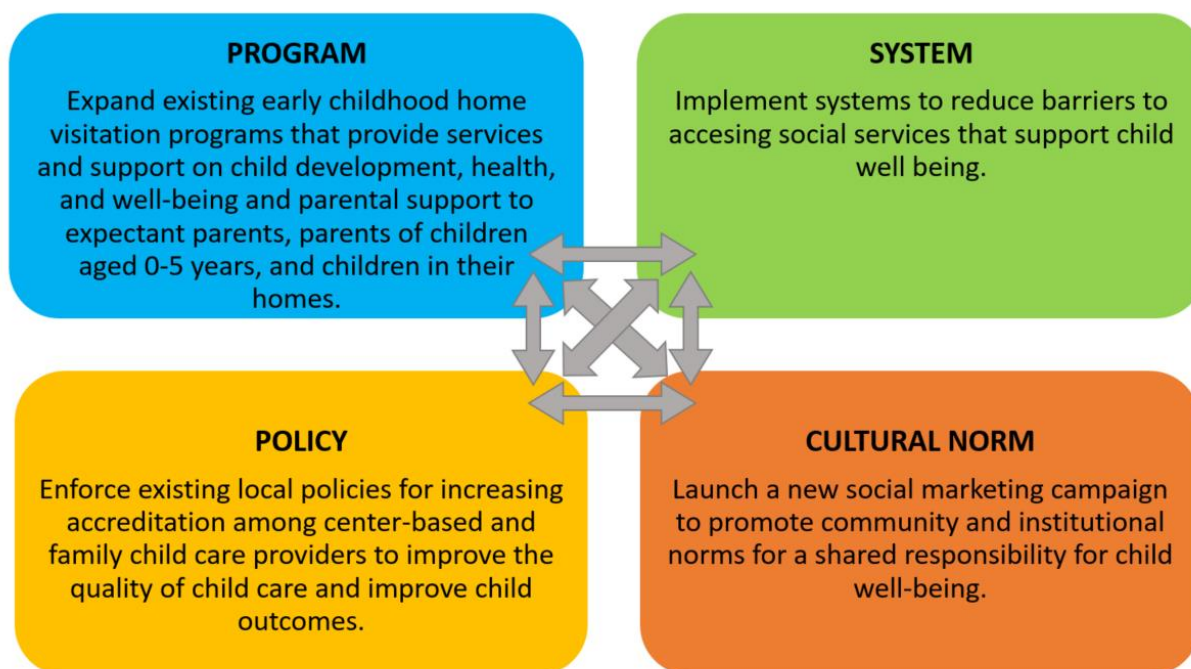
However, not every intervention should be a new intervention and no new intervention should duplicate what is already working in communities. HECs should first seek to leverage existing interventions. Structured with the right partners at the table, HECs will facilitate connections and alignment among existing work and leverage existing efforts, infrastructures, and funds.

As illustrated in Figure 11, as part of their planning process, HECs will develop strategies that ensure their interventions—whether new or existing—mutually reinforce each other.

¹¹³ Competitive pricing for healthy foods. (n.d.). *Robert Wood Johnson Foundation*. <http://www.countyhealthrankings.org/take-action-to-improve-health/what-works-for-health/policies/competitive-pricing-for-healthy-foods>. Date accessed 8/6/18.

¹¹⁴ Social marketing campaign development and implementation is often a labor-intensive, costly endeavor. The State may be in the best position to develop the campaigns, as it has with other topics such as the opioid crisis, and have HECs implement and, as needed, adapt the campaign in their communities.

Figure 11. Example of Interrelated Interventions



3.3.4.6. *Statewide Interventions*

Some interventions may not be specific to individual HECs, and the State Partnership or agencies within it may wish to sponsor interventions seeking to obtain statewide impact through HECs. For example, social marketing campaign development and implementation is often a labor-intensive, costly endeavor. Given that, the State Partnership or specific agencies may be in the best position to develop the campaigns, as it has with other topics such as the opioid crisis.¹¹⁵ HECs could then implement and, as needed, adapt campaigns in their communities.

3.3.5. Role of Key Sectors in HECs

3.3.5.1. *Multi-Sector Inclusion and Engagement*

To be effective in moving the needle on prevention, health risk, health equity, and cost trends at a state level, the Population Health Council recommends that HECs address the multiple, interrelated root causes of poor health in their communities. That necessitates having multiple sectors involved in HECs, including some sectors that can address those root causes but have not been at the table among many community collaboratives to date. These may include community members; government agencies and departments, community-based organizations, and social service organizations that are outside the health and health care sectors; housing agencies and organizations; schools and school districts; academic institutions; social justice organizations and advocates; faith-based, civic, and cultural organizations; economic development offices; Community Development Corporations; elected officials; policy and advocacy organizations; law enforcement agencies; Chambers of Commerce; employers; substance use disorder providers; behavioral health providers; transit districts; and health plans.

¹¹⁵ “Change the Script” Campaign to combat the prescription drug and opioid misuse crisis.

Beyond just being at the table, the roles of the different sectors and the entities must be clearly defined. While the design process thus far has proposed that HECs are in the best position to define those roles based on what the ultimate geography will be and what interventions they will align and implement, there are important options and examples that should guide how HECs define those roles.

3.3.5.2. Community Member Inclusion and Engagement

HEC success depends on community members shaping what HECs are and do and have decision-making authority for the things that matter most to them. Community members have unique perspectives about their lived experience within communities, including nuanced insights about needs and opportunities, informal and formal resources and networks that can support HEC activities and lasting change in their communities, and real-world experience with what has worked and not worked in the past.

The guiding principle should be
“nothing for us without us.”

*From a Hartford Community
Community Member*

Community members are defined as people who live, learn, work, and worship in communities. For the purpose of community member involvement, community members should largely include people who are *not* leaders or staff of organizations or agencies.

HEC Structures

To support this essential involvement during the HEC procurement process, the Population Health Council recommends that prospective HECs have clearly defined structures and processes for meaningfully involving community members in HECs, including ensuring that they have ownership and make decisions about the issues that impact their communities and the actions taken as part of the HEC model. HEC structure will have locally owned and directed community organizing groups that get support from the HEC’s governance structure and staffing but make decisions about and lead interventions in their communities.

HEC Formation and Operations

As HECs form and operate, they should also implement these and other strategies to ensure that community members are driving or making decisions about the HECs.

- Seek out and use what community members have said in previous community engagements to reduce the burden of asking communities members what they have been asked before.
- Directly involve community members in designing and making decisions about how assets and needs are assessed, how HECs are structured, strategies for leveraging assets and addressing needs, and evaluating interventions and success.
- Have multiple mechanisms to make it easy for community members to provide input and exercise their decision-making roles, including working in community settings and afterhours and providing transportation and child care.
- Support community members to meaningfully engage in HECs, including staff support, training, and leadership development.
- Respond to and meaningfully use the input that community members provide.

- Implement regular multi-directional communication strategies, including:
 - Community members communicating to the HEC governance structure and partners what matters to them, what they want to accomplish, and what they are doing in the community
 - Communications from the HEC governance structure and partners that show how community members' input shaped what the HEC is and what it does
 - Communications that are easy-to-understand, in plain language, and in languages that communities speak and read

3.3.5.3. Potential HEC Roles Among Key Sectors

All sectors that will be part of the HEC governance structure (See Section 3.3.6 for detail) should, at minimum:

- Champion improving child well-being and healthy weight and physical fitness, HECs, and HEC interventions within their spheres of influence
- Participate in the HEC formation process and the design, implementation, evaluation, refinement, and, if appropriate, expansion of HEC interventions through multiple engagement options
- Increase awareness and encourage engagement in HECs among community members and community institutions and organizations
- Provide guidance on program, systems, policy, and cultural norm needs, opportunities, priorities, and strategies
- Provide guidance on how to align HEC strategies with existing interventions, infrastructures, funding streams, and advocacy activities
- Advocate for local, state, and federal policies that support and advance HECs and HEC interventions specifically and prevention and healthy equity generally
- Lead, participate in, and/or be a recipient of HEC interventions

Table 2 below provides examples of potential additional roles that key sectors can play to engage in and support HECs.

Table 2. Additional Potential Key Sector Roles

Key Sector	Additional Potential Roles in Supporting HEC Success
Community Members	<ul style="list-style-type: none"> • Form or participate in community organizing groups to identify and lead interventions • Provide input and insights from the community perspective to guide and prioritize HEC strategies, including selecting, designing, and/or adapting interventions

Key Sector	Additional Potential Roles in Supporting HEC Success
	<ul style="list-style-type: none"> Consider HEC career opportunities such as community organizers, Community Health Workers, or Peer Support Specialists
Community-Based and Social Service Organizations	<ul style="list-style-type: none"> Provide input and insights from the community service perspective to guide HEC decisions Potential backbone organization or structure to house an unaffiliated backbone organization
Health Departments/Districts	<ul style="list-style-type: none"> Provide guidance on how to align HEC strategies with local, state, and federal programs and funding streams Potential backbone organization or structure to house an unaffiliated backbone organization
Health Care Providers	<ul style="list-style-type: none"> Implement primary care-based patient incentive programs to engage patients in healthy behavior and an active lifestyle Develop systems to routinely screen for social factors that influence health and use data to inform HEC interventions and systems Develop systems to link to care coordination and care management Embed social determinants of health into population health management strategies, including to predict future costs and address rising risk¹¹⁶ Link patients with needs related to social determinants of health to HECs or HEC-affiliated resources (e.g., have a Community Health Worker assist them in accessing those resources) Use contracting and community benefit dollars to support HECs directly and to align with HEC interventions Implement anchor institution strategies within communities: <ul style="list-style-type: none"> Invest in HECs and community efforts that support child well-being and healthy weight and physical fitness

¹¹⁶ Medical Home Network, a Chicago-based Medicaid ACO comprising nine federally qualified health centers and three health systems with a Medicaid membership of 118,000, routinely queries its member panel in a health risk assessment for the presence of social risk factors. They found social risk factors to be predictive of future cost and Emergency Department (ED) and inpatient utilization in the Medicaid expansion population over the ensuing 12 months, including among already high utilizers of the ED and inpatient care but also among the rising risk population.

Jones A, et al. (2017). Predictive Value of Screening for Addressable Social Risk Factors. *J Community Med Public Health Care*, 4, 030. doi: 10.24966/CPH-1978/100030

Key Sector	Additional Potential Roles in Supporting HEC Success
	<ul style="list-style-type: none"> ○ Work with HEC partners to improve economic conditions in HEC communities and among HEC populations (See Section 3.3.5.4 for detail) • Potential backbone organization
Non-Health Sectors Agencies and Organizations <i>Examples: Child Welfare, Schools, Housing, Criminal Justice, Transportation</i>	<ul style="list-style-type: none"> • Provide input and insights from the non-health care perspective to guide HEC decisions • Potential backbone organization or structure to house an unaffiliated backbone organization
Faith-Based, Civic, Academic, Cultural, and Other Community Institutions and Organizations	<ul style="list-style-type: none"> • Promote HEC career opportunities among members/constituents • Potential backbone organization or structure to house an unaffiliated backbone organization
Local Government Officials and Agencies	<ul style="list-style-type: none"> • Allocate resources to HECs • Support new or enforce existing policies that promote child well-being and healthy weight and physical fitness
Policy Organizations and Advocacy Groups	<ul style="list-style-type: none"> • Provide input and insights on policy and other advocacy needs, opportunities, and strategies • Lead or contract with HECs to lead policy and advocacy efforts
Local Businesses/ Employers	<ul style="list-style-type: none"> • Implement value-based insurance designs or non-insurance incentive programs to engage employees in healthy eating, an active lifestyle and participation in preventive health care • Introduce direct-to-provider savings incentives that reward achievement of prevention benchmarks aligned with interventions adopted by the HEC • Adopt family-friendly policies (e.g., on-site childcare, flexible work schedules, flexible emergency leave) • Implement strategies to support health at worksites (e.g., on-site fitness centers, subsidized reduced pricing for healthier foods in workplace cafeteria) • Implement anchor institution strategies within communities <ul style="list-style-type: none"> ○ Invest in HECs and community efforts that support child well-being and healthy weight and physical fitness

Key Sector	Additional Potential Roles in Supporting HEC Success
	<ul style="list-style-type: none"> ○ Work with HEC partners to improve economic conditions in HEC communities and among HEC populations (See Section 3.3.5.4 for detail)
Funders, Financial Institutions, and Investors	<ul style="list-style-type: none"> • Invest in HECs, particularly upfront start-up funds to enable financing options (See Section 7.2 for detail)
Health Plans	<ul style="list-style-type: none"> • Implement value-based insurance designs to engage members in healthy eating, an active lifestyle, and participation in preventive health • Enhance value-based payment models by addressing social determinants of health and preventive care aligned with interventions adopted by the HEC

3.3.5.4. Community Economic Vitality and Anchor Institutions

The economic health of a community and its residents is essential to both child well-being and healthy weight/physical activity. The HEC Initiative could be a catalyst for existing or emerging anchor institutions to implement or expand strategies that improve the economic vitality of their communities. Anchor institutions are businesses, health care organizations, academic institutions, cultural institutions, and other organizations rooted in their surrounding communities that work outside their own walls to contribute to the health and well-being of their communities. Anchor institutions can have significant economic impacts through employment, revenue generation, and spending. The Population Health Council recommends that the State Partnership encourage and, if feasible, incentivize anchor institutions to develop and implement mutually beneficial strategies that can foster economic development and provide new opportunities for people in HEC communities and publicly report on their anchor institution activities.

Case Studies

Kaiser Permanente, a national health care organization headquartered in Oakland, CA, has taken on an anchor institution role by thinking about how it does business from a community development lens and considering how it could use all its assets—beyond community benefit—to improve the conditions for health in the neighborhoods it serves. “If we’re going to have a measurable impact on population health, we need to move everything we’ve got. Not just the \$2 billion that’s community benefit. The other \$58 billion is the rest of the enterprise,” said Tyler Norris, Vice President of Total Health Partnerships at Kaiser Permanente in a Public Health Institute web forum.¹¹⁷

¹¹⁷ Growing Healthcare’s Anchor Mission. *CommunityWealth.org*. <https://community-wealth.org/content/growing-healthcare-s-anchor-mission>. Date accessed 10/21/18.

This includes providing good jobs, purchasing locally and diversely, building for impact, and engaging in policy.¹¹⁸ Examples of activities include:

- *Reducing barriers for people with a criminal history.* Kaiser limits background check inquiries, consistent with California law, to criminal convictions from the past seven years and mostly serious offenses rather than lesser offenses such as disorderly conduct.¹¹⁹
- *Promoting education.* In Alameda County, Kaiser has made large investments in Oakland Unified School District for school-based health, African-American Male Achievement, and strategic plan implementation, and manages summer youth and internship programs to support career pipeline development.¹²⁰
- *Investing in housing.* Kaiser made a \$200 million investment through its Thriving Communities Fund to support the preservation and expansion of affordable housing nationwide.¹²¹
- *Prioritizing local and diverse procurement.* In Alameda County, a Supplier Diversity Group looks at the economic benefits of its contracts and, as a result, ended the contract with its laundry provider for the 17 million pounds of laundry it does annually to procure laundry services locally. It also has incentives to procure minority- and women-owned businesses, and businesses employing veterans and disabled workers.¹²²

Prudential Financial is a public corporation that serves as an anchor institution in Newark, NJ, where it has been headquartered since it was founded in 1875. Prudential is one of multiple anchor institutions in Newark that are using their purchasing power to support local businesses and invigorate the surrounding community. Prudential has a buy-local plan that aims to keep procurement dollars in Newark. According to a 2017 marketing piece:

- Prudential's goal was to direct at least 7 percent of its total procurement spending to diverse vendors. This includes Newark-based firms as well as firms owned by minorities, women, veterans, disabled, or LGBTQ individuals.

¹¹⁸ Rosenberg, J. (2018). Health Systems Take on Role as Anchor Institutions, Enhance Community Development. *Public Health Institute*. <http://www.phi.org/news-events/1472/health-systems-take-on-role-as-anchor-institutions-enhance-community-development>. Date accessed 10/21/18.

¹¹⁹ Rubin, V. and Rose, K. (n.d.). Strategies for Strengthening Anchor Institutions' Community Impact. *PolicyLink*. https://www.policylink.org/sites/default/files/pl_brief_nola_institutional_FINAL3.pdf. Date accessed 10/21/18.

¹²⁰ Anchor Institution Initiative Research Report. (2015). *Alameda County Social Services Agency*. http://alamedasocialservices.org/acwib/info-research/documents/display.cfm?folder=documents&filename=Anchor_Institutions_Alameda_County4.pdf. Date accessed 10/21/18.

¹²¹ Rosenberg, J. (2018). Kaiser Permanente Investing \$200 Million to Address Housing Instability, Improve Health. <https://www.ajmc.com/newsroom/kaiser-permanente-investing-200-million-to-address-housing-instability-improve-health>. Date accessed 10/21/18.

¹²² Anchor Institution Initiative Research Report. (2015). *Alameda County Social Services Agency*. http://alamedasocialservices.org/acwib/info-research/documents/display.cfm?folder=documents&filename=Anchor_Institutions_Alameda_County4.pdf. Date accessed 10/21/18.

- It increased spending on Newark-based organizations by 131 percent between 2014 and 2016, in part by using local construction companies to build the new Prudential Tower.
- It is supporting and seeking sustainable local business relationships such as Newark-based Gateway Security, with which Prudential increased its business by more than 50 percent from 2014 to 2016.¹²³

Other Examples

Examples of what anchor institutions can do to improve the economic vitality of communities include but are not limited to:

- Directing a significant portion of their purchasing power toward local vendors and enacting policies to pay local vendors in advance
- Partnering with local economic development corporations to provide small-business training
- Providing capital or a housing loan fund to promote home ownership and affordable housing
- Providing low- to no-interest loans to spur social enterprise among nonprofit organizations
- Providing job training and entry-level opportunities for local workers
- Targeting community benefit dollars to produce specific community benefits
- Contracting with local community-based organizations to provide services, including services targeting social determinants of health

3.3.6. HEC Structures: Focus with Flexibility and Speed to Action

The Population Health Council recommends that HECs have defined structures with formal governance that manage the HEC and locally owned and directed community organizing groups that identify and implement community-based strategies.

3.3.6.1 Governance Structures

The formal governance will have clearly defined decision-making roles, authorities, and processes. The governance structures must enable HECs to perform key functions, including but not limited to:

- Managing the HEC (e.g., oversight, staffing, evaluation, performance management, fundraising, and other support)
- Supporting multi-pronged strategies and interrelated programmatic, systems, policy, and cultural norm interventions among multiple cross-sector partners
- Staffing and support for community-specific community organizing groups and data analysis, planning, design, implementation, and evaluation
- Using data to manage and report on defined performance measures and support the success of HEC interventions

¹²³ By Supporting Local Businesses, Anchor Institutions Grow Communities. (2017). *The Atlantic Re:think Original marketing article paid for by Prudential*. <https://www.theatlantic.com/sponsored/prudential-2017/newark-buy-local/1308/>. Date accessed 10/10/18.

- Developing and managing sustainability plans, including seeking and managing near- and long-term financing
- Managing risks (e.g., related to performance under financing models)
- Distributing implementation funds and financing
- Managing a multi-directional communication process

The governance structures that HECs create also need to be effective within each HEC's unique context (e.g., geographies, populations, partners, infrastructures) and be nimble enough to adapt if circumstances change. At the same time, the intent is to enable HECs to quickly progress from making governance structure decisions to identifying and implementing strategies. Given the need for a balance among those needs, the State will have some requirements for HEC governance structures that will ensure a degree of functionality while allowing flexibility for HECs where it supports their effectiveness and speed to action. Table 3 indicates the HEC governance structure elements the State will require versus what HECs can determine.

Table 3. Minimum Governance Structure Elements Required by the State and Determined by HECs

Governance Structure Element	FOCUS Required by State	FLEXIBILITY Determined by HECs
Partnership agreements	<ul style="list-style-type: none"> • HECs will need to have formal partnership agreements among organizations that will be part of governance structures and decision-making. • In addition to community organizing groups, HECs will need to identify multiple methods for gaining meaningful involvement, including in decision-making, as HECs form and operate • HECs will need to include multiple community organizations that directly address root causes of poor health in their communities. 	<ul style="list-style-type: none"> • HECs will determine the form of the formal agreement, who will be included in it, and how entities outside of the agreements will be involved in HECs. • HECs will <i>not</i> be required to form a new legal entity.
Bylaws	<ul style="list-style-type: none"> • HECs will need to have bylaws with clearly defined roles, governance bodies, terms of service, decision-making parameters and processes, etc. 	<ul style="list-style-type: none"> • HECs will determine their structure and the determine the roles, authorities, parameters, and processes in their bylaws.

Governance Structure Element	FOCUS Required by State	FLEXIBILITY Determined by HECs
Backbone organization	<ul style="list-style-type: none"> • HECs will need to have a defined backbone organization(s) that can perform or contract for the key functions required to operate an HEC. 	<ul style="list-style-type: none"> • HECs will determine which organization(s) will be the backbone organization(s) and the structure and scope of their responsibilities.
Formal contracts for services	<ul style="list-style-type: none"> • HECs will need to have formal contracts with the entities providing significant administrative or other services. 	<ul style="list-style-type: none"> • HECs will select the administrative service provider(s), determine their roles, and develop the contract(s).

3.3.6.2 *Community Organizing Groups*

The recommended model also includes each HEC having locally owned and directed community organizing groups. The community organizing groups will have ownership and decision-making authority on issues in their communities that are most important to them. They also will lead the identification and implementation of interventions in their communities. They will receive support from the governance structure, including community organizers hired by the HEC, potentially other staff (e.g., Community Health Workers), training, and data analysis.

4. HEC MEASUREMENT AND PERFORMANCE

At the heart of this initiative is HEC accountability for preventing poor health outcomes, improving health equity, and reducing costs. That requires having clear goals, aims, and measures to drive all HECs toward the same definition of success at the state and community levels.

This section will discuss the:

- Goals and aims of the HEC Initiative
- Performance and outcome measures for which HECs will be held accountable

4.1. HEC Goals and Health Priority Aims

The HEC Initiative has three ambitious but achievable goals:

- Make Connecticut the healthiest state in the country.
- Make Connecticut the best state for children to grow up.
- Bend Connecticut's health care cost curve.

To accomplish these goals, the HEC Initiative will focus on two priority aims:

- **Improving Child Well-Being for Connecticut Pre-Birth to Children Aged 8 Years:** Assuring all children are in safe, stable, and nurturing environments
- **Improving Healthy Weight and Physical Fitness for All Connecticut Residents:** Assuring that individuals and populations maintain a healthy or healthier body weight, engage in regular physical activity, and have equal opportunities to do so

HECs will also address populations who are at risk for poor outcomes by implementing interventions that 1) build resilience in children who may have adverse childhood experiences and 2) assist people who are overweight or obese maintain or lose weight.

4.2. Prevention Measures and Benchmarks

To measure progress (through an attribution methodology¹²⁴), the Population Health Council recommends that HECs be held accountable for a core set of prevention health measures based on outcomes that relate to the two health priority aims. These prevention measures will be consistent statewide. For each priority aim, designated primary prevention measures will carry the most weight in evaluating the performance of each HEC. Additional secondary prevention measures will serve to complement the goals of the primary measures (safety, stability, and school success and reduced obesity).

The sections below describe the provisional measures lists for each health priority aim. Measures were chosen based on evidence connecting them with the two priority aims. Although research supports ties

¹²⁴ Attribution determines the population for whose health the HEC is accountable. All or a sub-population within the attributed population will serve as the denominator for performance measurement. For more details on the proposed HEC attribution model, see Section 7.

between additional characteristics and adverse outcomes under the priority aims, measures that would create perverse incentives were excluded. For example, children of parents who have accessed public assistance programs such as Women, Infants, and Children (WIC), Temporary Assistance for Needy Families (TANF), and Supplemental Nutritional Assistance Program (SNAP), have shown an increased risk for entry into foster care or child maltreatment.¹²⁵ However, determining the success of an HEC using a measure of decreased utilization of public assistance programs may create a perverse incentive for individuals to forgo assistance programs for which they are eligible based on need.

In addition to the measures listed below, as baseline data is collected, sub-categories of measures will be added to address observed health disparities. Health equity/inequity measures will also be incorporated into the provisional measures list based on the results of a concurrent project under the Health Information Technology Program Management Office. The purpose of that project is to identify health equity data and collect and pilot those key data elements within a data and analytics solution.

Additional provisional measures may include relevant Medicaid HEDIS measures to ensure alignment with primary care, and additional measures related to health behaviors shown to correlate directly with the priorities may be added if a timely data source is identified or state reporting requirements are expanded to capture this data at the provider level. Discussions with state agencies and other potential partners and stakeholders related to the availability and appropriateness of measures are ongoing. More comprehensive detail on the provisional measures lists, including identified data sources, is included in **Appendix 1 – Provisional Measures List**.

4.2.1. Child Well-Being Prevention Measures

As detailed in Section 2, the presence of ACEs in a child's first eight years of life significantly increases their risk for certain health behaviors and conditions and shortens their expected lifespan. To capture both causes and outcomes of children experiencing ACEs, a composite measure of a child's safety, stability, and school success will serve as the primary prevention measure for evaluating progress under the child well-being priority area. This composite measure will comprise three individual measures:

- Rate of substantiated child abuse/neglect cases per 1,000 for children age 0 to 8 years
- Rate of chronic absenteeism
- Performance level on all six domains of the Kindergarten Entrance Inventory¹²⁶

The provisional list of prevention measures shown in Table 4 below includes two types of secondary prevention measures: measures related to children at risk for or already having experienced ACEs and measures related to parents found to correlate with increased risk for maltreatment or entrance into foster care. The secondary measures relating to children represent a range of causes and outcomes related to ACEs, including child involvement with the Department of Children and Families, acting out in or difficulty completing school, housing instability, victim or self-infliction of violence, and adverse environments. In addition, combining and tracking multi-sector data has shown that certain adverse

¹²⁵ Data, Evidence, and Modeling: The Oregon Experience. Chris Kelleher. Center for Evidence-based Policy presentation at Southern California Open DataFest. January 24, 2017.

¹²⁶ The Kindergarten Entrance Inventory includes six domains: literacy skills, numeracy skills, physical/motor skills, creative/aesthetic skills, and personal/social skills.

caretaker/child characteristics have a marginal effect on a child’s risk for maltreatment and foster care, including smoking during pregnancy, incarceration of a caretaker, and low birthweight births.¹²⁷

Measures related to children will focus on pre-birth to age 8 years but will also include secondary measures related to older children to capture the impact of early interventions over the long term.

In the future, an additional measure may be added to assess the percentage of kindergarteners having accessed an early intervention prior to starting school. The use of this measure will require the integration of data on existing early intervention programs with HEC intervention utilization data.

Table 4. Child Well-Being Provisional Measures

Measure Level	Child Well-Being Provisional Measures
Primary Composite Measure	<i>Composite measure of a child’s safety, stability, and school success:</i>
	<ul style="list-style-type: none"> Substantiated child abuse/neglect cases per 1,000 children ages 0 to 8 years Rate of chronic absenteeism Performance level on all six domains of the Kindergarten Entrance Inventory
	Children in placement with the Department of Children and Families per 1,000 children
	Children referred to Juvenile Court per 1,000 children
Secondary Measures—Related to Children	Rate of school suspensions
	Rate of non-graduates no longer enrolled in a four-year graduation cohort ¹²⁸
	Children who moved schools in the past two years per 1,000 children
	Hospital emergency department visits for children with injuries per 1,000 children
	Hospital emergency department visits for children related to substance abuse per 1,000 children
	Hospital emergency department visits for children related to mental health issues per 1,000 children
	Hospital inpatient admissions for children related to substance abuse per 1,000 children
	Hospital inpatient admissions for children related to mental health issues per 1,000 children
	Disruptive behavior disorder prevalence among children

¹²⁷ Kelleher, C. (2017). Data, Evidence, and Modeling: The Oregon Experience. *Center for Evidence-based Policy presentation at Southern California Open DataFest.*

¹²⁸ Data is collected at the school district level and as such, students no longer enrolled may include students enrolled in another school or GED program.

Measure Level	Child Well-Being Provisional Measures
	<i>Composite measure:</i> Children screened for elevated blood lead levels under 6 years of age and children testing positive for elevated blood lead levels
Secondary— Related to Parents	Percent of births to a mother who smoked during pregnancy
	Percent of births to parents who have not completed high school
	Percent of births born with low birthweight
	Percent of births preterm (< 37 weeks gestational age)
	Teen birth rate per 1,000 women ages 15 to 19
	Incarcerated caregiver per 1,000 children
	Percent of mothers screened for maternal depression
<i>Future Secondary Measure</i>	<i>Percent of students starting Kindergarten having accessed an early intervention</i>

4.2.2. Healthy Weight and Physical Fitness Prevention Measures

Also detailed in Section 2, a high BMI increases an individual's risk for developing many types of serious medical conditions, including diabetes and cardiovascular disease. As such, the prevalence of adult and child obesity will serve as the primary prevention measures for evaluating progress under the healthy weight and physical fitness priority aim.

The provisional list of prevention measures shown in Table 5 below includes secondary prevention measures. These measures include both measures of physical aptitude and prevalence of chronic conditions associated with obesity. Additionally, as technology continues to progress and become more affordable and accessible, the hope is to add a secondary measure of activity levels tracked through portable and/or wearable technology devices that measure data such as the number of steps walked by an individual.

Table 5. Healthy Weight and Physical Fitness Provisional Measures

Measure Level	Healthy Weight and Physical Fitness Provisional Measures
Primary Measures	Adult obesity prevalence
	Child obesity prevalence
Secondary Measures	Students reaching Health Standard on Connecticut Physical Fitness Assessment <ul style="list-style-type: none"> • Grade 4 • Grade 6 • Grade 8 • Grade 10
	Adult hypertension prevalence <ul style="list-style-type: none"> • Age-adjusted • Non-age-adjusted

Measure Level	Healthy Weight and Physical Fitness Provisional Measures
	Adult diabetes prevalence <ul style="list-style-type: none"> • Age-adjusted • Non-age-adjusted
	Congestive heart failure prevalence
	Coronary heart disease prevalence
	Stroke prevalence
	Chronic kidney disease prevalence
	Rheumatoid Arthritis/Osteoarthritis prevalence
Future Secondary Measure	<i>Activity levels, potentially:</i> <ul style="list-style-type: none"> • <i>Average number of steps walked</i>

4.2.3. Prevention Benchmarking

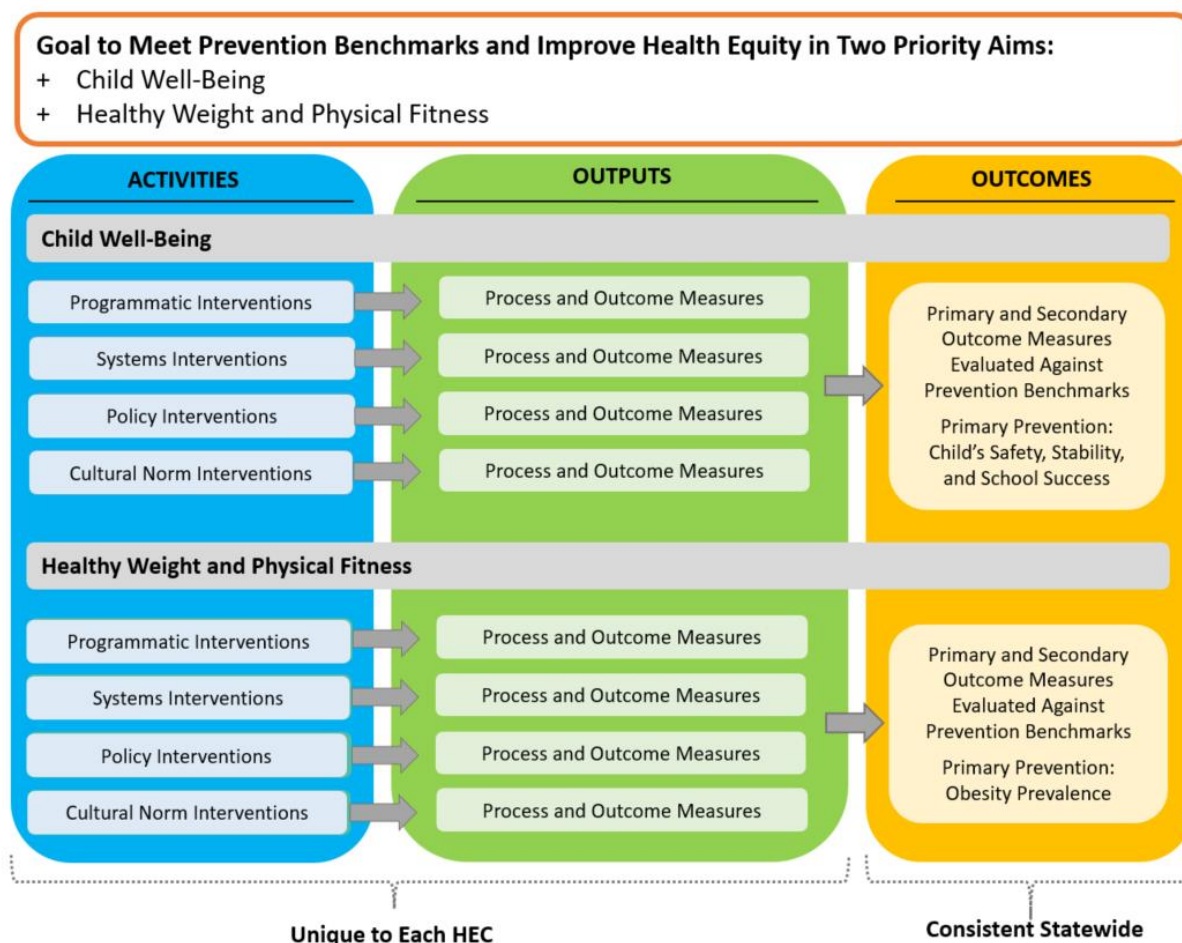
For each primary and secondary measure, prevention benchmarks will serve as the targets for HECs. The State Partnership and their payer partner(s) will establish these ambitious but achievable benchmarks through an assessment of baseline state data, historical and projected trends, and national quality standards. Additional sub-categories of measures will be added to address any health disparities observed in the baseline data. These health disparities may relate to granular race/ethnicity, age, sex, gender identity, language spoken and English-language fluency, disability, educational attainment, insurance status, and/or household income.

As each community contains unique strengths and challenges, HECs' baselines for each measure will vary. To address this, progress to benchmark goals will rely on two components: 1) how does the HEC compare with the state overall and its HEC peers and 2) how is the HEC improving. Over time, HECs will be measured based on an outlined minimum level of progress toward the benchmark targets. This minimum progress level will be consistent statewide. Once an HEC meets a benchmark, success will be measured based on at least maintaining that benchmark level.

4.3. HEC Outputs

To track the progress of activities aimed at influencing the prevention measures, HECs will also report on process and outcome measures related to their chosen interventions. Unlike the prevention benchmarks, this set of measures will be unique to each HEC. Examples of process and outcome measures related to each of the four types of interventions are included in the sections below.

All HEC-level interventions, process measures, and outcome measures will serve to advance the objective of meeting the prevention benchmarks as well as providing HECs with actionable information as they are implementing and evaluating their progress and achievement. HECs must demonstrate the alignment of their intervention choices with the state outcome goals using a logic model based on the structure provided below.

Figure 12. HEC Activities, Outputs, and Outcomes

HEC intervention-specific process and outcome measures will ensure that HECs understand and are accountable for the steps needed to implement and track their chosen interventions. HECs will be accountable to the State for completing process measures and reporting on outcome measures. Process measures may include required intervention milestones to ensure HECs implement and scale activities in a timely manner.

4.3.1. HEC Process and Outcome Measures Related to Programmatic Interventions

Programmatic interventions include prevention programs aimed at addressing the root causes of the poor health associated with the HEC health priorities and health inequity. Multiple programmatic interventions may have overlapping process and outcome measures. Some interventions may be specific to a subset of the population and some may be targeted to the entire attributed population of the HEC. Examples of programmatic intervention measures include:

- Reporting on the number of programmatic intervention participants
- Implementation of programmatic interventions by a certain date
- Measuring changes in targeted health behaviors throughout the intervention

4.3.2. HEC Process and Outcome Measures Related to Systems Interventions or Development

Implementing and measuring the success of the programmatic interventions will require systems interventions and development. Measures for these interventions will ensure HECs aim to successfully implement the intervention components. Examples of systems intervention or development measures include:

- Implementing data use sharing agreements to share data across systems with the same eligibility criteria
- Building a network of community resources to address inequities within the HEC

4.3.3. HEC Process and Outcome Measures Related to Policy Interventions

In addition to systems development, programmatic interventions may require complementary policy changes. Examples of a policy intervention measures include:

- For a community garden intervention, working with a school district to create new policies to allow access to school grounds after hours and during the summer
- Creating a statewide advocacy group to promote policy changes related to a programmatic intervention or the overall priority areas (e.g., required calorie posting)

4.3.4. HEC Process and Outcome Measures Related to Cultural Norm Interventions

The success of HECs may also require changes in cultural norms related to the way the community thinks about health and accesses services. Examples of cultural norm intervention measures include:

- Using social media to promote child well-being as a shared responsibility through communities
- Measuring changes in attitudes, knowledge, perception/self-efficacy, exposure, liking, and willingness related to fruit and vegetable consumption among participants using a validated individual questionnaire¹²⁹

4.4. Measurement and Reporting

The provisional prevention measures lists contain indicators derived from a variety of sources including claims data, electronic health records, vital statistics, and other government agencies, including the Department of Children and Families, the Judicial Branch, and the Department of Education. Statewide, community-level data for measurement will come directly from the source agencies, and HECs will not hold responsibility for individually collecting or requesting access to this data. In contrast, tracking HEC-specific process and outcome measures unique to each HEC's chosen interventions will be the responsibility of the HEC. Infrastructure and data reporting requirements must be in place to ensure HECs can collect and report on the necessary data components. A statewide data solution will serve to collect, aggregate, and provide the necessary data to HECs and to the State to monitor and evaluate HEC performance.

¹²⁹ Example: Tool: Knowledge, Attitudes, and Consumption Behavior ("KA") Survey. <https://www.cias.wisc.edu/foodservtools14/7-evaluate-your-work/knowledge-attitudes-consumption.pdf>. Date accessed 8/14/18.

Under a complementary SIM initiative, Connecticut is in the process of developing a Core Data Analytics Solution (CDAS). As currently envisioned, CDAS will aggregate data from multiple sources such as claims data from the All Payer Claims Database (APCD) and transactional and clinical health care data directly from providers and will have the ability to accept and incorporate datasets from other state agencies and organizations. Using this data, CDAS will have the ability to produce HEC-specific dynamic dashboards containing measures data stratified across race/ethnicity, socioeconomic status, and other population characteristics to provide HECs with timely data demonstrating the needs of their population. CDAS will also have the ability to accept process and outcome measure data directly from the HECs.

In addition to the HEC-facing dashboards, CDAS will allow for the State to monitor HEC- and state-level progress related to the process and outcome measures and progress toward the prevention benchmarks. CDAS will also allow for the development of reporting templates to create comparisons across communities implementing the same intervention models.

Collection of consistent and accurate data across HECs will play a critical role in determining the effect of HEC activities on the statewide prevention benchmarks. Measurement data must meet the following criteria:

- Specific to the attributed population within each HEC to isolate measurement to the targeted population
- Include geographic markers to allow for hot spotting analysis¹³⁰ to best target interventions
- Collected and reported on with minimal lag time (i.e., at most annually, preferably three to six months) to allow for HECs to review the data and adjust efforts accordingly through rapid cycle improvement¹³¹
- Stratified, to the extent possible, by granular race/ethnicity, age, sex, gender identity, language spoken and English-language fluency, disability, educational attainment, insurance status, and household income to allow for the identification and targeting of health inequities
- Eventually uploaded into and viewable through CDAS

To properly use CDAS for reporting and monitoring, HECs will require training and technical support. Additional information related to CDAS is included in Section 6.1 of this report.

4.5. Evaluation

Prior to implementation, the Population Health Council recommends that each HEC will create a formative and outcomes evaluation plan. The evaluation plan will include a logic model similar to Figure 12, outlining needs, activities, short-term outputs, intermediate and long-term outcomes, and vision.

The formative evaluation will help funders and stakeholders identify all aspects of the interventions, environment, participants, and other HEC characteristics that can communicate the HEC's success. The

¹³⁰ Hot spotting analysis uses statistical analysis to identify geographic areas of high prevalence compared to areas of low prevalence.

¹³¹ Rapid cycle improvement is a quality improvement method by which system and process changes are identified, implemented, and measured over short periods of time.

formative evaluation assesses the way the initiative will be operationalized and tailored to the environment, including the HEC's rollout, evolution, outcomes, and sustainability. Data gathered during the formative evaluation will be useful in keeping funders and external stakeholders apprised of the HEC's progress. The information is particularly useful to people external to the HEC who may not fully understand its context. Results from the formative evaluation will help provide course correction to an HEC, potentially requiring additional technical assistance to ensure each HEC is able to achieve its intended outcomes.

One of the most difficult components of any evaluation is demonstrating cause and effect. Without an experimental design, it is often impossible to state with certainty that an initiative caused positive outcomes such as better quality of life. In the absence of an experimental design, the evaluation must document activities, measure both short-term and longer-term outcomes, and make logical assertions that the activities undertaken may be associated with the outcomes. To do this, the evaluation will develop a clear articulation of the logic behind activities; strong arguments for a theory of change; and a plan to measure activities, progress, challenges, changes, and outcomes to uncover linkages between what is being undertaken and changes that are observed. The evaluation plan will identify the kinds of data to be collected to answer key evaluation questions. The evaluation will ensure that data collection efforts are mindful of existing resources and capacity for evaluation, and together will produce credible results that are reliable, valid, and sufficiently sensitive to detect changes in outcomes.

4.6. Challenges and Mitigation Strategies Regarding Measures

It is likely that HEC populations will vary in size and characteristics, including demographic, medical, and social risk factors. HECs will also vary across other key characteristics that impact health care costs and overall population health, including access and capacity of local health care providers, social service agencies, and other community-based organizations. Holding HECs accountable will require the development of reliable methodologies to calculate baseline measurements and projected outcomes absent the HEC Initiative. This is important because, over time, certain demographic, environmental, technological, and health innovation changes and advancements will affect population health independent of HEC interventions and impacts. Ongoing advances in clinical care and health innovation (e.g., new pharmaceuticals and therapies) may potentially reduce the negative health outcomes associated with certain chronic conditions and epidemics or other environmental factors may increase negative health outcomes.

Because HECs will be geographically based initiatives and will cover the entire state, an analysis that includes a true control group may not be possible. As a result, the determination of HEC benchmarks will require statistical adjustments and modeling that accounts for changes that may have occurred irrespective of HEC interventions. Use of data from other states or localities may be necessary to accomplish this modeling, however, this may limit the use of more innovative measures that are not widely adopted.

One potential byproduct of increasing awareness related to the two priority areas is increased detection of conditions such as childhood trauma or obesity-related conditions such as diabetes, potentially resulting in measures of increased adverse outcomes in the early years of the initiative. A reporting period (e.g., 18-months or 2 years) at the onset of the HEC Initiative would allow for the establishment of accurate benchmarks including the potential previously unengaged population.

CDAS has the potential to create a large-scale, multi-sector data repository that would provide invaluable comprehensive profiles of the HEC communities. To achieve this goal, appropriate data use agreements across state agencies and HECs must be put in place requiring strong buy-in from state partners and reasonable timelines.

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5. REFERENCE COMMUNITIES ENGAGEMENT IN HEC DESIGN

5.1. Participating Reference Communities

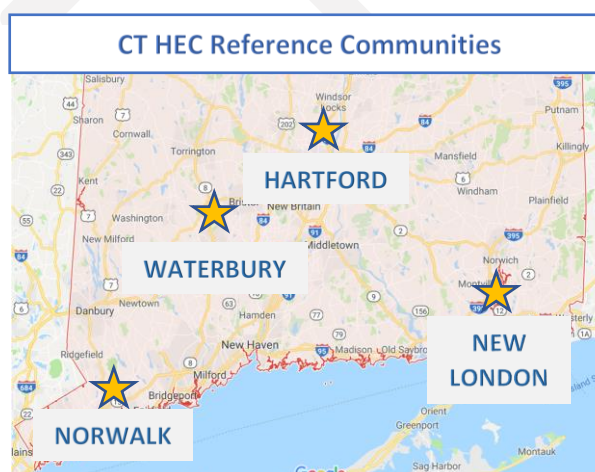
It was important to ensure that the HEC model is ambitious in its goals and methods while still being realistic and achievable. To this end, the State engaged four existing community collaboratives to serve as “Reference Communities” and contribute to HEC model design and inform the development of a feasible implementation plan. Reference Communities gave the broader community a voice in the design of the HECs, validated or modified underlying design assumptions, validated or modified key design elements from their community’s perspective, and provided feedback on the resources that would be needed to support the implementation of an HEC in their communities.

The State selected the four Reference Communities through a competitive application process. Applicants had to demonstrate that they were well organized, high-functioning, had significant multi-sector partnerships and representation, and a solid plan for direct engagement of community members. As a result, the following four were selected:

5.1.1. Greater Norwalk Health Improvement Collaborative

The Greater Norwalk Health Improvement Collaborative works to assess and improve the region’s health and implement improvement strategies by engaging and partnering with multiple stakeholders throughout the Greater Norwalk region. The work of this collaborative is guided by the region’s periodic Community Health Assessment (CHA) and Community Health Improvement Plan (CHIP), the most recent iteration of which was completed in 2016.

Involving more than 200 community partners, members of the collaborative work together to address community health in Norwalk and its surrounding towns, including Westport, Weston, Wilton, New Canaan, Darien, and Fairfield. The collaborative understands and seeks to strengthen partnerships among community groups, which adds richness, cultural relevance, and expertise to any project while leveraging resources and building capacity.



5.1.2. Greater Waterbury Health Partnership (GWHP)

Founded in 2013, GWHP was established to fund and coordinate the first local collaborative Community Health Needs Assessment. Since then, its mission has evolved to provide access to quality, culturally sensitive, and evidence-based health information to greater Waterbury residents and organizations, and to coordinate local health care services to improve overall community health. Its mission is based on community collaboration as a critical element to meet the needs of its diverse communities and is supported by data. GWHP consists of 6 founding partners from the Waterbury community and 46 multi-sector organizations.

5.1.3. Health Improvement Collaborative of Southeastern Connecticut (HIC)

The vision of the HIC is to ensure that Southeastern Connecticut is a community healthy in body and mind that promotes access, health equity, social justice, inclusiveness, and opportunities for all. The HIC includes representation from over 100 community agencies, and one third regularly participate in meetings and Action Teams. In particular, the HIC has advanced work through its Opioid Action Team, its Access to Care Team, and its Healthy Lifestyles Team, all of which have received funding to implement evidence-based strategies to further the health of the community.

5.1.4. North Hartford Triple Aim Collaborative (NHTAC)

The NHTAC has served as a hub for a broad array of health and human services leaders citywide to collaborate across agencies on issues affecting North Hartford and the City. The NHTAC also serves as the health and wellness workgroup for the North Hartford Promise Zone. In that capacity, it has convened a diverse set of local leaders that work together to address the triple aim of improved population health/life expectancy, community well-being, and value of investment (impact per dollar spent) measured at the neighborhood level. The core of the NHTAC's work is addressing social determinants of health. The NHTAC Leadership Council consists of representation from eight community organizations and involvement of numerous other multi-sector agencies and community stakeholders. For their Reference Community engagement, they expanded their geographic scope to include the entire City of Hartford.

A list of participating organizations by Reference Community is contained in the HEC Stakeholder Engagement summary in **Appendix 2 – Planning Process Approach and Stakeholder Engagement**.

5.2. Reference Community Engagement Process

Reference Communities were tasked with providing input into specific design questions related to the HEC model. These included:

- **Accountability:** What appropriate expectations should be for HECs
- **Boundaries:** What criteria and processes should be established to determine geographic boundaries; what flexibility HECs should have versus what should be required
- **Focus and Activities:** What HECs will do to prevent poor health and improve health equity; what flexibility HECs should have versus what should be required
- **Health Equity:** How to define health equity and what approaches could ensure that health equity is embedded in the HEC Initiative
- **Infrastructure:** What systems, supports, and resources are needed to advance HECs (HIT, data, measurement, workforce)
- **Governance and Partnerships:** How HECs will organize themselves to implement strategies; what flexibility HECs should have versus what should be required
- **Sustainability:** Considerations for the HEC financing model
- **Regulations:** What regulatory levers could help advance HECs
- **Engagement:** How to ensure meaningful engagement and involvement from community members and stakeholders

- **State Role:** How the State can support the success of the HECs

Health Management Associates (HMA) and the State worked closely with each individual Reference Community to educate participants on the HEC model goals and structural elements. The foundation for this work was the Reference Community Engagement Framework (Appendix 3), which describes specific HEC elements, key questions, information inputs/sources, and outcomes to be documented in a final report. Over the course of a six-month period, Reference Communities were offered six topic-focused webinars and two day-long, in-person work sessions to solicit input and feedback on specific HEC design elements. The topic-specific webinars included:

- Introduction to the HEC Model
- Potential Menu of HEC Interventions
- Examples of HEC-like Models from other States
- Data and Measurement for HECs
- Financing Model for HECs
- Community Engagement and Final Report

Throughout the process, input from Reference Communities contributed significantly to HEC model design as it evolved.

In addition to the webinars, each Reference Community convened their partners for two day-long interactive Deep Dive sessions¹³² in which they collectively were presented with HEC design element concepts and provided feedback that was captured and integrated into the HEC model as it evolved.

To further support the Reference Communities, HMA provided technical assistance to each Reference Community to ensure that unique issues and needs were addressed. Coaching calls were held with Reference Community project staff. As a final step in the process, Reference Communities were asked to complete a report documenting specific decisions or recommendations they had for the HEC model. For this work, HMA provided a template report to the Reference Communities along with summaries of feedback, discussion, and outcomes documented from each group deep dive session.

Reference Communities also either included community members in the planning activities and/or did outreach to get their input on the HEC design. Community residents provided meaningful feedback that influenced or validated the design of the model and/or will inform the planning and implementation of HECs and the HEC Initiative. Thus far, community members have shown interest/enthusiasm in priority areas of child well-being and healthy weight/physical fitness and were especially interested in the focus on root causes of poor health. They also were eager to talk about what they think the root causes are, including issues related to the impact of housing instability/access to affordable housing, lack of transportation, limited financial resources that impede the ability to prioritize healthy food purchases/choices, and a low awareness of existing resources in the community that are currently available to help address root causes and health priority areas. Other community members validated the intervention framework and said that many different types of interventions should happen to change poor outcomes and suggested that geographies for HECs be either determined by or guided by the State Partnership so that boundary decisions do not take a long time. As indicated below, they also gave

¹³² Due to scheduling timing, Hartford held one day-long session, one half-day in person session, and two 90-minute webinars

specific feedback on how community member engagement and involvement should be part of the HEC planning and implementation.

5.3. Reference Community Input and Feedback

Input from the Reference Community deep dive sessions and community engagement contributed significantly to the HEC model design as described in this report. Several key themes emerged collectively from the Reference Communities.

Meaningful community member involvement. Community members said that the HEC model should adopt the community involvement philosophy of “nothing for us without us” and gave input on multiple ways to ensure that community involvement is meaningful, including directly involving community members in all aspects of HEC formation, implementation, and evaluation; having multiple mechanisms for community members to exercise their decision-making roles, including options in community settings and other than daytime meetings; making it easier for community members to meaningfully engage in HECs, including providing financial support, training, and leadership development; and having what community members said reflected in what the HEC is and does.

Focus on health equity. Reference Communities were all passionate about the concept of health equity. They emphasized that this concept should not be lost in the HEC effort and suggested several ways to ensure its inclusion.

Need for a balance between focus and flexibility. Reference Communities agreed that having focus across all HECs was important to achieve state-level outcomes but that each HEC needed flexibility to make decisions about HEC design and implementation that worked best in their circumstances and among their communities and partners. They wanted the flexibility to select and target interventions in their communities to areas of most need and greatest impact. However, they recognized that leaving the model completely open would actually limit their speed to action (e.g., by having to dedicate significant up-front time to set up structure and parameters).

Geography. Reference Communities expressed the need for flexibility in how geographic boundaries of HECs are determined. As Reference Communities considered what their proposed geographic boundaries would be should they become an HEC, all four Reference Communities had unique issues with determining the answer. Further, all expressed strong reservations toward the State mandating another service area for the HEC, given that the state is already divided up into different geographies for multiple other initiatives, which already is a challenge to track and reconcile. This led to the recommendation that the State allow each HEC to determine their own geographic boundaries with some parameters.

Role of key sectors. The Reference Communities thought there needed to be flexibility in determining the roles of key sectors if they were designing an HEC. Reference Communities all had multi-sector partnerships in place. However, the role of each partner varied depending on the circumstances and level of engagement unique to each community. Reference Communities recommended that they be allowed to determine the roles of key sectors based on their unique circumstances, the geographies they propose, and interventions they select. Reference Communities were opposed to having a mandate from the State for specific roles or contributions that any category of sector would have to make in the

HEC Initiative although they recognized the need to have multiple sectors at the table, including some that are not yet participating in existing community collaboratives.

Desire for technical assistance and support. All Reference Communities expressed a desire for centralized support and technical assistance to design and implement the HEC. Multiple participants thought it would be beneficial in particular to provide templates and tools for key governance documents that would be similar among all HECs (e.g., partnership agreements, bylaws) that could be adapted or modified as needed. These types of items would save valuable start-up time and costs. In addition, the Reference Communities also requested establishing an effective forum to work across HECs to share strategies, challenges, and best practices and to learn from experts.

6. SUPPORT FOR HECs

6.1. Data Infrastructure: IT and Data Infrastructure to Support HECs

6.1.1. IT Infrastructure Needs

A robust IT and data infrastructure is critical for HECs to achieve their goals and collect and report on provisional statewide measures highlighted in **Appendix 1 – Provisional Measures List** as well as measures related to the specific interventions selected by the HEC. HECs must understand what data is necessary to achieve transformation, the best vehicles for collecting and aggregating the data, and how to analyze and report it in such a way that it is meaningful and actionable. To optimize the use of data to drive transformation, the State and the HECs must:

- Select the best measures to monitor performance (including outcome, process, and financial measures)
- Clearly define measures (including risk stratification adjustments)
- Identify sources of data to be used
- Create/improve mechanisms for acquisition of data
- Share data in easy-to-understand formats
- Increase the capacity of the HECs to translate data into action

The Health Enhancement Communities will need to be able to conduct analytics activities that track the health and wellness of their populations across multiple interventions.

HECs will need to use an IT and data infrastructure that will both extract and receive data feeds from various sources, including clinical sources to which partners within an HEC may not have previously had access. These sources may include but are not limited to electronic medical/health records (EMRs/EHRs), and other health information technology (HIT) solutions, pertinent registries (i.e., federal and state registries), and administrative systems including financial and operations management systems. Moreover, they will need an infrastructure that can aggregate and validate these data and support multiple additional analytics-intensive functions. The functions may include, but are not limited to:

- Population health management, including at the individual, system, and regional levels
- Continuous evaluation of program and service effectiveness/value
- Evaluation of compliance with a wide variety of requirements specific to federal, state and local programs, laws, and regulations
- Data reporting, both pre-programmed and ad-hoc
- Analytics and reporting to support applications for private, state, and federal funding opportunities

A robust IT and data infrastructure can help an HEC achieve goals related to performance improvement. This infrastructure can assist HECs with the following:

- Tracking and reporting on quality measures
- Analyzing health indicators for the population
- Aggregating data from similar data sources, such as integrating EHR data from two separate providers
- Aggregating data from dissimilar data sources, for instance, synchronizing immunization data from a state registry with immunization data from an EHR for the same individual

Validation of data prior to import is key to any successful data initiative. If end users do not trust the data once it has left the system in which it is collected and has been imported into a centralized HEC system, there will be limited use of the data, and HEC leadership will have difficulty using the data to prove efficiency and reduce variation in outcomes. Therefore, the infrastructure itself should include tools to assist in data validation including transparent mapping tools and proactive identification of out-of-bounds data values.

6.1.2. Key Activities to Establish HEC IT and Data Infrastructure

To accelerate the process of developing an infrastructure that will best support the HECs, the Population Health Council recommends that the HEC Initiative leverage the Core Data Analytics Solution (CDAS) currently in development by OHS, with analytics resources at the University of Connecticut (UConn) Analytics and Information Management Solutions (AIMS) group. The team is focused on the design and development of advanced, innovative, person-centered analytics and information management solutions to support the accountability to promote healthier people, smarter spending, and health equity. The goal is to move away from current *retrospective* reaction to events and towards *prospective* analysis and management of events to improve outcomes. Hence, the team is providing a complete solution in CDAS where they work with stakeholders to understand their needs and work collaboratively towards innovations on how to transform, enrich, and enhance data to share information and insights that can guide decisions about community interventions.

6.1.3. CDAS Overview

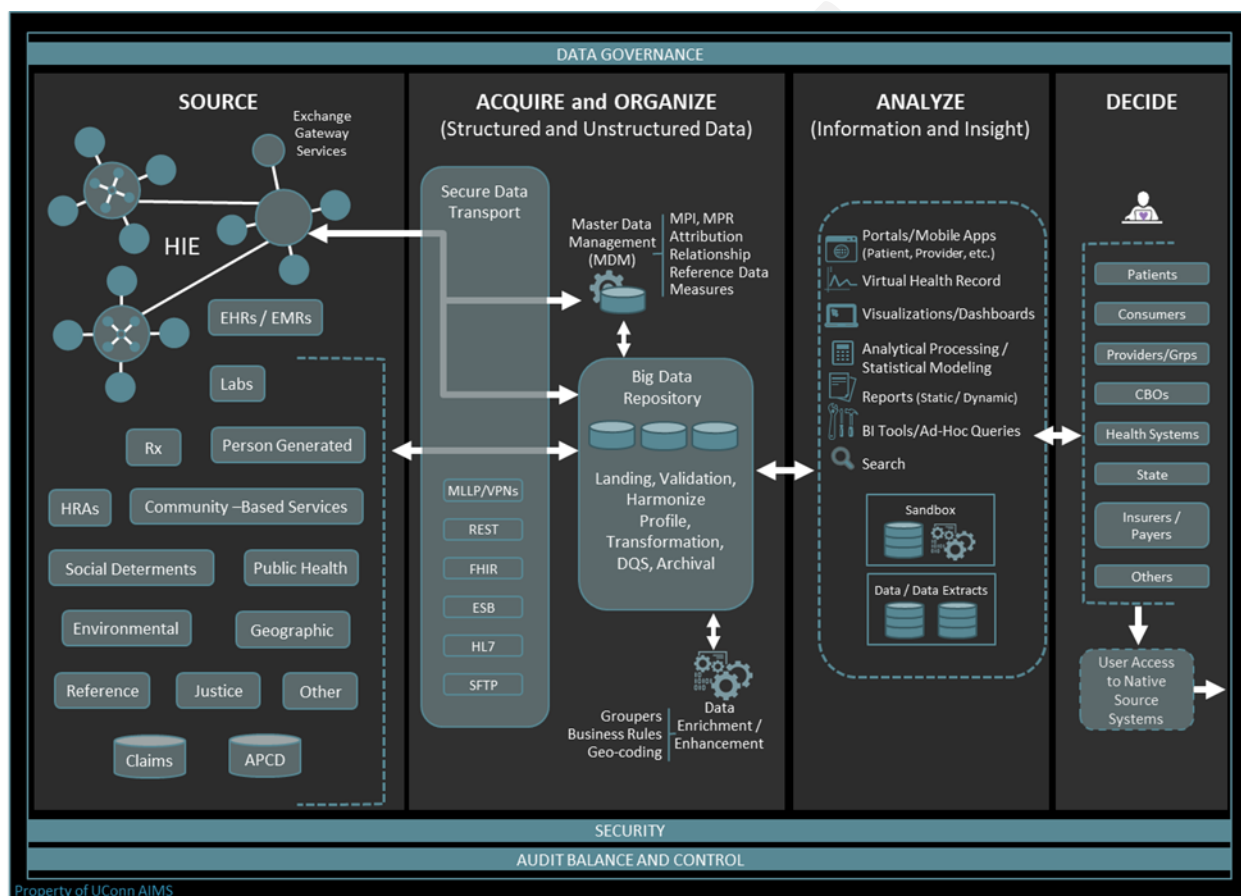
The goal of CDAS is to create an innovative, open architecture solution that will open the lines of communication across the State among multiple stakeholders, including community members, community-based organizations, health care and service providers, payers, and employers.

CDAS will acquire a sizable foundation of the state's health data, such as the All-Payers Claims Database (APCD), clinical data, medical and pharmacy claims data, and social determinants of health data. The data within the CDAS will be used to create advanced innovative analytics to provide information and insights to guide and support HEC interventions. CDAS will also provide information to people/community members that will enable them to make informed health decisions. It will provide information to stakeholders, like HECs, so that they can proactively monitor and manage programs, interventions, and outcomes. The advanced analytics will be important to quantify the potential return on investment in populations in support of value-based, multi-payer strategies.

CDAS is an innovative solution that is and will continue to leverage leading open source and commercial off the shelf (COTS) based technologies (such as Hadoop Big Data platform, Informatica MDM, and Tableau visualization/dashboards) implemented in a secure cloud-based environment in Microsoft Azure. The CDAS architecture is designed to expedite data capture, transformation, enhancement, and

analytics in a secure HIPAA-compliant environment to enable information-based decisions (Figure 13). The Big Data design provides the ability to capture unlimited data, which will enable programs to analyze the data as required. The design is an open architecture where the solution components are interfaced through open secure web-based services instead of traditional closed proprietary connections. This provides the flexibility to introduce and enhance the solution with new solution components to meet the needs of stakeholders, such as the ability to capture data at the point of service and use online survey tools.

Figure 13. Data Governance Architecture



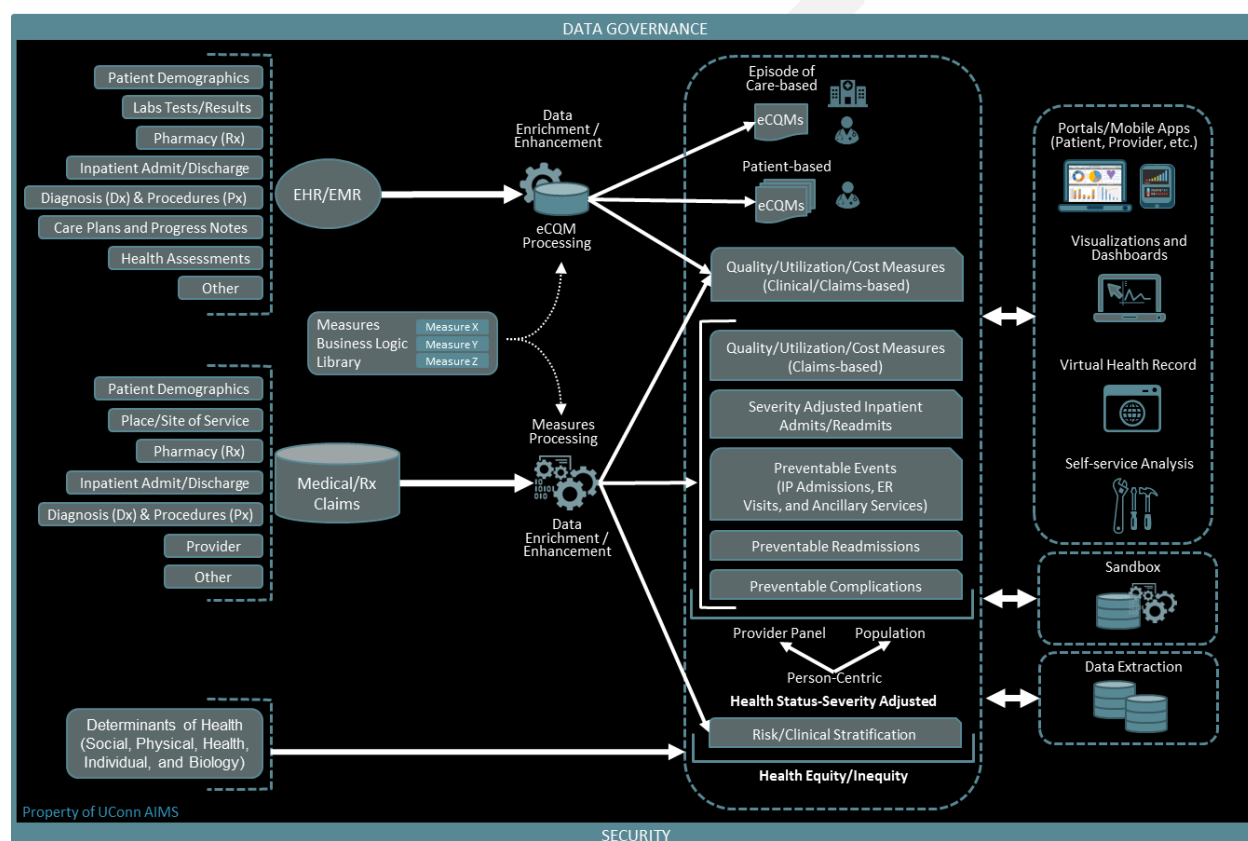
Source: UConn AIMS

Data Capture and Processing will focus on the acquisition of data from various source systems and the processing of the data to transform, harmonize, normalize, enhance, enrich, and organize prior to calculating various measures and Key Performance Indicators (KPIs). CDAS is designed to dynamically capture numerous measures' business logic, such as electronic clinical quality measures (eCQMs) and Healthcare Effectiveness Data and Information Set (HEDIS) measures. The data enhancement and enrichment will include person-centric stratification to determine current health and wellness status and provide progression trends as well as potentially preventable events. This enrichment will enhance the analysis of the measures and KPIs by providing visibility into a person's overall health and wellness status and progression trend, to understand the effectiveness of the HEC interventions not only from a

performance measurement perspective but also to understand if the outcome combined with services are improving the health and wellness of that individual.

The CDAS Information Delivery will be in the form of various dynamic, filterable, and configurable visualizations and dashboards accessible through the CDAS web portal and mobile application frameworks. These dashboards will provide self-service capabilities to the stakeholders without having to have a detailed technical background. CDAS information delivery enables front-line stakeholders to have access to data, information, and insight to guide decisions when required.

Figure 14. CDAS Measures Process



Source: UConn AIMS

As shown in the CDAS Measures Process (Figure 14), data capture and processing will focus on the acquisition of data from various source systems and the processing of the data to transform, harmonize, normalize, enhance, enrich, and organize prior to calculating various measures and KPIs.

The provisional measures and interventions, as described in Sections 3 and 4 of this report, will be difficult for the HECs to achieve and sustain without accurate, timely and actionable information. CDAS will support HEC innovation by:

- Reducing the analytics burden and costs on individual HECs

- Being flexible and extendable to include data elements such as social determinants of health, family history, and medical and surgical history
- Accepting data formats from most sources (e.g., Excel, Access, dBASE) to accommodate most HEC entities, including those who do not currently have robust technologies
- Allowing for the segmentation of all its reports, metrics, and analytic tools by any number of markers or factors; an example would be the segmenting of prediabetes values by race, ethnicity or socio-economic factors

6.1.4. Recommendations Related to HEC IT and Data Infrastructure Development

6.1.4.1. *Using CDAS to Support HEC Best Practices*

The CDAS can include pre-built reports and analytic tools that can provide HECs with the ability to meet known reporting requirements such as the measures listed in Section 4. CDAS will allow for additional report creation to support specific needs of each HEC as well as ad-hoc analysis. Combined, these reports and analytics will support the HECs as they move to address the measures through targeted interventions in their communities.

Each HEC will be able to have their own “bucket” within CDAS. This will allow the HECs to not only do specific reporting on the recommended measures but also to do ad-hoc reporting. CDAS will allow users to filter, slice, and dice the data to look at trending as well as conduct comparative analysis on control groups. Such analysis will show which interventions are working and which are not. HECs will be able to use this data to inform adjustments needed in the interventions or to promote to other HECs how specific interventions worked in their community and better classify “best practices” to share throughout the state.

6.1.4.2. *HEC User Requirements*

Many HECs may identify staffing challenges as a key difficulty related to effective use of CDAS. Many HECs may only have one staff person who knows how to develop ad hoc reports in existing data aggregation platforms, and some do not have this capability at all. To support HECs, there will be a train-the-trainer approach as well as online training modules, a help desk, and a blog site to initiate users on the functionality and uses of CDAS.

While it may not be necessary to have a dedicated data analyst on staff for the HEC, this skill set is important and should not be ignored when preparing for the adoption of CDAS for HEC data use. Opportunities should be explored in terms of sharing “super user” resources across the HECs.

6.1.4.3. *HEC Technology Requirements*

To further support the recommendation of using CDAS for HECs is the reduced burden on HECs for the implementation and launch of CDAS. As described previously, CDAS is a cloud-based platform that will only require an internet connection to access the HEC CDAS assigned site. HEC users will be given a role-based username and password to access their community’s site.

6.2. Workforce

6.2.1. *HEC Administrative Workforce*

As noted in Section 3, HECs must have a defined backbone organization that can perform or contract for the key functions required to operate an HEC. Included in these key functions is the role of HEC Director.

The HEC Director will assume responsibility for the HEC and oversee operations and fundraising. Beyond the HEC Director, the HEC must identify resources to perform the following proposed administrative functions:

- Manage the governance structure
- Oversee and coordinate collaboration across HEC partners and programmatic staff implementing interventions and communications, including accounting of funds
- Ensure compliance with reporting requirements and appropriately train and manage staff and partners to collect and upload data
- Align existing interventions and infrastructures, and resources with HEC interventions
- Design and manage interventions
- Develop and manage a multidirectional communication plan

6.2.2. HEC Community Workforce

Central to the HEC Initiative is deploying a non-clinical workforce with the skills and knowledge to help support community organizing and address social determinants of health and health inequities. Evidence supporting many of the interventions included in the provisional lists in **Appendix 4 – Child Well-Being Interventions Examples**, and **Appendix 5 – Healthy Weight and Physical Activity Interventions Examples**, relies on using non-clinical, entry-level jobs in the health and social services sector such as community organizers and Community Health Workers (CHWs).¹³³ Local collaboratives already realize the value of utilizing this type of community-based workforce. For example, Community Action Agencies in Connecticut deploy CHWs, funded by community services block grants, to identify safety needs and prevent falls in the elderly population.

A complementary SIM initiative, the CHW Advisory Committee, currently operates a website that includes a list of training resources as well as information about career advancement. It is in the process of creating a centralized CHW certification program for Connecticut. Once implemented, this certification process could provide a critical pipeline of sufficiently trained CHWs to staff the HECs statewide. CHWs will be key supports to ensuring effective clinical and social service integration and to assuring individuals have linkages to and follow up with key social support providers and services.

The number of CHWs and other non-clinical workers deployed will depend on interventions chosen by each HEC and the size of the attributed population. Some interventions may require oversight by an individual with a specific clinical licensure such as a community nurse.

6.2.3. Leveraging Existing Workforce Supply

Alignment of current resources is critical to building a sustainable, effective, and efficient program. An initial step in building the HEC infrastructure will require assessing and quantifying available workforce resources within the community for potential redeployment or alignment with the HEC activities. For example, if a policy-focused organization already serves the HEC community, the HEC may capitalize on

¹³³ Other examples of potential non-clinical workforce resources include Peer Support Specialists and Peer Recovery Specialists.

that established infrastructure and subcontract with the organization to perform the function of coordinating policy interventions.

Forming a basis for the programmatic workforce, existing community collaboratives within the HEC may presently run interventions aligned with the HEC priority aims but disconnected from other HEC resources and partners. Aligning that workforce by creating data sharing policies and better coordination across the HEC could best leverage the work currently performed by this partner agency.

6.2.4. New Hires and Illustrative Economic Impact

Following the assessment of available resources, an HEC will then require additional new hires to fulfill the remaining administrative and programmatic roles. Based on the division of HEC labor among administrative positions and intervention roles, most of the new hires will have intervention roles, creating entry-level, community-based jobs across Connecticut. These jobs could provide increased economic stability to HEC communities in need, and as CHWs generally represent the communities in which they serve, increased culturally relevant services, further addressing root causes of poor health outcomes.

ILLUSTRATIVE EXAMPLE

A hypothetical example of an HEC: The Greater Healthville HEC (GHHEC) is accountable for a geographic area with a population of 360,000 Connecticut residents. GHHEC partners with community organizations and agencies who focus on child well-being and healthy weight/physical fitness. They identify a backbone organization who hires four additional administrative staff, repurpose two staff as in-kind to support the GHHEC operations, and hires six community organizers. The Executive Director of GHHEC plays a key role in creating strong partnerships within the HEC, is responsible for identifying and obtaining funding to support interventions and collaborates with the state on statewide funding and shared savings initiatives. GHHEC also hires additional staff, including a contracts and data manager, a financial officer, and managers to oversee interventions.

In addition to connecting, improving, or expanding existing programs, GHHEC identifies critical gaps in child well-being programs. GHHEC's community organizing groups identifies the need to implement several evidence-based interventions focused on child well-being. The first is a home visiting intervention called ***Minding the Baby***. GHHEC redeploys one pediatric community nurse and hires three more. They hire six social workers to conduct home visits starting from the third trimester of pregnancy through the child's second birthday. GHHEC also implements the ***Nurse Family Partnership*** and hires four additional community nurses and redeploys four Community Health Workers. GHHEC implements the ***Circle of Security Parenting*** (COS P) training and ***A New Lens*** workshop for all teachers in elementary schools in district with highest needs children. GHHEC trains six facilitators, three of which are new hires and three are redeployed staff, to conduct the trainings with parents, caregivers, and teachers. GHHEC creates a partnership of home visiting programs called the ***Starting Children Off Right*** program. The partnership includes the ***Healthy Homes*** program, which provides inspections and connections to remediation for a variety of home health toxins and hazards and a program on healthy feeding. CHWs are trained on multiple interventions and build trust with families to implement multiple interventions that promote child well-being.

GHHEC identifies two food deserts in their defined geographic area and creates policies to address barriers to accessing healthy foods. In addition, GHHEC identifies two open spaces within the food

deserts to create **community and school gardens**. One of the community organizers they hire is a master gardener who implements and introduces gardening to children and coordinates and organizes volunteers to care for the garden. GHHEC expects that in year three, they will be able to support the position through a Community Supported Agriculture (CSA) strategy where residents will pre-purchase discounted annual memberships and receive weekly food boxes of healthy foods from the garden. The community organizers work with childcare, schools, community colleges, workplaces, and senior centers to introduce policies for **healthy eating and increased opportunities for exercise**. GHHEC also hires two personal trainers and six CHWs to create programming to encourage and develop **physical activity regimens** based on readiness and level of ability.

Based on the above example, GHHEC would need a total of 6 community organizers, 10 Community Health Workers, 8 community nurses, 6 social workers, 6 trained facilitators, and 2 personal trainers for a total of 38 programmatic staff. Of that total, 4 CHWs, 3 trained facilitators, and 1 community nurse are redeployed; all others are new hires.

Table 6. Hypothetical GHHEC Workforce

Potential Workforce	Administrative Roles	Programmatic Roles	Total
Existing Aligned or Redeployed	2	8	10
New Hires	4	30	34
Total	6	38	44

6.3. Opportunities for Leveraging Existing Assets

Connecticut contains a strong foundation of community organizing groups and organizations, community collaboratives, state and local agencies, providers, and other stakeholders committed to improving population health and health equity. The HEC Initiative has built on and will continue to leverage these key assets.

6.3.1. Existing Community Collaboratives and the Reference Communities

Throughout the initial design process, a broad range of stakeholders were engaged to shape the design of the HEC model so that it can best meet the needs of the diverse and unique communities in Connecticut. As part of that process, the State selected four existing community collaboratives as “Reference Communities.” The Reference Communities provided input on the HEC model and, through an iterative process, helped further refine the model presented in this report. (See Section 5 for detail).

Reference Communities and other existing collaboratives are essential building blocks of the recommended HEC model. Many collaboratives are currently serving communities across the state through initiatives consistent with the HEC goals. The collaboratives include multiple sectors such as community members; health departments; health care providers; governmental agencies; and community, human, and social service providers. Based on a 2017 survey, current collaborative strategic priorities include the following:

- Addressing specific health issues

- General community health/well-being
- Decreasing health disparities
- Priority populations
- Cross-sector collaboration and relationship-building
- Data-sharing/data use
- Decreasing preventable readmissions
- Community health needs assessments

Critical to HECs continuing to leverage these strong community assets will be providing a vehicle for coordination. Many of the collaboratives in place today do not have the resources and capabilities to align related efforts in their communities for maximum impact; to collect and share data across agencies; to widely and comprehensively communicate findings and best practices; or to reliably sustain prevention efforts that are now supported by grant dollars. Through the HEC Initiative, collaboratives within communities will have the ability to better build off the strengths among HEC members.

6.3.2 Community Organizing Groups and Supporting Organizations

Community organizing groups and organizations across Connecticut have been and should remain at the forefront of efforts to improve community health. A few examples are highlighted below:

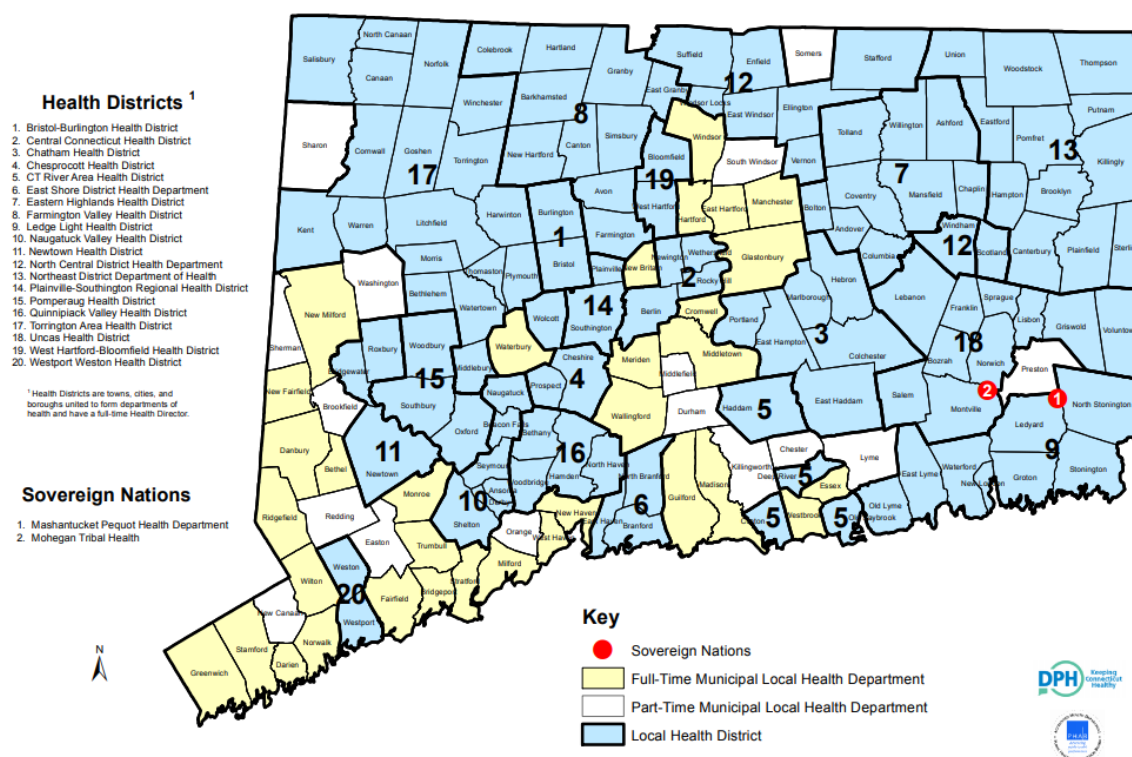
- The Caring Families Coalition provides low- and moderate-income Connecticut families with the resources and organizational strength to effectively influence and change public health care. The United Connecticut Action for Neighborhoods (UCAN), provides support to the Caring Families Coalition and other community organizing groups to help them build powerful community organizations that can solve the problems and change the structures that affect their lives. They have developed over 20 community organizing groups and provided assistance and training to dozens more coalitions and community organizing groups.
- The Coalition for New Britain's Youth, a citywide collaborative committed to improving the lives of New Britain's youth (birth through age 24), organizes community members and partners to provide children and youth with the tools and resources they need to be successful in school, their careers, and life. Through a collaborative process across multiple strategy groups, they have analyzed data, developed a structure, and created detailed frameworks to drive their work forward. Drawing on this wealth of understanding and experience in their communities, HECs will rely on these established groups to identify and lead interventions in their communities.
- Norwalk ACTS, a partnership of over 100 civic leaders, educators, and organizations in the Norwalk region, works collectively to enrich and improve the lives and futures of all Norwalk's children from cradle to career, including through home visiting and early childhood health and development initiatives. They focus on building partnership infrastructure and capacity, convening cross-sector community teams, and collecting and analyzing community-level data and turning it into information and insights that leads to evidence-based decision making. They bring together educators, parents, clergy, business leaders, investors, health providers, elected officials and residents who are committed to building a community infrastructure to support children cradle to career.

- The Middletown Working Cities Challenge is an initiative that includes 20 cross-sector organizations and aims to reduce the number of single parent families living at or below the federal poverty level from 35 to 20 percent over 10 years. They work to develop a better system to identify meaningful employment opportunities for single parents and provide them with the training and resources to obtain living wage, career-sustaining work. They have built partnerships with schools, neighborhoods, faith-based groups, and additional stakeholders to craft policies that are advantageous to low-income community members.
- The Stamford Vita Collaborative, a multi-payer initiative that comprises Stamford Hospital and the local public housing agency Charter Oak Communities, operates the Vita Health and Wellness District, a health-focused neighborhood in the historically impoverished west side of Stamford. Vita's more than 20-member organizations coordinate to implement strategies to address housing, health care, nutrition, education, jobs, and social cohesion.

6.3.3. Local and State Public Health and Development Infrastructure

6.3.3.1. *Local Health Departments and Health Districts*

Connecticut's local public health system is decentralized and contains 69 local health departments and health districts of varying size in terms of workforce, budget, and geographic service area. Of the total, 14 are part-time municipal local health departments. Each local health department employs a Director of Health to oversee operations. Health districts are managed by a board comprising at least one member from each of the towns represented. Although constrained by the resources available, these health departments and districts currently serve their local communities and routinely develop or participate in community health needs assessments. Based on this work, they provide keen insight into gaps in services, health inequities, and overall need. HECs are expected to include health districts and/or departments and leverage these assets. HECs must also align with the local needs and disparities outlined in Community Health Assessments and Community Health Improvement Plans.

Figure 15. State of Connecticut Local Health Departments and Districts, January 2018

6.3.3.2. Connecticut Department of Public Health

At the state level, the Department of Public Health (DPH) plays an essential role in prevention and would therefore play a critical leadership role within the State Partnership. DPH collects and analyzes a variety of health-related data and operates several offices and prevention programs overlapping the priority goals of the HEC Initiative. Table 7 includes activities and data collection with the most potential to be leveraged.

Table 7. Connecticut Department of Public Health Leveraging Opportunities

DPH Operation	Description of Operation and Potential to Leverage
Connecticut Diabetes Surveillance System (CDSS) and Connecticut Heart Disease and Stroke Surveillance System (CHDSS)	The CDSS and the CHDSS provide timely and relevant information related to their respective conditions. HECs can leverage data presented by the CDSS and the CHDSS in annual reports to better understand needs and disparities within their populations.
Office of Vital Records	The Office of Vital Records maintains a statewide registry of births, marriages, civil unions, deaths and fetal deaths which have occurred in Connecticut or to Connecticut residents. CDAS should also incorporate this data to monitor births and maternal characteristics and causes of death.

DPH Operation	Description of Operation and Potential to Leverage
Nutrition, Physical Activity, and Obesity (NPAO) Prevention Program	The NPAO is composed of initiatives and grant-funded programs to address the priority area of healthy weight and physical fitness. HECs can leverage the knowledge and resources already gathered at the community and state levels and ensure new efforts are consistent and complementary.
Office of Health Equity	The Office of Health Equity works to ensure that health equity is a cross-cutting principle in all agency programs, data collection, and planning efforts. At the state level, HECs must coordinate with the Office of Health Equity to ensure efforts best address inequities across the state.
Connecticut Health Improvement Coalition	The Connecticut Health Improvement Coalition is a partnership of local, regional, and statewide agencies and organizations working toward the development and implementation of the Connecticut State Health Assessment (SHA) and the Connecticut State Health Improvement Plan (SHIP). At the state level, HECs must coordinate to ensure alignment with the goals of the SHIP and leverage the infrastructure and community coordination already in place under this coalition.

6.3.3.3. Office of Health Strategy

The Office of Health Strategy (OHS), through the SIM Program (discussed in 6.3.3) and other initiatives, uses comprehensive, data-driven strategies to improve quality and reduce costs of health care in Connecticut for all residents. As one of its responsibilities, OHS maintains an acute care hospital inpatient discharge database, has access to ChimeData emergency department database, and fills requests for health data. HECs can access this data to monitor hospital utilization related to the priority areas and the database may be incorporated into CDAS.

6.3.3.4. Department of Social Services (DSS)

As Connecticut's multi-faceted health and human services agency serving about one million residents of all ages in all 169 Connecticut towns, DSS delivers and funds a wide range of programs and services that are intended to support the well-being and economic security of Connecticut citizens. Among these are the Supplemental Nutrition Assistance Program (SNAP), SNAP-Ed, and Medicaid and the Children's Health Insurance Programs, collectively known as HUSKY Health. In Connecticut, SNAP provides access to food for over 400,000 residents as well as an associated nutrition education program. The goals of the SNAP-Ed program align with the healthy weight and physical fitness priority aim. These include:

- Increasing healthy food choices among population groups who are receiving or eligible to receive SNAP benefits.
- Increasing physical activity among population groups who are receiving or eligible to receive SNAP benefits.

- Supporting comprehensive, multi-level interventions, community and public health policy, and systems and environmental changes to facilitate healthy food and physical activity choices among population groups who are receiving or eligible to receive SNAP benefits.

HECs must build on the knowledge and resources of their local SNAP-Ed partners and leverage their experience to implement interventions best matched to their communities.

HUSKY Health provides health care coverage to over 800,000 Connecticut residents including pregnant women and low-income adults, children, and families. HUSKY Health covers a broad array of preventative medical, behavioral health, and dental services—arguably, the most comprehensive in the country. HUSKY Health utilizes Intensive Care Management to support members with complex presenting health conditions and has also developed many tools and strategies to engage with members about self-management of health, particularly focusing on obesity and tobacco cessation.¹³⁴ Further, DSS is a member of the national “My Healthy Weight” steering committee and has demonstrated that its programs embody many features of best practice around obesity prevention. DSS can be a valuable partner in developing potential funding strategies for HECs, including shared prevention savings or other reinvestment solutions. Further, integrating HUSKY Health claims into the APCD and ultimately CDAS will provide HECs with key utilization and diagnostic data for many in their target populations.

6.3.3.5. Additional State Agencies

There are multiple state agencies whose expertise and purview will be critical to the success of HECs. These agencies provide services that directly or indirectly impact the root causes of HEC health priorities and by leveraging existing state capabilities and efforts, HECs will be better positioned to accomplish their goals. These agencies include but are not limited to:

- Department of Children and Families
- Department of Mental Health and Addiction Services
- Office of Early Childhood
- Connecticut Insurance Department
- Office of the State Comptroller
- Department of Education
- Department of Housing
- Department of Corrections
- Department of Developmental Services
- Department of Rehabilitation Services, State Unit on Aging

One example of a relevant initiative currently championed by these state agencies is the Circle of Security intervention. According to the Department of Children and Families, in Connecticut, there are approximately 1,500 trained facilitators in this evidence-based program, which includes trainings focused on early interventions to increase attachment and security. Connecticut is also part of the Multi-

¹³⁴ See <http://huskyhealthct.org/members/health-wellness.html#>. Accessed 10/22/2018.

System Trauma Informed Collaborative (MSTIC) initiative to improve outcomes for children exposed to trauma and is receiving training and technical assistance to develop a strategic plan. This initiative includes 10 state agencies working collectively to screen children and provide training and workforce development.

Another example is the Bridgeport Baby Bundle program. The Connecticut Department of Social Services, the Office of Early Childhood, the Department of Children and Families, the State Department of Education, and other early childhood organizations, including Bridgeport Prospers, are working to improve health and outcomes for young children in at-risk families and partnering to design and implement new strategies. Currently, these strategies, outlined in the Bridgeport Baby Bundle, include pre- and post-birth depression screenings for moms, regular developmental screenings for children, and whole-family services such as universal home visits during the first three years of a child's life.

Additionally, the Child Health and Development Institute, Office of Early Childhood, Department of Children and Families, Yale University, and multiple community-based partners comprise an early childhood trauma collaborative. The mission of the collaborative is to improve outcomes for Connecticut's trauma-exposed young children defined as birth to age 6. The HEC Initiative will work closely with these existing efforts and collaboratives and work to enhance, align, and build on the work currently underway.

6.3.3.6. Yale-Griffin Prevention Research Center (PRC)

Part of the Yale University School of Public Health and based in New Haven, CT, the Yale-Griffin PRC represents an academic/community partnership committed to research pertaining to the prevention of chronic disease. One objective of the Griffin-Yale PRC is to provide tailored interventions for the underserved and address health disparities by contributing to improved allocations of community resources. The Yale-Griffin PRC works with community partners to develop, implement, and evaluate community-based approaches and shares their approaches and findings in a national database along with those of the 25 other CDC PRCs. The Yale-Griffin PRC has developed several programs, which are free to use, targeting healthy weight and physical fitness objectives in the youth and adult populations. One example is the ABC for Fitness program which trains teachers to integrate brief bouts of activity in elementary school classrooms without taking away valuable instruction time. The Yale-Griffin PRC works with community partners to develop, implement, and evaluate these community-based approaches and has access to vast knowledge about evidence-based approaches and research findings. This Connecticut-based resource is a natural partner to HECs and the HEC Initiative and can provide existing or develop new evidence about what works to prevent overweight and obesity. HECs could leverage this local knowledge and use the Yale-Griffin PRC program guides and the PRC national database to inform intervention design within their communities.

6.3.3.7. Rudd Center for Food Policy & Obesity at the University of Connecticut

The Rudd Center for Food Policy & Obesity at the University of Connecticut is a distinguished multi-disciplinary policy research center dedicated to promoting solutions to childhood obesity, poor diet, and weight bias through research and policy. It conducts research to inform advocacy and policy; supports evidence-based solutions; and promotes accountability for the food environment. It has multiple collaborators. For example, it works with two food banks (Connecticut Food Bank and Foodshare) to promote better nutrition in the charitable food system and with the North Hartford Triple Aim Collaborative to explore zoning strategies related to healthy weight issues as well as ways to address

nutrition policies in early childhood education centers and in schools in Hartford to improve healthy weight for minors.

6.3.4. SIM Program

The Connecticut SIM program is a strategic effort, concurrently leveraging multiple interventions, to achieve five related goals:

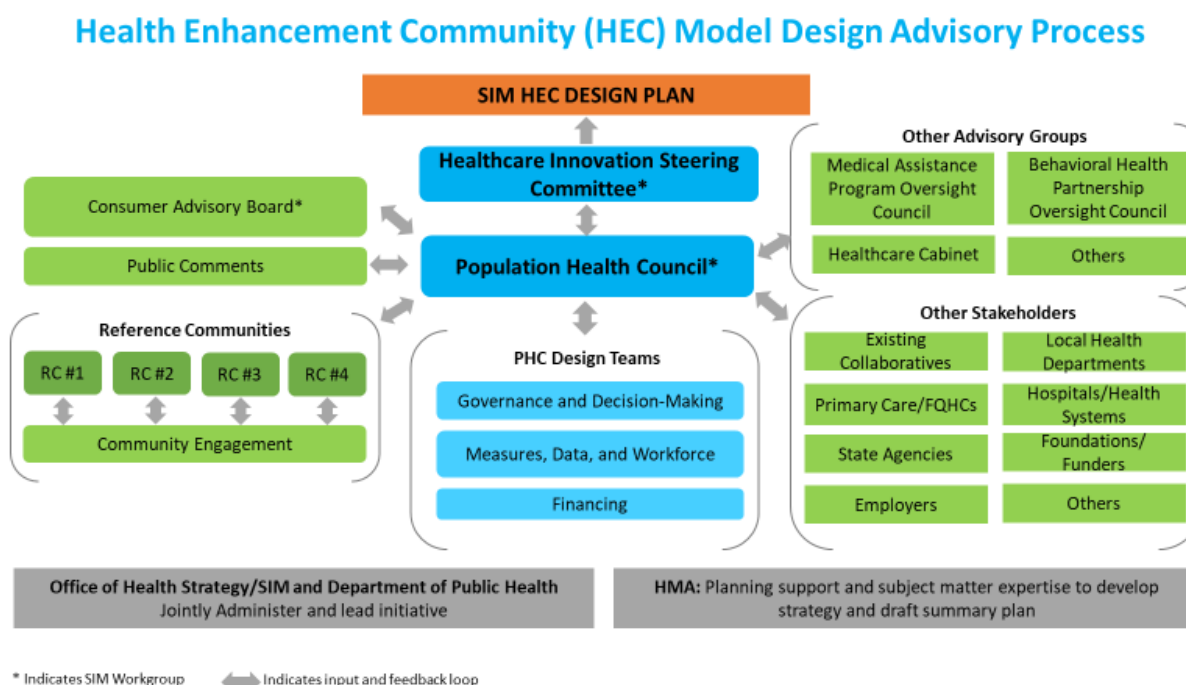
1. Improve population health
2. Improve health care outcomes
3. Promote health equity
4. Empower consumers
5. Reduce health care costs

The SIM interventions intersect and build on one another to create a comprehensive plan for achieving these aims.

The SIM program components described below represent those most complementary and influential to the HEC design. A more detailed list of SIM initiatives is included in **Appendix 6 – Additional SIM Workgroups and Work Streams**.

6.3.4.1. Advisory Bodies

Advisory bodies, comprising state and local leadership, consumers, providers, and other stakeholders, play an integral role in the HEC Initiative by bringing in a multiplicity of insight and knowledge to the HEC design. Figure 16 below illustrates the HEC Advisory Process. Primary contributors to the HEC design have been the Healthcare Innovation Steering Committee, the Population Health Council, the Consumer Advisory Board, and the Community Health Worker (CHW) Advisory Committee.

Figure 16. Multidirectional Flow of Information and Stakeholder Input to Support Decision-Making

Healthcare Innovation Steering Committee (HISC)

The HISC is a diverse, multi-stakeholder committee comprising providers, consumers, advocates, health plans, and state agencies. The HISC has provided feedback throughout the HEC design process. The HISC provides oversight and guidance to the SIM program and will ultimately recommend the final HEC design.

Population Health Council (PHC)

The PHC's vision for improving population health in the context of payment, insurance, and practice reforms and community integration and innovation directed the development of this report. The PHC specifically focused on addressing root causes of disease and defining priorities based on burden of cost, reducing inequities, and improving overall health. The PHC assisted in, and continues to drive, the developing design of HECs, including participating in design groups focused on key aspects of an HEC (i.e., interventions, measures, data, workforce, financing, and governance/decision-making). The PHC issued this report and its recommendations on the HEC design.

Consumer Advisory Board (CAB)

The mission of this workgroup is to “advocate for consumers and provide for strong public and consumer input in health care reform policies in Connecticut.” Predating the HEC Initiative design process, the CAB held listening sessions engaging various population groups about their specific needs. This work influenced the initial proposed design elements. For example, in the young adult listening session, some individuals present admitted to being survivors of childhood sexual trauma and others talked about bullying; many expressed a fear of reaching out for help. These are both examples of ACEs

that can significantly influence an individual's health long-term without the proper interventions. These examples support the choice of child well-being as a key priority aim for the HEC Initiative.

The CAB has and will continue to provide valuable findings and suggested actions related to barriers to improving community health to be targeted by this work. To date, barriers identified by the CAB include lack of transportation; social isolation; behavioral health challenges; and lack of patient/provider communication, care coordination, and early screenings. The CAB also provided input on community engagement that will be needed when HECs form and operate. For example, they highlighted the importance of having a process that meaningfully captures input of community members and ensures that input helps shape HECs, and that community members hear how their input shaped the design.

Community Health Worker (CHW) Advisory Committee

In July of 2018, the CHW Advisory Committee published a draft report to the legislature on CHW certification.¹³⁵ The report details recommendations for requirements for certification and renewal of certification of CHWs, a process not yet in place in Connecticut. CHWs will be key supports in delivering interventions at the HEC level, and the CHW certification process could provide a needed pipeline of qualified workers.

6.3.4.2. Initiatives

In addition to the advisory bodies, the HEC Initiative design process emphasizes collaborating with and learning from other SIM program initiatives, most notably the Prevention Services Initiative and the Person-Centered Medical Home Plus (PCMH+) program. OHS, DPH, and HMA have also been coordinating with the planning process for Primary Care Modernization, which also places a strong emphasis on prevention and which could be part of a State Medicare multi-payer demonstration.

Prevention Services Initiative (PSI)

The PSI was designed to accelerate the adoption of effective prevention services offered by community organizations (CBOs); increase the capacity of CBOs to deliver prevention services; improve provider performance on quality measures related to asthma, diabetes, hypertension, and associated ED utilization or admissions/readmissions; and ultimately enable ACOs to succeed in shared savings programs and other alternative payment models. This initiative lays a critical foundation for community-based prevention and builds capacity and connections among important HEC participants.

Primary Care Modernization (PCM)

Efforts to engage payers and providers to share in a new primary care delivery and payment model are integral to health transformation at the clinical level. The work of PCM includes developing a new model for primary care in Connecticut that supports providers in expanding care teams and offers new ways for patients to access care outside of a traditional office visit, all supported by a more flexible payment model. The PCM model also emphasizes team roles that connect patients to the services and support they need in community settings, which will be supported through both the PSI and HEC initiatives.

¹³⁵ Report to the Legislature on Community Health Worker Certification: A Report of the State Innovation Model Community Health Worker Advisory Committee DRAFT. (2018). SIM CHW Initiative. https://portal.ct.gov/-/media/OHS/SIM/CHW-Advisory-Committee/CHW_Legislative_Report_2018_Draft10.pdf?la=en. Accessed 8/14/2018.

Medicaid's Person-Centered Medical Home Plus (PCMH+)

PCMH+ amplifies the important work of the Connecticut Medicaid PCMH initiative. Currently, 122 practices (affiliated with 548 sites and 2,065 providers) are participating in the PCMH program, serving over 417,780 members (52 percent of Medicaid members), creating strong roots for PCMH+. PCMH+ is building on current efforts by migrating care coordination to a more local level through entities that have the experience and trust basis to effectively serve their communities. PCMH+ incorporates new requirements related to care coordination, focusing upon integration of behavioral and physical health care, children with special health care needs, health equity, and competency in care for individuals with disabilities. PCMH+ is emphasizing linkages to the types of community supports that can assist members in utilizing their Medicaid benefits. If a PCMH+ Participating Entity meets specified quality standards and generates savings for Medicaid, that entity will receive a shared savings payment. It is likely that HECs will include PCMH+ Participating Entities and will involve the development of systems to connect the advanced systems of clinical care supported by the PCMH+ program with the HECs' community-based services that address preventing poor health.

6.4. Current Policy and Regulatory Environment

6.4.1. Value-Based Payments and Value-Based Insurance Design

HECs are an innovative and distinctly community-oriented aspect of Connecticut's broader reform strategy and will build on the State's commitment to using legislative and regulatory authority to support health care delivery and payment reform.

As described more fully in Section 7, the shift away from a volume-based payment system toward value-based payment (VBP), which is designed to reward providers for delivering higher-quality care at lower cost, is already underway in Connecticut. This is the case across both public payers (Medicaid and Medicare) and private purchasers. There are 14 entities currently participating in Connecticut's Medicaid shared savings program; 11 Medicare ACOs (10 Medicare Shared Savings Program [MSSP] ACOs and 1 Next Generation ACO) are based in Connecticut, and an additional 4 ACOs are based in neighboring states but are permitted to serve Connecticut beneficiaries. There are also approximately 15 entities participating in Connecticut shared savings arrangements with commercial payers.

The design of the HEC payment model must align with, but not duplicate, the savings strategies that are already in place in Connecticut. The goal of this alignment is to create consistency with respect to the incentives that influence provider and consumer behavior and the prevention goals.

Connecticut also currently utilizes value-based insurance design (VBID), an insurance strategy that seeks to improve health and control rising health care costs by promoting the use of high-value services and providers through consumer incentives. The Connecticut SIM Program Management Office, now part of the Office of Health Strategy (OHS), in partnership with the Connecticut Office of the State Comptroller (OSC), launched an ambitious initiative to expand VBID plan offerings across the state. VBID initiatives often emphasize prevention-oriented activities among participants such as getting recommended prevention screenings, complying with guidelines to manage chronic conditions, or avoiding behaviors that could lead to poor health (e.g., tobacco use). Given the significant emphasis on prevention and health behavior, the goal is to align the opportunities available through VBID designs with the programmatic goals of the HEC Initiative.

Additional information on VBP and VBID and alignment with the HEC payment model design is included in Section 7.

6.4.2. Community Health Worker Certification

As previously noted, OHS recently published for public comment a report and recommendations of the CHW Advisory Committee for establishing CHW Certification in Connecticut. The recommendations include a balance of requirements ensuring that certification signifies a sufficiently trained worker (e.g., 90 hours of training and a 50-hour internship) and placing limitations on barriers (e.g., creating a pathway both for workers already in the field and individuals interested in starting the career path). The final report was submitted to the Connecticut State Legislature in October 2018. If the legislature proceeds to establish CHW certification, this could improve the pipeline of qualified workers for the HEC workforce. Additionally, the draft recommendations for certification do not require that CHWs work under clinical oversight, making them an appropriate workforce for implementing the HEC programmatic interventions within the community. Authorizing legislation may be introduced as early as January 2019.

7. HEC FINANCING

A central requirement of the HEC program design is creating a financing framework that supports the development of HECs while also creating a long-term sustainability model that aligns with public and private value-based payment (VBP) and value-based insurance design (VBID) initiatives. The HEC Initiative holds the promise of unlocking “upstream” value by incentivizing and rewarding communities for preventing poor health instead of more traditional accountable health care models that typically reward improving health care and reducing avoidable utilization of health care services after someone has a health condition.

The Population Health Council recommends that the HECs will be accountable for achieving two health priority aims: 1) improving child well-being pre-birth to age 8 years and 2) increasing healthy weight and physical fitness among all Connecticut residents. Because they are focused on preventing poor health, these efforts will require a longer time horizon to affect change. As stated, success also will require a collaborative, cross-sector approach that spans beyond the health care system (i.e., providers and payers) to include other sectors that address the root causes of poor health or benefit from addressing them.

This chapter articulates a pathway for creating an HEC financing model, both in the near term (the first five years of implementation) and in the long term (beyond five years). The near-term financing options will serve as a bridge to long-term financial sustainability options that will primarily although not exclusively rely upon collaboration with purchasers such as Medicare, Medicaid, and the state employee health plan administered by the Office of the State Comptroller (OSC). This chapter describes the following:

- **Existing Value-Based Models:** This section identifies and reviews the range of existing value-based health care models, with an emphasis on existing initiatives in Connecticut as well as design elements from other states that promote prevention and multi-sector, community-based interventions. This section is intended to provide context and inform the subsequent details of the HEC financing framework.
- **HEC Financing Model:** This section identifies and recommends near-term financing options to provide HECs with upfront development and infrastructure funding as well as long-term resources to support, sustain, and evaluate HEC cross-sector interventions and related State-level activities. This section also describes a method for attributing a geographic population to an HEC as well as the methods by which funding will be distributed to and among HEC participating partners, with an emphasis on being flexible to meet the requirements of potential funders.
- **Savings and Benefits:** This section estimates some of the potential savings and benefits resulting from HEC efforts. Because Medicare, administered by the Centers for Medicare & Medicaid Services (CMS), is a critical potential long-term HEC financing partner, this section includes a significant focus on the Medicare opportunity. Other purchasers may also be HEC financing partners. A summary of the short- and long-term benefits of HEC efforts, which may accrue to multiple sectors, is also included.

7.1. Existing Value-Based Models

The development of an HEC financing framework can benefit from the experience and lessons learned of existing value-based models already being implemented within the health care system in Connecticut and in other states. The following section identifies and reviews the range of existing value-based models, with a focus on existing initiatives in Connecticut. It also identifies potential adaptations of these models that have been embedded within the HEC framework to promote investments in prevention.

7.1.1. Value-Based Payment (VBP) Models in Connecticut

Provider and payer entities in Connecticut are already implementing value-based payment (VBP) models. VBP models are different from traditional health care reimbursement models, which historically have paid providers on a fee-for-service basis. In contrast, VBP rewards providing higher-quality care at lower cost. This shift is already underway in Connecticut and across the U.S. in response to pressures from both purchasers (i.e., public payers and employers) and consumers who are directly affected (e.g., wage stagnation, out-of-pocket costs) by the rising cost of health care. Health care in the U.S. is nearly twice as expensive as in any other country; however, the U.S. falls short on many measures of quality, access, and population health.¹³⁶ In VBP models, health care payment is based on measurable quality and cost efficiency goals intended to create incentives for providers to improve value. The most widely adopted VBP model in Connecticut is the shared savings program model. Many providers began participating in shared savings arrangements in 2012. Today, OHS estimates that more than 85 percent of Connecticut's primary care physicians participate in these arrangements. Aligning current shared savings arrangements with new HEC prevention-oriented shared savings models will be critical to ensure that both models consistently incentivize and reward primary prevention.

7.1.1.1. Medicare Shared Savings Program (MSSP)

Fourteen organizations with attributed populations in Connecticut currently participate in the Medicare Shared Savings Program (MSSP).¹³⁷ MSSP was introduced in 2012 as a key component of CMS's reform initiatives to facilitate coordination, improve the quality of care, and reduce unnecessary costs for Medicare beneficiaries. Participating organizations are called Accountable Care Organizations (ACOs). Ten MSSP ACOs are based in Connecticut, and an additional four ACOs are based in neighboring states but are permitted to serve Connecticut beneficiaries. One additional provider organization is enrolled in a more advanced version of the ACO model known as Next Generation. MSSP has shown progress nationwide. In 2016, 56 percent of MSSP ACOs saved relative to their benchmarks, and 31 percent of the ACOs received a shared savings bonus.¹³⁸ ACO quality performance remained high with an average

¹³⁶ Papanicolas, I., Woski, L., Jha, A.K. (2018). Health Care Spending in the United States and Other High-Income Countries. *Journal of American Medical Association*. *JAMA*, 319(10):1024-1039. doi:10.1001/jama.2018.1150

¹³⁷ Performance Year 2017 Medicare Shared Savings Program Accountable Care Organizations. (2017). *Centers for Medicare and Medicaid Services*. <https://data.cms.gov/Special-Programs-Initiatives-Medicare-Shared-Savin/Performance-Year-2018-Medicare-Shared-Savings-Prog/uwht-mr3h/data>. Accessed 8/10/18.

¹³⁸ Saunders, M., Muhlestein, D., and McClellan, M. (2017). Medicare Accountable Care Organization Results For 2016 Seeing Improvement, Transformation Takes Time. *Health Affairs Blog*. doi: 10.1377/hblog20171120.211043

composite quality score of 93.4 percent.¹³⁹ Medicare has signaled its intent to continue to operate this program but will have a greater emphasis on downside risk and cost savings.¹⁴⁰

VBP TERMINOLOGY

Shared Savings Program: Traditional shared savings programs are a form of a Value-Based Payment (VBP) that incents networks of providers to manage health care spending and improve quality for a defined patient population by sharing with those organizations a portion of the net savings resulting from their efforts. Savings are typically calculated as the difference between actual and expected expenditures and are then shared between the payer and providers. Shared savings programs typically require providers to meet defined targets with respect to quality metrics to qualify for shared savings. Shared savings programs are commonly structured as “upside-only risk arrangements,” in which providers only stand to earn more revenue than they would in the absence of the program. In contrast, shared savings programs with “downside risk arrangements” are structured such that a provider could potentially earn less revenue than they would in the absence of the program. The upside potential is higher than in a traditional shared savings (upside-only) risk arrangement.

Accountable Care Organization (ACO): A healthcare provider-led organization or network designed to manage the full continuum of care and be responsible for the overall costs and quality of care for a defined population. ACOs exist in many forms, including large integrated delivery systems, physician-hospital organizations, primary care groups, multi-specialty practice groups, independent practice associations, and virtual interdependent networks of physician practices. In this report, the term “ACO” is used to refer to provider networks or entities that enter into shared savings arrangement(s) with payer(s). In this use, the term is synonymous with the term “advanced networks” as employed elsewhere in SIM.

7.1.1.2. Medicaid PCMH+ Shared Savings Program

The Department of Social Services (DSS), Connecticut’s single state Medicaid agency, used SIM funding and state resources to establish an upside-only shared savings initiative entitled PCMH+. DSS’ goal with PCMH+ is to build upon its existing, successful Person-Centered Medical Home (PCMH) and Intensive Care Management (ICM) initiatives to further improve health and satisfaction outcomes for individuals currently being served by FQHCs and Advanced Networks (e.g., ACOs), both of which have historically provided a significant amount of primary care to Medicaid members. There are 14 entities currently participating in Connecticut’s Medicaid shared savings program.¹⁴¹ The program, which began in 2017 with nine Participating Entities (including FQHCs and Advanced Networks) and added five Participating Entities in 2018, is in process of producing quality and shared savings results for its first wave and will report on the same in November 2018.

¹³⁹ *Ibid*

¹⁴⁰ Verma. S. (2018). Pathways To Success: A New Start For Medicare’s Accountable Care Organizations. *Health Affairs Blog*. Doi: 10.1377/hblog20180809.12285

¹⁴¹ Formerly named the Medicaid Quality Improvement and Shared Savings Program. Connecticut Department of Social Services. Person-Centered Medical Home Plus (PCMH+) Documents/Forms. <https://portal.ct.gov/DSS/Health-And-Home-Care/PCMH-Plus/Documents>. Accessed 8/10/18.

7.1.1.3. Commercial Shared Savings Programs

There are also approximately 15 entities participating in Connecticut shared savings arrangements with commercial payers. Commercial payers operating in Connecticut offer a range of VBP arrangements to network providers as described in Table 8.

Table 8. Value-based Payment (VBP) Arrangements among Commercial Payers in Connecticut

Health Plan	Commercial Market Share ¹⁴²	VBP Model
Aetna	14.4%	Aetna implemented shared savings arrangements with physician networks across Connecticut and offers Aetna Whole Health, a statewide enhanced accountable care product. The enhanced accountable program features care coordination, care management, data and quality measurement, and tiered out-of-pocket costs for members who see preferred providers. Nationally, Aetna has 40 percent of its expenditures tied to VBP models with a goal of 75 percent by 2020. ¹⁴³
Anthem	49%	Anthem operates an Enhanced Personal Health Care program for primary care providers, including a shared savings model with upside risk and monthly care coordination payments. It also utilizes episodic and bundled payments and enhanced analytics to address chronic and extended specialty episodes of care. Anthem currently has shared savings arrangements with physician networks across Connecticut. ¹⁴⁴
Cigna	17.7%	Cigna's VBP program, called Cigna Collaborative Care, rewards medical groups for meeting quality targets and reducing costs. Ten large physician groups participate in this program in Connecticut. ¹⁴⁵
ConnectiCare	7.5%	ConnectiCare operates a number of shared savings arrangements with primary care networks and offers an episodic and bundled payment program with an existing partnership with Saint Francis Hospital. ConnectiCare owns Care Management Solutions, which administers one of the largest value-based insurance design programs in the country.

¹⁴² State Innovation Model Operational Plan. (2016). *State of Connecticut*.

http://www.healthreform.ct.gov/ohri/lib/ohri/sim/test_grant_documents/sim_operational_plan_08012016_final.pdf. Accessed 8/10/18.

¹⁴³ Jaspen, B. (2017). UnitedHealth, Aetna, Anthem Near 50% Value-Based Care Spending. *Forbes*.

<https://www.forbes.com/sites/brucejaspen/2017/02/02/unitedhealth-aetna-anthem-near-50-value-based-care-spending/>. Accessed 8/10/18.

¹⁴⁴ Enhanced Personal Health Care Program – Connecticut. (2014). *Patient Centered Primary Care Collaborative*. <https://www.pcpcc.org/initiative/enhanced-personal-health-care-program-connecticut>. Accessed 8/14/18.

¹⁴⁵ Cigna Collaborative Care. <https://www.cigna.com/newsroom/knowledge-center/aco/>. Accessed 8/14/18.

Health Plan	Commercial Market Share ¹⁴²	VBP Model
United Healthcare	7.7%	United Healthcare offers a variety of VBP models, including a shared savings model for primary care networks; care management fees for patient-centered medical homes; and ACO programs with upside risk and potential bonuses for exceeding medical cost and quality targets. ProHealth currently partners with United Healthcare on a product serving 11,000 Connecticut residents, including an integrated product for Medicare Advantage beneficiaries and an incentive-based program for individuals with employer-sponsored plans. ¹⁴⁶

7.1.2. Value-Based Insurance Design (VBID) Models in Connecticut

Another mechanism for promoting value in health care is referred to as value-based insurance design (VBID), an insurance strategy that aligns a patient's out-of-pocket spending with the clinical value of care that they are using. It seeks to improve health and control rising health care costs by promoting the use of high-value services and providers through consumer incentives. High-value services are defined as those that have a strong evidence-base, enhance clinical outcomes, and increase efficiency. Connecticut has led the nation in VBID. In 2002, Pitney Bowes, a Stamford-based corporation, became the first company in the U.S. to fully implement a VBID initiative.¹⁴⁷ The company sets the amount of beneficiary cost-sharing for a medical service or treatment according to the value of the intervention rather than its cost. In 2011, the State of Connecticut implemented the Health Enhancement Program (HEP), a VBID plan offered to state employees and their dependents. The program has improved the use of preventive care services and reduced the use of expensive emergency and specialty care among its approximately 64,000 continuously enrolled participants.¹⁴⁸

The Connecticut SIM Program Management Office, now part of the Office of Health Strategy (OHS), in partnership with the Connecticut Office of the State Comptroller (OSC), launched an ambitious initiative to expand VBID plan offerings across the state. The aim of the initiative is to significantly increase uptake of VBID among Connecticut employers by 2020. In guidance to employers, OHS and OSC recommend that VBID incentives are based on employee participation in, or compliance with, recommended services such as biometric, cancer, and mental health-risk screenings and assessments; use of evidence-based prescription drugs to treat chronic conditions such as heart disease, hypertension, and asthma; and use of smoking cessation drugs for individuals seeking to quit. These incentives can be accomplished through changes in consumer copayments, changes in premium rates, bonus payments, and contributions to Health Reimbursement Accounts, among others. Other recommended VBID incentives include waived or reduced copayment or coinsurance for visits to high-value providers such as providers

¹⁴⁶ ProHealth Physicians and UnitedHealthcare Collaborate to Improve Patient Care in Connecticut. (2014). *UnitedHealth Group*. <https://www.unitedhealthgroup.com/newsroom/2014/1211prohealthconnecticut.html> . Accessed 8/14/18.

¹⁴⁷ Mahoney JJ. Reducing patient drug acquisition costs can lower diabetes health claims. *Am J Manag Care*. 2005;11(5 suppl):S170-S176.

¹⁴⁸ Hirth, R., et al. (2016). Connecticut's Value Based Insurance Plan Increased the Use of Targeted Services and Medication Adherence. *Health Affairs*, 35(4), 1-11. doi: 10.1377/hlthaff.2015.1371

participating in quality-based performance contracts or providers that have a demonstrated record of lower readmissions or lower mortality in the case of cardiac surgery.

Unlike many existing VBP models, VBID initiatives often place a greater emphasis on prevention-oriented activities and services. VBID programs also have the benefit of direct financial incentives that target consumer behavior. Savings tied to reduced utilization of high-cost health care services accrue to purchasers and the consumers who pay co-insurance, both in the short-term and in the long-term (for self-funded employers with high employee retention rates).

Employers are not limited to VBID as a means to drive healthy behavior among employees. Many Connecticut employers provide direct incentives outside of the insurance benefit to create opportunities for or reward healthy behavior. Both VBID and direct-to-employee incentives are tools that employers can use to align with HEC goals.

7.1.3. Value Based Models in Other States: Examples of Prevention-Focused Initiatives

While no state has adopted a model exactly like the HEC Initiative, there are programs being implemented in other parts of the country where VBP models have been designed to address social health drivers, promote prevention, and/or enhance community collaboration. These design elements can be a source of ideas for inclusion in the HEC Initiative. These programs and efforts are summarized in Table 9 below.

Table 9. Model Design Elements Used in Other States

State	Key Design Element(s)
Minnesota Integrated Health Partnerships	Reward methodology focuses on health equity and health disparities; incorporates social and clinical factors in risk-adjustment; collects population-level data on social health drivers.
Massachusetts MassHealth ACO Program	Program design includes requirements for ACOs to contract with designated behavioral health and long-term services and supports (LTSS) community partner organizations; includes risk-adjustment/cost benchmarks based on social determinants of health.
Vermont All Payer Programs	Program recognizes community collaboratives including non-medical providers and designates an interface with ACOs
New York State Delivery System Reform Incentive Payment (DSRIP) Program	DSRIP program requires Performing Provider Systems (PPSs) to engage and include community-based organizations in VBP arrangements and address social determinants of health.
Oregon Coordinated Care Organizations (CCOs)	There is an expectation of local organizations to manage global budgets and reinvest profits into community health.

State	Key Design Element(s)
Maryland All-Payer Model	Includes a voluntary Care Redesign Model, which creates incentives for hospitals to engage in projects with community partners to achieve defined goals. CMMI and Maryland are discussing how to quantify actual Medicare savings from population health efforts, and how to ensure that savings can be leveraged to support those efforts.

7.1.4. Promoting Prevention Investments through a Value-Based Model

A central objective of the HEC Initiative is to secure financial investments in prevention. The section below describes key features of the HEC model that build on the experiences and lessons from other value-based models.

7.1.4.1. *Create Long-Term Financial Benchmarks that Reward Prevention*

Existing VBP models generally do not emphasize rewarding activities that can prevent the occurrence or the progression of disease or a condition. For example, most shared savings programs are premised on encouraging appropriate health care utilization and improved management of existing conditions over a short time horizon. MSSP, for example, rebases ACO spending benchmarks after only three years.¹⁴⁹ As a consequence, successful ACOs are graded against their continually improving benchmarks. The intent of this rebasing is to drive down the trajectory of health care spending by reducing expenditures for patients with health conditions; however, any “credit” an ACO might accumulate for investing in long-term prevention interventions among its attributed population is effectively “zeroed out” through the rebasing calculation. Moreover, the program is designed such that ACOs have more opportunities to earn savings if the population they are accountable for has many health problems. There is little or no savings opportunity for patients who are well.

In addition, although Medicare Advantage is not VBP program, this increasingly popular Medicare managed care program also provides incentives to reduce the cost of care for patients with health problems. However, the premiums that the federal government pays to Medicare Advantage plans are rebased annually, so Medicare Advantage plans receive more funding if their members have more health conditions, or more severe health conditions. They receive much lower premiums for healthy adults.

7.1.4.2. *Ensure Cross-Sector Community Organizations have Access to HEC Funding*

As noted above, other states have required that new accountable entities include both community-based providers and organizations (CBOs). Although programs differ, New York, for example, requires many of its accountable entities to contract with CBOs as part of an effort to specifically recognize CBOs’ unique position to address social determinants of health as a contributor to poor health outcomes. Connecticut’s HEC Initiative will require cross-sector partners, including CBOs, and have HEC governance structures that reflect that cross-sector partnership. The HECs also will leverage the work of the SIM

¹⁴⁹ Medicare Shared Savings Program: Shared Savings and Losses Assignment Methodology. (2018). *Centers for Medicare & Medicaid Services*. <https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/sharedsavingsprogram/Downloads/Shared-Savings-Losses-Assignment-Spec-V6.pdf>. Accessed 8/10/18.

Prevention Services Initiative, which is helping CBOs develop mutually-beneficial financial agreements with ACOs in which CBOs receive funding for the value of the community-based services they provide.

7.1.4.3. *Ensure Prevention Goals are Rewarded Financially*

Existing VBP models include quality-based incentives that are generally tied to the diagnosis and management of disease and reducing acute episodes of care. Preventive care *processes* (e.g., colonoscopy screening) are rewarded; however, the savings associated with prevention *outcomes* (i.e., a reduction in the prevalence colon cancer) are not credited to the provider. Screening and assessment measures as well as measures of hospitalization and emergency department utilization are common. With respect to specific conditions such as diabetes, these models include quality incentives for individuals who have already been diagnosed with a disease (e.g., controlling blood glucose levels among people with diabetes). They do *not* include quality incentives for reducing incidence or prevalence of diabetes. The HEC Initiative will put prevention at the core of quality-based financial incentives and give HECs the opportunity to demonstrate success over a longer time horizon.

7.1.4.4. *Ensure the Health Care System Collaborates with HECs*

As part of developing policy levers to support HEC success (See Section 8 for detail), Connecticut will explore how to encourage existing organizations in the health care system such as ACOs, payers, and health care providers to be part of HECs and have formalized relationships with HECs to support their success and sustainability.

7.2. HEC Financing Model

A central objective of the HEC Initiative is to provide a sustainable pathway to monetize prevention savings and continuously reinvest a portion of the savings in evidence-based or evidence-informed interventions that will improve child well-being pre-birth to age 8 years and increase healthy weight and physical fitness among all Connecticut residents.

To achieve these ambitious goals, HECs will require a mix of near-term, upfront financing in the first five years of implementation as well as sustainable long-term sources of financing beyond five years. It is anticipated that the near-term financing options will serve as a bridge to longer-term sustainability options, which will primarily but not exclusively rely upon ongoing collaboration with health care purchasers such as Medicare, Medicaid, state employee health plans administered by OSC. The following sections describe these funding sources, their likelihood of being leveraged, and how they can address near-term versus long-term needs.

7.2.1. Near-Term Financing

While it is a primary goal and expectation of HECs to generate and reinvest savings to support ongoing activities, it is expected that these savings will take at least five years to begin to accrue and for a portion to be returned to HECs. As such, new shared savings arrangements are not a viable source of financing for HECs in the near-term. Yet upfront investment is needed to launch and develop HECs, implement interventions, and support the infrastructure required to administer and manage HECs. As savings are captured over time, it is likely that the financing model for HECs will evolve, with certain financing options becoming more likely and others being supplemented or even supplanted by reinvested savings.

7.2.1.1. *Near-Term Funding Sources*

A variety of financing options exist to fund HEC activities, each with unique attributes surrounding purpose, magnitude, timing, accessibility, and risk. The range of approaches can be grouped into:

- Debt
- Grants
- Tax credits
- Outcomes-based financing models
- Hybrid models that pool or re-orient existing funding sources
- Public payer financing waivers

Each option comes with specific parameters around who can access it, what it can pay for, and at what scale. To effectively attract and employ available financing options, resources must align with an HEC's specific needs and overall strategy.

Below is a summary of selected financing options, including a description of and considerations for each. While these do not represent the full universe of approaches, they are illustrative of those more commonly employed in outcomes-oriented projects and those most feasible to finance HECs, given current assumptions around interventions and scale. Following this overview is a proposed working model for how these options can work together to finance HEC activities.

Debt

Debt refers to money lent by one entity to another, with the expectation that the borrower will repay the lender, most likely with interest, over time.

Foundation Program-Related Investments (PRIs)

Program-related investments are private foundation investments made to fulfill the foundation's philanthropic strategies. While the primary purpose of PRIs is not financial, they can generate a financial return. PRIs are typically loans that range from \$1,000 to several million dollars, generate a below-market rate return (1-4 percent), and have repayment terms between 5-10 years. They may also come in the form of loan guarantees. Unlike market rate investments (such as mission-related investments¹⁵⁰), PRIs count toward charitable distribution requirements and may come from a foundation's grant budget or its endowment. While the market for PRIs has grown in recent years—with 11 percent of foundations engaged in PRIs as of 2011—broad access is still limited by the number of foundations offering this type

¹⁵⁰ Mission-Related Investments (MRIs) are private foundation investments—typically debt/fixed income products or equity investments—intended to accomplish charitable purposes and generate a risk-adjusted market-rate financial return. MRIs are made from a foundation's corpus and do not count toward charitable distribution requirements. As an example, in 2015, the California Health Care Foundation made a \$375,000 equity investment in Seamless Medical Systems, a software provider, to help community health centers improve patient experience. Because investors expect a market-rate financial return, MRIs are unlikely to be a viable initial financing option for emerging HECs. See: CHCF Invests in Seamless Medical Systems. (n.d.) *California Health Care Foundation*. <https://www.chcf.org/press-release/chcf-invests-in-seamless-medical-systems/> Accessed 9/13/18.

of funding.¹⁵¹ Challenges to accessing PRIs also include service provider and foundation capacity to support these transactions, and the need for investments to align with a foundation’s mission and programs, which frequently limits the geography and programmatic focus of the PRI.

As an example of a PRI, in 2008, The MacArthur Foundation offered \$4 million in short-term acquisition financing to the Network for Oregon Affordable Housing (NOAH), enabling NOAH to preserve affordable rental housing units in Oregon and The MacArthur Foundation to advance goals of its housing program.¹⁵²

Community Development Financial Institutions (CDFIs)

Community Development Financial Institutions (CDFIs) are private financial intermediaries certified by the U.S. Department of Treasury and dedicated to delivering financial services to underserved, low-to-moderate income populations and/or markets. To comply with federal regulations, CDFIs must demonstrate they are servicing these markets, and most meet this by making investments in a CDFI-qualified census tract that fulfills at least one of six criteria such as low-to-moderate income (defined as at or below 80 percent median family income), high unemployment rate, or high poverty rate. CDFIs include banks, loan funds, and credit unions, and, as such, the financial products offered and target markets may vary significantly by institution. Investments can also take on various structures (not only limited to debt) and range in size from small-business loans to multi-million-dollar facility loans. In general, financing from CDFIs tends to be more flexible than financing from commercial banks.

Commercial Banks

Commercial banks include regulated local and national financial institutions. To combat discriminatory redlining policies, the Community Reinvestment Act (CRA) was enacted in 1977 and requires that commercial banks serve the financing and financial service needs of the communities where they operate, including historically underserved low-to-moderate income communities. Banks have many different options to comply with the CRA, including making loans directly to non-profits or to intermediaries, such as CDFIs, that are located or lending in low-to-moderate income communities. Typically, debt from commercial banks comes in the form of large, collateral-backed loans.

Hospital Investment

Some hospitals have developed treasury or investment programs that connect their overall investment portfolio with community health activities. The number of hospitals currently investing in this way is limited and the path to accessing investment funds from them may be long. Hospital investments vary in size, structure, and purpose, aligned with a hospital’s strategy or mission. For example, Dignity Health—the fifth-largest health system in the country—has a Community Investment Program (CIP) that provides financing for housing and community development to improve the social determinants of health. Through the CIP, Dignity makes loans to non-profit organizations ranging in value from \$50,000 to \$5 million with terms of 1-7 years and below-market interest rates.¹⁵³

¹⁵¹ Lawrence, S., and Mukai, R. (2011). Key Facts on Mission Investing. *Foundation Center*. <http://foundationcenter.issueab.org/resources/13579/13579.pdf>. Accessed 8/14/18.

¹⁵² The rate of return and specific terms for this transaction are not public. See: Network for Oregon Affordable Housing. (n.d.) *MacArthur Foundation*. <https://www.macfound.org/grantees/1309/>. Accessed 8/14/18.

¹⁵³ Increasing Capital for Underserved Communities. (n.d.). *Dignity Health*. <https://www.dignityhealth.org/about-us/community-health/increasing-capital-for-underserved-communities>. Accessed 8/14/18.

Loan Funds

Loan funds are mechanisms for pooling debt capital from one or multiple sources to make loans to several entities or projects. The structure of a loan fund can vary significantly by size, lender characteristics, borrower characteristics, and governance structure.

Grants

Grants are funds gifted to one entity by another. While the funds do not need to be repaid, they may be subject to use or time restrictions.

Philanthropy

Philanthropic grants, including from foundations, corporations, or high-net worth individuals or families, provide funding of a specific amount on a one-time or short-term basis to non-profit organizations. Philanthropic grants range in size and may be structured as either unrestricted, allowing grantees flexibility to determine how funds are used, or restricted, ensuring funds are used for a specified purpose or over a designated time period. Among foundations and corporations, restricted funding tends to be the common approach. While grants often provide one-time funding, grant-makers can also structure funding to span multiple years or may renew grants regularly over time. Foundations, corporations, and individuals have varied grantmaking strategies and as such, philanthropy has been used to fund a wide range of activities and issue areas.

Hospital Community Benefit Funds

A federal requirement established by the Affordable Care Act, hospital community benefit mandates non-profit hospitals to invest in the local community by providing community benefits directly or allocating funding toward community needs. To comply with the Affordable Care Act, hospitals must initiate a Community Health Needs Assessment (CHNA) every three years and create a strategy for addressing community needs. There are a variety of ways hospitals can address needs identified through the CHNA and research has found that tax-exempt hospitals across the country spend approximately 7.5 percent of total revenues on community benefits.¹⁵⁴ In 2014, 94 percent of Connecticut hospital community benefit spending went to cover Medicaid and Medicare shortfalls and uncompensated care; only 6 percent of this spending went to community health improvement services, research, donations, and community-building.¹⁵⁵ On average, community benefit grants range from \$10,000 to \$100,000, and are designed to support services that result in measurable outcomes in the hospital's local community.

Recently, hospitals have also used their community benefit mandate to explore potential “win-win” partnerships that both serve community needs and contribute to their bottom-line. For example, through the Transitional Care Respite Program in Spokane, Washington, Providence Health provides hospital community benefit funding to Catholic Charities Spokane to pay for temporary food, beds, and

¹⁵⁴ James, J. (2016). Nonprofit Hospitals' Community Benefit Requirements. *Health Affairs*. doi: 10.1377/hpb20160225.954803

¹⁵⁵ Transforming Hospital Community Benefit: Increasing Community Engagement and Health Equity Investment in Connecticut. (2017). *Community Catalyst*.

https://www.communitycatalyst.org/resources/publications/document/Community-Benefit-in-CT_Final.pdf.

Accessed 8/14/18.

care management for homeless individuals discharged from the hospital. Ultimately, this grant may also contribute toward savings for Providence by reducing avoidable hospital readmissions.¹⁵⁶

Tax Credits

Tax credit programs incentivize private equity investments by allowing investors to deduct money from their tax liability owed to the government.

New Market Tax Credits (NMTC)

Managed by the U.S. Department of Treasury through the Internal Revenue Service and the CDFI Fund, the New Markets Tax Credit (NMTC) program helps economically-distressed communities attract private capital. The CDFI Fund allocates credits to Community Development Entities (CDEs) that attract equity investments with the credits and then lends these funds to NMTC-qualified projects. NMTC are primarily used for real estate projects, including new building or major renovations. Projects must be located in NMTC-qualified census tracts and typically must identify funding for 75 percent of the project cost

CASE EXAMPLE: VITA HEALTH AND WELLNESS DISTRICT

The West Side of Stamford, Connecticut, is a historically impoverished neighborhood that has suffered from economic disinvestment, blight, and high rates of crime. These conditions and other factors contributed to poor health outcomes for residents, including high rates of chronic disease. In 2011, two major institutions in the neighborhood, Stamford Hospital and the local public housing agency Charter Oak Communities (COC), took advantage of their partnership, cemented in a 2009 land swap, to launch the Stamford Vita Collaborative. This multi-partner initiative developed a strategic revitalization plan and established the Vita Health and Wellness District, a health-focused neighborhood of approximately 500 acres centered on a mile-long stretch of the Stillwater Avenue commercial corridor in the West Side. Vita's more than 20 member organizations are implementing 6 sets of strategies. The primary strategies address housing and health care, represented by the redevelopment of COC's public housing and the expansion of Stamford Hospital's campus. Additional programs and services, such as the communal Fairgate Farm and the Parents as Co-Educators program, address the areas of nutrition, education, jobs, and social cohesion.

The hospital and COC contribute funds to the Stamford Vita Collaborative's administration, including salaries for program administration, grant writing, public communications, and community engagement. Stamford Hospital contributes approximately \$50,000 annually to the project plus an in-kind contribution of staff time for program management, data analysis, and professional support. COC contributes approximately \$150,000 annually, most of which is spent on Fairgate Farm and its full-time farm manager.

Excerpted from "Stamford Hospital Anchors the Vita Health and Wellness District," U.S. Department of Housing and Urban Development, Office of Policy Development and Research (PD&R), Available at: <https://www.huduser.gov/portal/casestudies/study-041618.html>

¹⁵⁶ Housing is a Health Innovation: Transitional Respite Care Program in Spokane. (2017). *Partnership for Healthy Outcomes*. http://www.chcs.org/media/Respite-Program-Case-Study_101217.pdf. Date accessed 8/14/18.

elsewhere. These transactions are complex and require at least one-to-two years of lead time to plan and structure. Due to significant transaction costs, NMTC is only suitable for transactions over \$5 million. Managing NMTC funds requires the capacity to adhere to reporting requirements over a seven-year compliance period.

Since 2000, the CDFI Fund has authorized \$54 billion of tax credit authority to attract over \$90 million to low-income communities and create over one million jobs.^{157,158} As an example of an NMTC transaction, in 2018, CHRIS 180, a child-trauma care and training organization in Atlanta, received a \$13 million allocation from two CDEs to construct a 20,000-square-foot training center, renovate a new medical clinic, and add five emergency housing facilities.¹⁵⁹

Low-Income Housing Tax Credit (LIHTC)

The Low-Income Housing Tax Credit (LIHTC) program, a federal program established in 1986, attracts private capital to develop affordable rental housing for low-income households. Like NMTC, LIHTC incentivizes investment by providing tax credits to investors annually for 10 years. The federal government disperses approximately \$8 billion of tax credit authority to state and local agencies each year. These agencies award tax credits to real estate developers via a competitive process run by state housing finance authorities. Often, it takes several applications for a developer to be awarded tax credits and requires significant time and expertise. Eligible projects must be affordable to families earning less than 60 percent of the area median income and must remain affordable for a minimum of 15 years. Financing can only be used to construct or rehabilitate housing and not to fund supportive services. Since the program's inception, LIHTC has financed over 46,550 projects, comprising more than three million rental units—approximately 90 percent of the country's new affordable units.¹⁶⁰

Outcomes-Based Models

Outcomes-based financing models are new and evolving approaches that align investments around outcomes and may reward or penalize service providers based on outcomes demonstrated.

Outcomes Rate Cards

Outcomes rate cards are a contracting tool designed to standardize outcomes-based payments and make participation in outcomes-based contracts accessible to more service providers. Outcomes rate cards, initiated by a government entity, list a menu of outcomes sought by government payers and set a price for each outcome, with contractors paid that set price based on the outcomes they achieve. Outcomes rate cards require that service providers demonstrate outcomes, but not necessarily a causal link between the outcomes achieved and the intervention provided. As such, outcomes rate cards do not require advanced impact evaluation. Because of these simpler evaluation standards—and the non-

¹⁵⁷ <https://www.cdfifund.gov/news-events/Pages/news.aspx?Category=Press+Releases&>. Date accessed 8/14/18.

¹⁵⁸ Economic Impact Report (2003-2015). (2017). New Markets Tax Credit Coalition.

<http://nmtccolalition.org/economic-impact-report/>. Date accessed 8/14/18.

¹⁵⁹ PCDC's First Financing in Georgia to Help Expand Primary Care for Children. (2018). Primary Care Development Corporation. <https://www.pcdc.org/pcdcs-first-financing-georgia-help-expand-primary-care-children/>. Date accessed 8/14/2018.

¹⁶⁰ Low-Income Housing Tax Credits. (2018). *Office of Policy Development and Research (PD&R), U.S. Department of Housing and Urban Development*. <https://www.huduser.gov/portal/datasets/lihtc.html#publications>. Date accessed 8/14/18.

requirement of third-party private investors within these transactions—implementing an outcomes rate cards approach may be a more feasible option for smaller-scale projects than Pay-For-Success approaches, which require achievement of measurable outcomes.¹⁶¹

While outcomes rate cards are a new concept, Connecticut is a pioneer of this approach. In early 2018, the Maternal, Infant, and Early Childhood Home Visiting (MIECHV) program, run by the Connecticut Office of Early Childhood (OEC), began an outcomes rate card pilot to incorporate outcomes-based bonus payments into existing MIECHV service provider contracts. Bonus rates are offered to service providers for achieving outcomes related to full-term birth, child health and safety, caregiver employment, and family employment.¹⁶²

Hybrid Models

The hybrid models described below leverage existing sources of funding in new ways to pay for services.

Braided Funding

Braided funding coordinates funds from various public and/or private sources and allocates them towards services, with specific tracking and accountability for each source. Braiding thus enables a pooled fund for various services, while still assuring there is no duplicate funding of expenses and that each funding source is charged for appropriate administrative costs. To be able to implement this strategy, service providers need strong capacity on their frontlines and in their back offices to be able to track funding and report to each source.

As an example of a braided funding strategy in Connecticut, the United Way 211 Child Development Infoline (CDI) is a service that is supported through funding from the Department of Public Health's Title V Children and Youth with Special Health Care Needs program, the Office of Early Childhood's Birth to Three Part C Early Intervention and Help Me Grow programs, and through Preschool Special Education funds from the Connecticut Department of Education. CDI serves as the single point of entry for all the programs, maintains an inventory of developmental services and support programs for children birth to age 8, links families to services and provides developmental information, manages the online Ages and Stages developmental monitoring system, and—with parental permission—reports back to pediatric providers about service linkages made for their patients.

¹⁶¹ Pay-For-Success (PFS) is a contracting approach that ties payment for service delivery to the achievement of measurable outcomes. Social Impact Bonds (SIBs) are a financing approach to PFS contracting. In a typical PFS/SIB transaction, private investors provide upfront capital to service providers. If service providers achieve target outcomes, and those outcomes can be confirmed by an outside evaluator, the investors get repaid, typically by a government payer. If outcomes are not achieved, investors risk not being repaid. The PFS/SIB approach is dependent on a demonstrated measurable return on investment, and requires significant time, expertise, and funding to structure, implement, and evaluate. Therefore, PFS/SIB transactions are only realistic for larger projects (over \$5 million) As a result, it is unlikely to be a viable initial financing option for emerging HECs but could become an option after outcomes and savings are demonstrated.

¹⁶² Maternal, Infant, and Early Childhood Home Visiting Outcomes Rate Card Pilot. (n.d.). Connecticut Office of Early Childhood. http://www.ct.gov/oec/lib/oec/ct_oec_miechv_rate_card_fact_sheet.pdf. Date accessed 8/14/18.

Blended Funding

Blended funding refers to the merging of funds from various sources into one pooled funding stream and allocated toward services, without discerning the original source. For service providers, this mechanism provides a flexible, results-driven funding stream. Blended funds can come from multiple sources, including both public and private contracts and grants. Unlike braided funding, blending of funds means that costs are not necessarily allocated or tracked by individual source. Blended funding requires government involvement and support.

The Performance Partnership Pilots for Disconnected Youth (P3) is an example of a national program that allows grantees to blend discretionary funds from the Departments of Education, Housing and Urban Development, Justice, and Health and Human Services. Blended funding creates flexibility for grantees to test comprehensive, outcomes-based strategies to achieve improvements in educational, employment, and other key outcomes for disconnected youth.¹⁶³

Wellness Trust

Wellness trusts, also referred to as Community Health Funds, are mechanisms that aggregate and house funds to support community-based population health or prevention activities. Typically, a backbone or integrator organization coordinates funding, which can come from one or multiple sources such as tax revenue, settlement funds, and philanthropy. Wellness Trusts distribute funding to community-based organizations or interventions, as governed by a policy, coordinating/steering committee, or board.

Wellness trusts are a relatively new concept, with many across the country currently in a pilot or exploratory phase. In one recent example, the Massachusetts Department of Public Health administered the Prevention and Wellness Trust Fund from 2012-2016, funded by a one-time \$60 million assessment on insurance and hospital revenue. The fund provided grants to nine community-based prevention initiatives focused on pediatric asthma, hypertension, tobacco use, and elder falls.

Public Payer Financing Waivers

One important potential mechanism to leverage federal funds to support HECs is a multi-payer model agreement with CMS, which is described more fully in Section 8 and would focus on leveraging resources from Medicare and Medicaid. States have also leveraged federal funding from Medicaid to support upfront investments in delivery system reform efforts. Medicaid Delivery System Reform Incentive Payment (DSRIP) programs have been used as a financing tool and have provided states with infrastructure-building funding to support large-scale transformation efforts. In both cases, the programs involve federal government payers. Access to resources are conditioned on state commitments to control health care spending, quantify and monitor savings that accrue to Medicare and Medicaid, and demonstrate other outcomes for Medicare and Medicaid beneficiaries.

In addition, there are other potential avenues to explore for federal funding to buttress investments from the private sector. The Centers for Disease Control and Prevention (CDC) provides significant resources for prevention and public health initiatives. The Health Resources and Services Administration (HRSA) is also involved in a wide range of public health and health workforce initiatives that could support HECs.

¹⁶³ P3 Sheet. (n.d.). *youth.gov*. <https://youth.gov/youth-topics/reconnecting-youth/performance-partnership-pilots/fact-sheet>. Date accessed 8/14/18.

7.2.1.2. *Near-Term Finance Model*

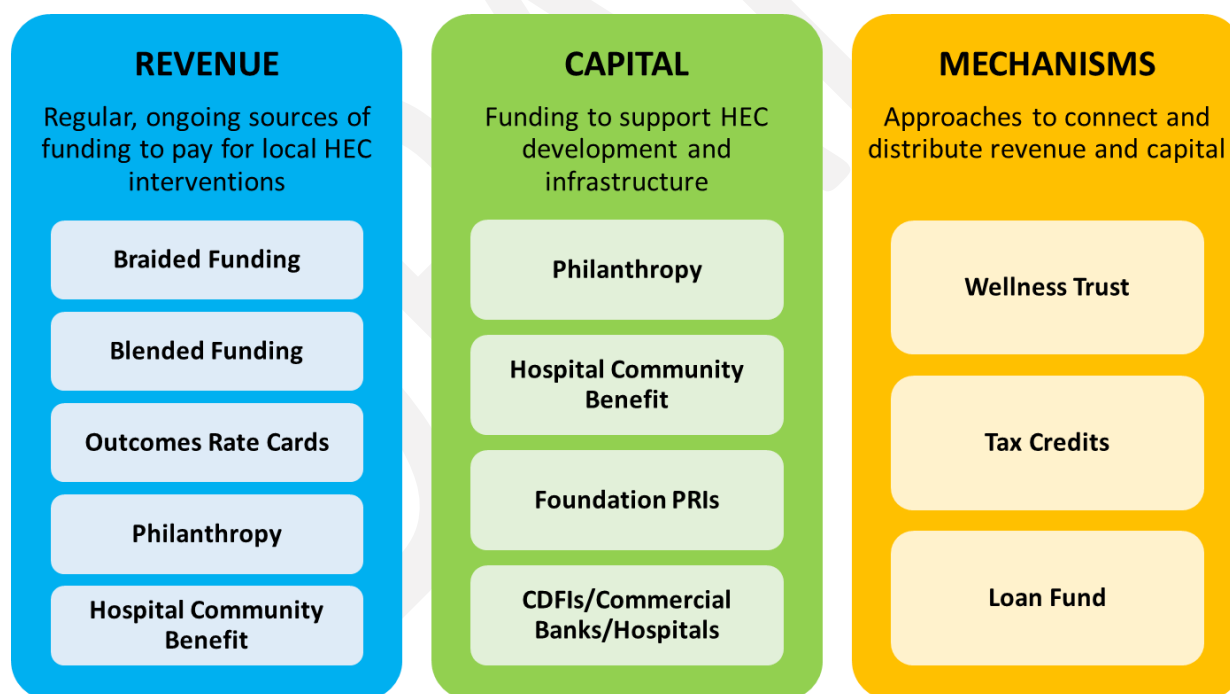
The finance options above represent potential opportunities to finance upfront HEC investments, activities, and program launch. No single option, however, offers the magnitude, breadth, or flexibility to fully support HECs on its own. Rather, it is the interplay among these options within the context of the local HEC landscape—for example, the specific interventions chosen or the availability of each finance option locally—that forms the basis of a working model to finance HECs across the state.

Although specific activities will vary, each HEC requires financing to support a locally-agreed upon set of new interventions. Managing HEC interventions, however, also requires local infrastructure to support operations, financial management, data management, and other administrative functions. Infrastructure is also required at the state level to provide oversight and collective support to the group of HECs statewide.

A comprehensive financing approach for HECs must consider funding options for both interventions and infrastructure (at the local and state levels). The options described above can further be grouped into revenue sources (to pay for interventions) and capital sources (for infrastructure needs) as well as mechanisms to connect and distribute both revenue and capital.

HEC Revenue, Capital, and Mechanisms

Figure 17. HEC Revenue, Capital, and Mechanisms



Revenue

Revenue refers to regular, ongoing funds to support the provision of services. Revenue is sometimes referred to as “buy” dollars, as it represents an entity funding or “buying” an identified service. Within the HEC structure, revenue is essential to cover the day-to-day operating expenses of specific interventions, including staff, consultants, space, supplies, and other costs.

Capital

Distinct from revenue, capital refers to periodic funding to support overall enterprise-level investments and operations. Capital is sometime referred to as “build” dollars, as it enables an enterprise to “build” its infrastructure. Within the HEC structure, capital is essential to pay for both state- and local-level infrastructure needs. Rather than paying for specific services, capital supports overall operations and enables HECs to invest in management and administrative needs and manage cash flow.

Mechanisms

In addition to revenue and capital, HECs may also rely on mechanisms—wellness trusts, tax credit programs, and loan funds—to incentivize, aggregate, or distribute financing sources. These mechanisms are not directly revenue or capital but may be necessary to attract and align various sources.

The following section dives deeper into a proposed initial model to finance HEC interventions and infrastructure, tying together options for revenue, capital, and mechanisms. All feasible options (given current assumptions) have been included, though HECs will likely only need to employ a subset of these options. In addition, some options may be more or less suitable for specific interventions. As a reminder, this model excludes captured and reinvested savings, under the assumption that this will not be a feasible source of funding for HECs until cost saving outcomes have been demonstrated.

Financing Near-Term HEC Interventions

Regardless of specific interventions chosen, all HECs will require dedicated sources of near-term revenue to pay for a portfolio of interventions. Potential sources of revenue for HEC interventions include federal, state, and local government contracts and grants, either braided or blended, or delivered via an outcomes rate card. Additional revenue could come from philanthropy or hospital community benefit to support interventions not funded by government contracts and grants, and/or to supplement funding from the government. While HECs will likely need to secure new forms of revenue to pay for interventions, HECs should leverage existing sources when possible.

Government contracts and grants from a combination of agencies represent a significant existing revenue source that can pay for HEC interventions. Braiding (i.e., combining funding from various contracts or grants to pay for a set of services) is one likely strategy to provide revenue to HECs implementing interventions for which government funding already exists. An HEC employing multiple interventions could braid existing contracts to directly support these services. While braiding requires that HECs carefully manage each contract and grant and comply with reporting and accounting requirements set by each agency, it does not require fundamental change to the way in which contracts and grants are administered throughout the state. Braiding can be managed by each HEC locally.

Blending, like braiding, is a revenue strategy that leverages existing contracts and grants to pay for multiple services. Blending would enable HECs to combine various sources into one “pool” to pay for a set of interventions, without distinct accountability and reporting to each contracting agency. Blended funding, compared to braided funding, is both less burdensome to manage and could allow for more discretion from the HEC as to how revenue is used. Unlike braiding, blending requires flexibility from each contracting agency and agreement on unified reporting requirements. Enabling HECs to blend funds would thereby require state-level changes to contracting approaches.

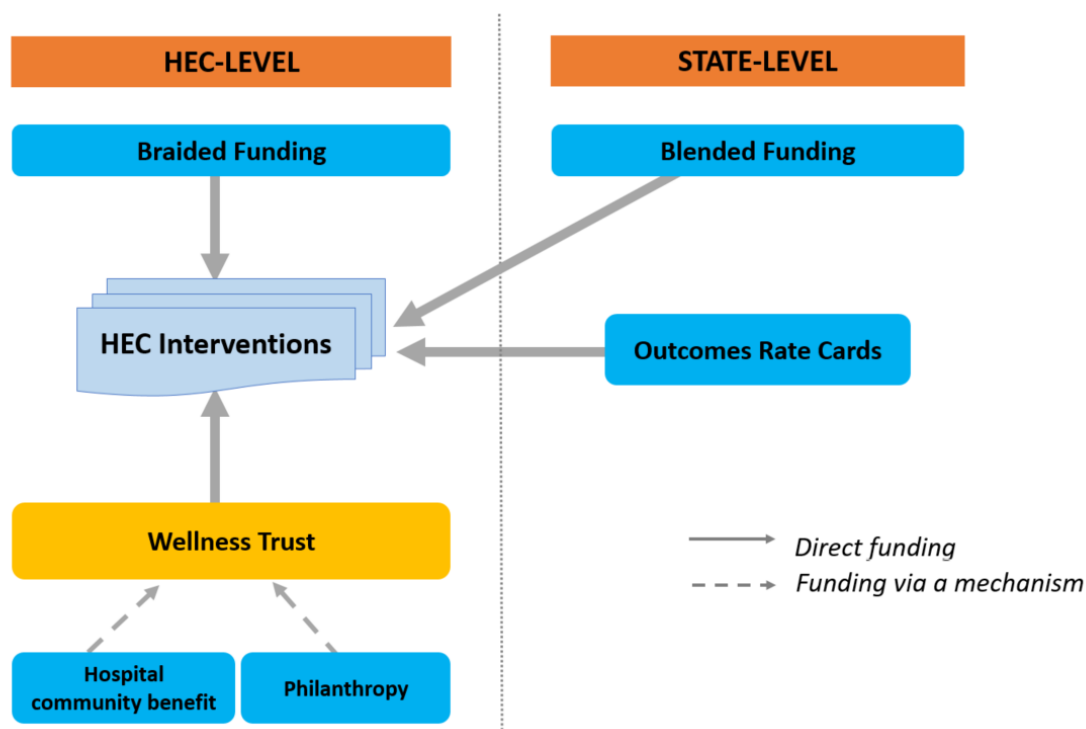
Outcome rate cards are a third option for HECs to pay for interventions through government contracts. This new form of funding—currently being piloted by the Connecticut Office of Early Childhood—reorients contracts around specific outcomes and rewards interventions by paying a set value for each outcome achieved. Similar to blended funding, an outcome rate card approach would require state-level involvement, as agencies would need to adjust current contracting methods.

Though braided funding, blended funding, and outcome rate cards represent a significant opportunity to pay for HEC interventions, HECs will likely need to supplement these sources with additional revenue. For certain interventions selected by HECs, government contracts may not currently exist or may not cover the full cost. To implement and sustain these interventions, HECs will need to secure revenue from other sources, most likely local philanthropy (from foundations, individuals, or corporations) or community benefit funds from hospitals within a defined HEC geography. These sources of revenue may be particularly necessary to sustain non-programmatic HEC interventions (e.g., those targeting policy change where government funding is unlikely to provide significant revenue or in the case of a new intervention being tested in an HEC).

Even for interventions where government funding exists, grant revenue from philanthropy or hospital community benefit may still be necessary as a supplement to ensure HECs are paid the full cost of what it takes to implement effective, outcomes-oriented interventions. This payment structure where services partially funded with government contracts are subsidized by philanthropic funds is a common revenue model for human services interventions.

While revenue from philanthropy and hospital community benefit can directly fund interventions, a Wellness Trust may be beneficial to provide the structure to secure, manage, and distribute grant funds to specific interventions within an HEC. A Wellness Trust may be managed directly by the HEC or governed by a neutral third-party.

Figure 18. Initial Financing for Interventions – Diagram 1



Source: Nonprofit Finance Fund

While sustaining HEC interventions will require revenue, an HEC may also need capital to serve as a bridge to manage revenue timing or secure revenue associated with facilities. Oftentimes, contract revenue flows to an organization only after services are rendered (e.g., on a cost-reimbursement basis), creating a need for upfront funds to support service delivery. Similarly, with an outcomes rate card approach, service providers are not paid until they demonstrate outcomes, creating a need for funding that bridges eventual revenue. With these revenue sources, HECs would require upfront capital to implement interventions before revenue becomes accessible.

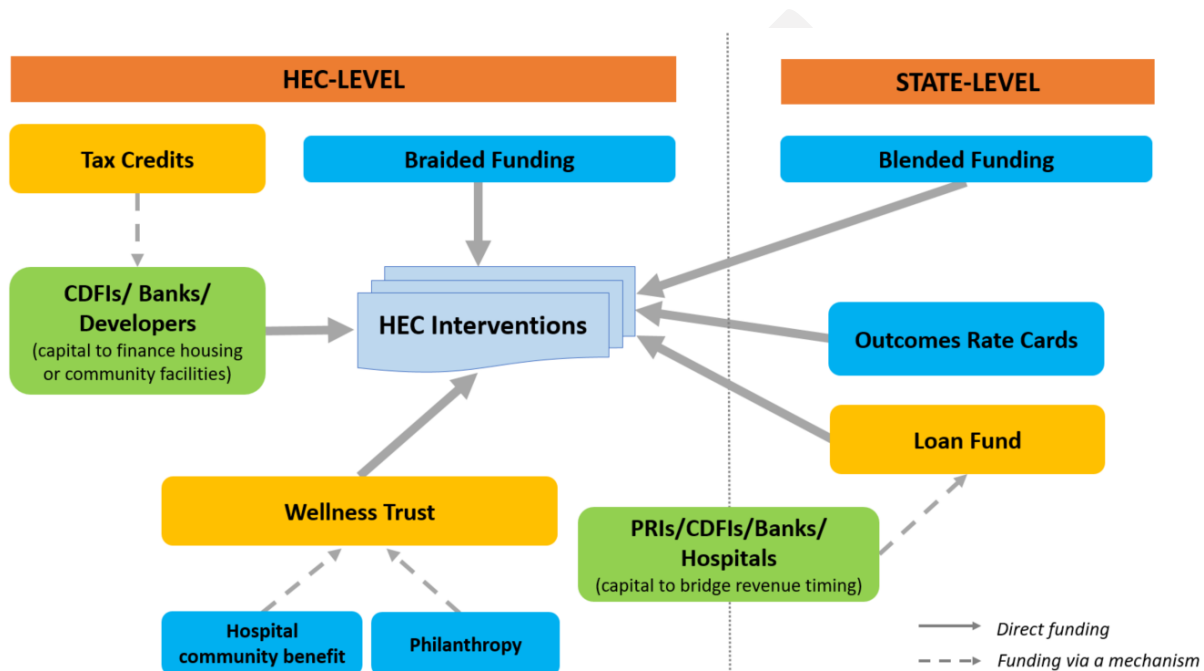
Where revenue timing creates a financing gap, debt, whether from foundations, CDFIs, banks, or others, can be an option to cover these gaps. For HECs to access this form of debt, they must demonstrate to lenders that future revenue will provide reliable and sufficient cash flow to repay upfront capital and interest. If lenders are not confident in an HEC's future revenue, they are unlikely to provide debt.

While foundations, CDFIs, local banks, or hospitals could provide debt capital directly to HEC interventions, a loan fund, managed by an intermediary organization, may be a more effective way to attract capital, ensure careful management, and provide needed oversight. A single loan fund operated at the state-level, rather than separate loan funds managed by each HEC, would provide a streamlined structure to manage the aggregation and deployment of debt. Lenders to such a fund could include foundations, CDFIs, banks, and hospitals, and could require a guarantee by the State.

Capital can also support HEC interventions building housing or community facilities, which generally requires significant investment. While facilities will ultimately be used for revenue-generating

interventions, projects need upfront capital for building-related costs before associated revenue is realized. HECs seeking to implement interventions that involve facilities development may explore tax credit strategies to incentivize investment from foundations, CDFIs, banks, or hospitals, or in the case of the Low-Income Housing Tax Credit, local developers. For tax credit investments to be a viable strategy, the facilities project must be large—upwards of \$5 million—and must demonstrate the ability to generate cash flow sufficient to repay investors. Tax Credits are project-specific, and therefore would be tied directly to an HEC intervention and managed by the HEC.

Figure 19. Initial Financing for Interventions – Diagram 2



Source: Nonprofit Finance Fund

Financing HEC Infrastructure

In addition to financing individual HEC interventions, a holistic finance model must include resources that pay for necessary state- and local-level infrastructure. Infrastructure is not directly related to specific interventions but is fundamental to the effective development and ongoing management of HECs—crucial to fostering target outcomes and reduced costs over time. While several sources of revenue and capital are possible for HEC interventions, dollars to support infrastructure are likely more limited. Reinvested savings may become a viable financing source for infrastructure over time, but before outcomes are demonstrated and savings generated, HECs will require external resources to support infrastructure.

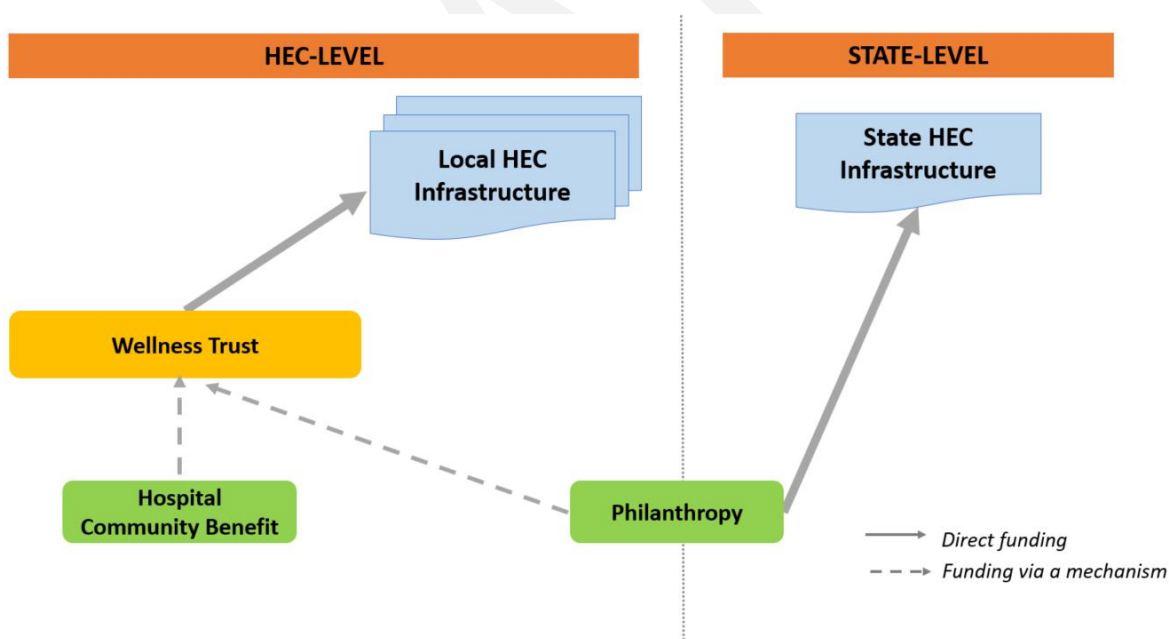
To finance local-level HEC infrastructure, including management and administrative staff, office space, and data and finance capabilities, HECs will require capital dollars, rather than revenue tied to a specific intervention or set of interventions. Philanthropy from local foundations, individuals, and corporations, and community benefit funding from local hospitals are the likeliest sources. Although debt from PRIs, CDFIs, local banks, or hospitals are feasible capital sources within the overall HEC model, it is improbable that HECs would be able to tap into these resources to support infrastructure specifically, without a

near-term identifiable repayment source. While potential future savings may ultimately be a form of repayment, lenders are unlikely to make an infrastructure investment until outcomes and cost-savings have been demonstrated in the local context.

Like with revenue from philanthropy and hospital community benefit, a wellness trust—either managed directly or by a third-party entity—may be beneficial to provide a structure to secure, manage, and distribute capital that supports HEC infrastructure.

Philanthropy is the most likely source of capital to finance the state-level HEC infrastructure necessary to oversee and provide shared functions to HECs across the state. Whereas local philanthropy—for example, community foundation grants or donations from high-net worth community members—is well-aligned to support HEC interventions and/or local infrastructure, statewide foundations and corporations, entities with a larger geographic footprint, may be likelier capital sources for state-level infrastructure. The state could also look toward national philanthropic funders—health foundations or those supporting social determinants, for instance—for capital. As with local HEC infrastructure, debt from PRIs, CDFIs, local banks, or hospitals is an improbable capital source, as it requires a demonstrated future means of repayment. Hospital community benefit dollars are also less likely to finance statewide infrastructure, as hospitals typically invest in a more localized, defined geography.

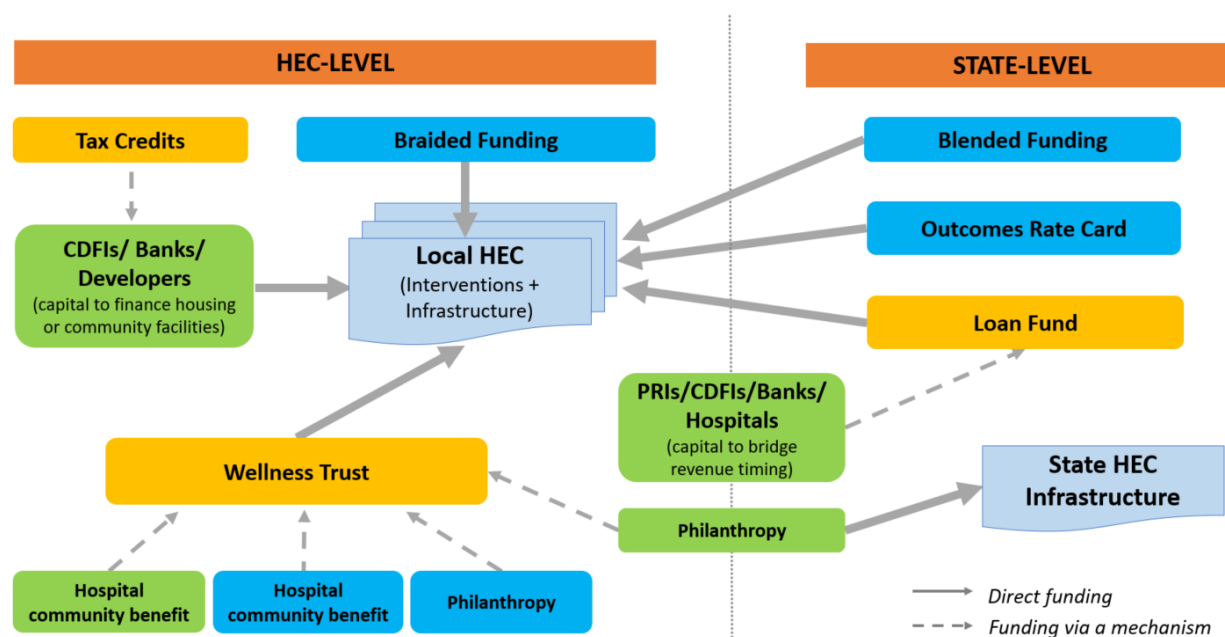
Figure 20. Initial Financing for HEC Infrastructure



Source: Nonprofit Finance Fund

Combined HEC Financing Model

A comprehensive financing model for HECs includes financing for both interventions and infrastructure (state or local-level), coming from a variety of sources and employing mechanisms that attract, align, and manage funds.

Figure 21. Financing for HEC Interventions and Infrastructure

Source: Nonprofit Finance Fund

7.2.2. Long-Term Financing

The reasons that people in local communities and across Connecticut experience poor health are complex and multi-factorial. Therefore, a new strategy is necessary to meet these challenges. The current health care payment system is missing a critical piece of the equation: paying for the prevention of health conditions—not just treating them.

Historically, health care payment models reimbursed providers on a fee-for-service basis. Each service, treatment, or hospitalization was paid “per unit” or “per day,” which meant that providers earned more money when their patients experienced sickness or ill health. More recent payment models such as shared savings arrangements promote better health care by sharing savings tied to better care with health care providers. However, neither of these models promote or pay for preventing health conditions. While preventing health conditions saves money and can produce other economic benefits, those savings or benefits do not generally accrue to the providers, agencies, and community-based organizations that help produce the results. Paying for prevention—and ensuring that the dollars go to the entities producing the result—requires new and innovative financing strategies.

The HEC Initiative is unique among health care and social service reform efforts in that it aims to create a source of financing to support holistic, community-based interventions to reduce health care costs and prevent disease and other health conditions. To do so requires the development of sustainable long-term pathways to monetize prevention savings and enable continuous reinvestment of a portion of the savings back into HECs. These long-term financing options will likely rely upon ongoing collaboration with purchasers of health care and other services such as Medicare, Medicaid, and large self-funded employers such as OSC. The primary strategy for securing long-term funding sources will reply upon a shared-savings and reinvestment approach. Under this strategy, the State will seek to support HECs by

developing ongoing shared prevention savings models with health care purchasers. For each purchaser, a complementary, longitudinal HEC shared prevention savings model can be established alongside existing reimbursement models.

Under the HEC Initiative, the State will play a critical role in identifying, negotiating, and securing long-term funding agreements with purchasers to support HECs. Specifically, the State will engage key purchasers in developing prevention-oriented shared savings arrangements with HECs. These shared saving arrangements will measure and capture health care cost savings that accrue as a result of achievement on prevention benchmarks.¹⁶⁴ If HECs decrease the trajectory of health problems associated with child exposure to ACEs and obesity in Connecticut over a 5- and 10-year period, the associated health care savings can be calculated, and portion of the savings made available by purchasers to reinvest in HECs. Key elements of this long-term financing model are below.

7.2.2.1. Purchasers

Purchasers interested in engaging in a prevention-oriented shared savings arrangement with HECs may include traditional health care payers such as Medicare, Medicaid, and large self-funded employers. Indeed, Medicare, Connecticut Medicaid and self-funded employers (through their commercial carriers) have already implemented shared savings arrangements with FQHCs and ACOs. Beyond the health care sector, other purchasers of services could value HEC prevention efforts and consider options to align ongoing resources or develop outcomes-based strategies. These may include state and local government agencies that focus in whole or in part on child well-being and healthy weight/physical fitness and/or who participate in the State Partnership.

7.2.2.2. Performance Period

The development of a long-term funding source requires reaching agreement with purchasers on the period of time for which performance will be measured. Existing VBP models generally do not emphasize rewarding activities that can prevent the occurrence or the progression of disease or a condition. As noted above, most ACO shared savings programs are based on encouraging appropriate health care utilization and improving management of existing conditions over a short time horizon. MSSP, for example, reassesses the health risk of an ACO's attributed population and then rebases the ACO's spending benchmarks after only three years. As a consequence, any "credit" an ACO might accumulate for investing in long-term prevention interventions and reducing the long-term prevalence of disease (i.e., health risk) among its attributed population is effectively "zeroed out." Accordingly, the HEC model will necessitate the use of a prevention benchmark over a longer time horizon, such as 5 to 10 years.

7.2.2.3. Attribution Criteria

A key aspect of shared savings arrangements is defining the population for which an entity will be held accountable as part of any shared savings arrangement. The methodology for determining population-level accountability is often referred to as "attribution."

In an ACO context, attribution refers to the process for assigning people to an ACO—usually tied to a unique ACO provider (i.e., primary care physician or practice) for whom an individual received the

¹⁶⁴ See Section 4 for a list of potential prevention benchmarks.

majority of their care during a recent time period.¹⁶⁵ ACO attribution defines the population for whom the ACO will then be held accountable on measures of health care cost and quality during a one-year *performance* period. CMS and state Medicaid agencies have experimented with multiple methods of attributing beneficiaries to ACOs. Depending on the “track” in which an ACO elects to participate, Medicare uses: (1) a preliminary prospective assignment methodology which occurs at the beginning of the performance period—with a final retrospective assignment (or “true up”) after the performance period has ended to account for beneficiaries who sought most of their care outside the ACO during the performance period, or (2) a prospective-only assignment methodology that does not include any sort of retrospective “true up” after the performance period ends. The Connecticut Medicaid shared savings program bases attribution for PMCH+ on a prospective basis, and the assignment logic is refreshed annually.

In an HEC context, one could attempt to apply retrospective or prospective principles to attribute a population to an HEC for the purpose of measuring costs and meeting prevention benchmarks. Because only one HEC is active in a single geography, as compared to the ACO model where multiple ACOs operate in the same service area, the HEC attribution methodology could simply be based on a person’s place of residence. For example, all individuals residing in an HEC geography at the beginning of the HEC’s performance period could be attributed to the HEC. The challenge arises when there is population “churn,” meaning that people move in and out of the area (referred to as “in- and out-migration”) or there are births and deaths. For ACOs, where attribution is based on a relatively short timeframe (i.e., usually one year), population churn can be handled through a retrospective “true up,” typically by excluding the impact of those people who come and go. This results in a smaller attributed population and modestly affects the ability to measure, with a strong degree of statistical significance, an ACO’s impact on costs and quality. However, in an HEC context this churn is more problematic. Individuals present in the HEC geography at the beginning of this much longer performance period (e.g., 5-10 years) would be only a fraction of the population present at the end of this much longer performance period). This would substantially diminish the ability to measure statistically significant HEC impacts on costs and prevention benchmarks. One could potentially mitigate the impact of such churn by establishing a “minimum residency requirement” for the purpose of attribution that is less than the performance period. However, this would require a reliable source of person-level residency information over many years. For some individuals and families, particularly populations with low socioeconomic status, reliable residency information can be difficult to establish.

To best address these limitations, the Population Health Council recommends developing a **snapshot attribution methodology**. This methodology would measure performance for a defined HEC geographic population at specific points in time. For example, measurement would be taken during a baseline period (e.g., Years 0-2) and at subsequent points in time (Years 5 and 10) for the purpose of calculating shared prevention savings. Interim snapshot measurements would be taken to monitor ongoing progress.

¹⁶⁵ Note that in Medicare and Medicaid, beneficiaries have freedom of choice to choose among providers participating in the respective program. As a result, beneficiaries may see a number of providers over the course of a time period, some of whom may not be in the same health care system or ACO.

A snapshot approach to attribution would include all individuals served by a participating purchaser. For example, if Medicare were the purchaser, it would include all Medicare beneficiaries enrolled residing within the geographic boundaries of an HEC at a specific point in time (a “snapshot”).

The snapshot attribution methodology has important limitations. It would not necessarily control for factors beyond an HEC’s control over a 10-year time horizon (e.g., an influx in people with different health needs or socioeconomic status). HECs, to some extent, should be actively responding to these changing circumstances. That said, shared savings agreements with purchasers may need to include adjustment provisions for factors beyond an HEC’s control. There are examples from other models that could be helpful. For example, a 2016 report prepared by the Blue Cross Blue Shield Association (BCBSA) uses regression modeling to establish the relationship between the health of a population and the health of an economy, including the level of employment.¹⁶⁶ (BCBSA issued a series of health index reports examining varying factors.) For the HEC Initiative, a preliminary list of attribution “control factors” could include:

- Employment
- Income
- Health insurance coverage
- Food security and cash assistance programs and benefits
- Natural disasters
- Health epidemics (e.g. influenza, Zika virus).

Indeed, several Reference Communities involved in the development of the HEC Initiative expressed similar concerns about how measurement would reflect factors beyond an HEC’s control, people leaving or coming into a geography due to migration as well as birth and death.

In addition, attribution models sometimes exclude individuals who have certain diagnoses or conditions (e.g., cancer, end stage renal disease). The HEC model would likely be more inclusive rather than less inclusive given the prevention-oriented goals of the program. That said, purchasers will want to see results and prevention-oriented outcomes that are specific to their beneficiaries/members—the “denominator population.” Therefore, separate attribution criteria will likely be necessary for each purchaser engaged in a shared savings arrangement.

7.2.2.4. HEC Performance Measurement and Data Sources

Attribution is only the first step toward measurement of costs and progress in meeting prevention benchmarks for the attributed population(s). Other measures will include prevention benchmarks and related process and outcome measures. The data sources for measurement will vary depending on the purchaser. Certain purchasers may wish to use other sources of data collected through their own

¹⁶⁶ The Health of American Report: Healthy People, Healthy Economies. *Blue Cross Blue Shield Association*. https://www.bcbs.com/sites/default/files/file-attachments/health-of-america-report/BCBS.HealthOfAmericaReport.Moodys_0.pdf. Date accessed 10/21/18.

systems. Measurement and data sources for HEC prevention measures and benchmarks are described in Section 4.

7.2.2.5. *Shared Savings Calculation*

In addition to determining an attribution methodology and reaching agreement on measuring costs and performance measures, the heart of any shared savings arrangement is typically a complex formula that determines whether savings were achieved and, if so, how much will be shared with a participating entity, in this case, an HEC.

Calculating Savings

Among existing shared savings programs, two methodologies have been developed to measure whether savings have occurred. Each merits a description for the purpose of illustrating their differences.

The more common approach is sometimes referred to as an **administrative formula** in which a singular methodology is agreed upon at the beginning of the contracting period. No change in methodology is allowed during the contracting period unless initial methods are found to have large and commonly recognized unanticipated flaws.¹⁶⁷ To isolate the effect of the interventions as clearly as possible, spending amounts are typically multiplied by ratios that account for changes in case mix (e.g., disabled, non-disabled), beneficiary risk scores, and secular trend growth in spending. The output of the methodology is a single calculation of per-capita savings among an attributed population relative to a baseline period for each participating entity within the payment arrangement. Typically, there is no allowance for statistical variation or sensitivity to assumptions. The benefit of this approach is that it is easier to calculate, and it can be reproduced often and for multiple participating entities.

A second approach, which is less common, is a **research-based evaluation**.¹⁶⁸ This method is more comprehensive and elaborate and relies on a combination of claims data; survey data from participating entities (e.g., providers of health care and community-based services) and consumers; and qualitative information from site visits, interviews, and observation. For the savings analysis, an econometric technique known as **difference-in-differences analysis** is used to compare spending trends against a control group. The primary example of this approach is a savings evaluation conducted to validate and test the administrative formulas that were used to calculate savings within CMS' Comprehensive Primary Care (CPC) Initiative. In the CPC example, the research-based evaluation approach used by Mathematica differed from the approach using administrative formulas in two important ways. First, the difference-in-differences analysis accounted for a much larger set of potential confounding variables and did so in a way that is less rigid than a predetermined ratio. Second, additional efforts were made to ensure that the comparison practices (or control group) were truly comparable to CPC practices using a statistical matching technique known as propensity score matching.¹⁶⁹

In an HEC context, there may be an opportunity to leverage different aspects of both methodologies. Since savings distributions to HECs are contemplated to occur only after a sufficient period of time has passed to allow for measurement impacts of prevention activities, the length of time required to conduct a more elaborate research-based evaluation may not be as significant of an implementation

¹⁶⁷ DeLia, D. (2016). Calculating Shared Savings: Administrative Formulas Versus Research-Based Evaluations. Health Affairs Blog. 10.1377/hblog20160926.056798

¹⁶⁸ *Ibid*

¹⁶⁹ *Ibid*

barrier as it is in more traditional health care provider shared savings programs. Moreover, a research-based evaluation would enable a better accounting for potential confounding variables, as described above with respect to attribution. One challenge to a research-based method is finding a suitable control group, since, presumably, shared savings arrangements with purchasers will include all or most of the purchaser's respective population that resides in Connecticut. If no suitable control group exists, one potential option would be using interrupted time series regression analysis to explore the trends in cost before HEC and after interventions begin. Time series regression models are built and run to explore trends in changes and whether changes are statistically significantly different between the time periods.

One critical difference between measurement of savings between an HEC model and more traditional shared savings programs pertains to the measurement of risk. Measures of risk, such as Medicare's **Hierarchical Condition Category (HCC) Score**, capture how costly a person is anticipated to be relative to all other beneficiaries.¹⁷⁰ A person's demographics and diagnoses are used to determine a risk score. Risk scores can be "rolled up" from the person-level to a population-level. A higher risk score denotes a person or population that has more health conditions or service needs that will result in health care spending. Typically, HCC scores (and similar measures of risk) are designed to be used to "control" for risk. In other words, a shared savings program would account for a higher-risk population by using a risk score to establish and modify a spending target to treat at-risk entities fairly, from the perspective of how sick or healthy their attributed population is.

However, a central goal of the HEC Initiative is to reduce the prevalence of conditions that result in higher risk scores. Therefore, the calculation of expected spending, savings (and shared savings, as described below) must not "control" for the very measure HECs aim to influence. Indeed, these two concepts—reduction in prevalence of conditions in a population, and reduction in risk scores of a population—are both potential mechanisms to use to establish and calculate shared savings.

Calculating Shared Savings

The fundamentally innovative idea behind the HEC model is that HECs can create health care savings by improving the health of a population. That means that standard mechanisms that rely on risk adjustment when establishing expected spending for a given attributed population are inadequate as a way to demonstrate savings due to HEC activities. Rather, HECs will succeed by: 1) reducing the prevalence of a condition (or set of conditions) and meeting a prevalence benchmark, or 2) reducing the risk in a population (reducing risk scores). Both concepts are potential new innovative mechanisms for demonstrating savings.

In the case of a prevalence benchmark approach, Connecticut and participating purchasers would establish a baseline expected prevalence level and agree upon a methodology for how much money is saved if the HEC performs better than expected. Similarly, in the case of risk scores, purchasers would establish an expected level in the absence of any intervention, and then design a methodology for quantifying the impact of a risk score reduction on spending. This is a particularly promising approach regarding Medicare because HCC scores are used to establish MSSP cost benchmarks and set Medicare

¹⁷⁰ Hierarchical Condition Category (HCC) Scores are recalibrated by CMS each year, such that the national HCC risk score equals 1.0. A risk score in Connecticut higher than 1.0 assumes Connecticut's average morbidity is higher than the national average. A risk score lower than 1.0 assumes Connecticut's average morbidity is lower than the national average.

Advantage rates, meaning that a reduction in HCC scores is easily translatable into lower Medicare spending.

Once overall savings for the attributed population are established, the next step will be to determine how much of the savings will be shared by purchasers with HECs. Purchasers have historically relied upon an administrative formula to determine overall savings—formulas that are not typically sensitive to things like statistical significance (as noted above). Purchasers have often established thresholds called **Minimum Savings Rates** as means for mitigating the possibility of rewarding a participating entity with shared savings that are purely the result of random variation between the baseline measurement and performance period measurement. Other efforts to mitigate the potential for rewarding shared savings due to random variation include requiring a minimum attributed population size. As noted in Section 3.3.2.1, HECs would be required to have at least 20,000 Medicare beneficiaries and at least at least 150,000 people in total. Medicare’s MSSP program sets ACO Minimum Savings Rates between 2 and 3.9 percent depending on the size of the ACO’s attributed population.¹⁷¹ To the extent robust research-based methods are used to measure or validate HEC savings, there is the possibility that a Minimum Savings Rate would be unnecessary since there would be more information to determine random changes in spending.

The State and each purchaser will need to agree on how much of the savings will be shared with HECs. In shared savings arrangements, sharing rates are typically tied to performance on quality measures. In an HEC context, this concept is inherent in the prevention benchmarks described in Section 4. For example, the more HECs improve child well-being pre-birth to age 8 years and healthy weight and physical fitness among all residents, the higher the amount of shared savings they could earn. The same concept could treat the prevention benchmarks as a “gate” to shared savings: a shared savings program could require a certain defined level of performance against prevention benchmarks, which if achieved would authorize sharing savings. Then the purchaser and the HEC could use risk scores to help quantify the actual savings that should be shared with the HEC. However the calculation of shared savings is achieved mathematically, negotiations with purchasers will determine the sharing rate—how much savings stay with the purchaser and how much are “shared” with HECs. Under Medicare’s MSSP, the maximum quality performance sharing rate percentage is 50 percent under the one-sided model (upside risk only) with the remaining percent going to the Medicare program.¹⁷²

Another consideration that will impact HEC program design, the calculation of shared savings, and the method by which savings will be distributed to individual HECs rests upon whether performance on prevention benchmarks is first measured statewide, across all HECs, or if performance is only measured and rewarded at the HEC level. These two different shared savings and measurement approaches are described below.

- **Two-Step Measurement — State level then HEC level:** The advantage of a first-level, statewide measurement of performance is that the entire state’s population will be used in measurement. This method would enhance the credibility and validity of the performance measurement to

¹⁷¹ Medicare Shared Savings Program: Shared Savings and Losses and Assigned Methodology. (n.d.). *Centers for Medicare and Medicaid Services*. <https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/sharedsavingsprogram/Downloads/Shared-Savings-Losses-Assignment-Spec-V6.pdf>. Date accessed 10/21/18.

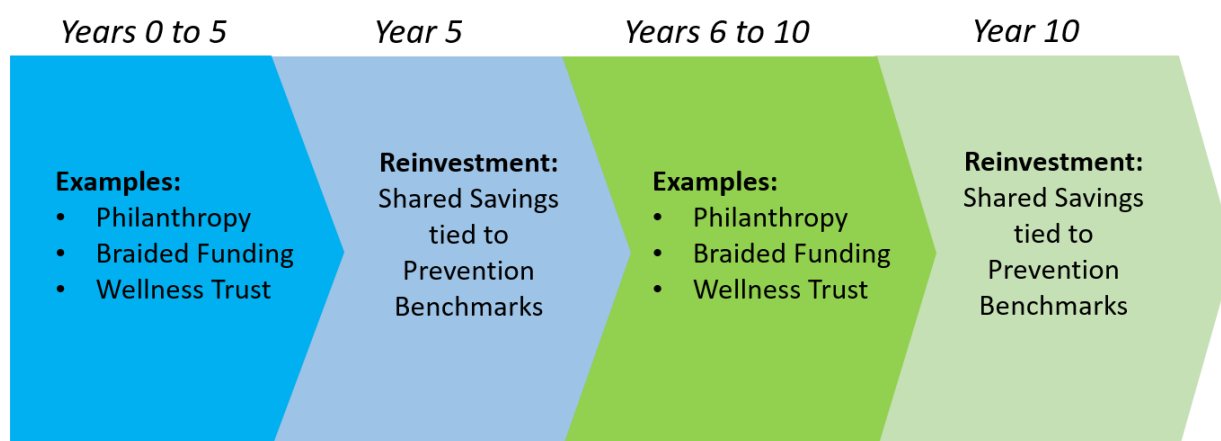
¹⁷² *Ibid*

help ensure that the level of observed performance improvement is real and not simply due to “normal” variation in the data. In this scenario, shared savings could be passed from a purchaser to the Statewide Partnership and then to individual HECs. The Statewide Partnership would be responsible for distributing shared savings to each HEC based on a formula or performance improvement standard that allows for flexibility in determining how the savings are distributed across the HECs. A potential downside to this approach is that one or more HECs may make significant performance improvements at the community level; however, if the combined HEC statewide performance did not attain measurably strong improvement, high performing HECs would not receive shared savings.

- **One-Step Measurement — HEC level only:** An alternative approach would be to measure and reward performance at the HEC level only (without a first-level statewide measurement). HECs would be measured against their own community-level performance benchmarks and shared savings would be calculated accordingly for each HEC. Individual HECs could be rewarded, even if the overall health of the State did not improve. The potential downside to this approach is that performance would be measured on a smaller HEC-specific population (rather than the statewide population) and smaller populations are more susceptible to fluctuations in reported results. This would make it harder for HECs to demonstrate to purchasers that improvements are real and not simply the result of “normal” variation. In this scenario, one or more HECs could make improvements, but if the improvements are not strong enough to credibly demonstrate real change to a purchaser, these higher performing HECs would not receive shared savings.

7.2.3. Lifecycle of HEC Financing Options

The finance options employed in the near term and long term will vary across HECs depending on evolving priorities and outcomes. The anticipation is that long-term savings will allow leverage of other finance options in select and creative ways. For example, HECs may rely less on philanthropy and be better able to access other forms of financing over the long term as they demonstrate an ability to achieve outcomes and realize savings. Debt could become a viable option not only to bridge contract or grant revenue but also to bridge expected cost savings as long as those savings can be captured to repay debt. As such, an HEC’s ability to access capital from foundation PRIs, CDFIs, commercial banks, or hospitals may increase over time. While unlikely during the early HEC years, Pay-for-Success/Social Impact Bond transactions and other approaches that require demonstrated outcomes could eventually become a financing avenue for the State Partnership and/or HECs to further explore. Figure 22, below, illustrates the mix of potential HEC financing options over a 10-year time horizon.

Figure 22. Illustrative Diagram of HEC Financing Options over 10 Years

7.2.4. HEC Funds Distribution

A key program design element is determining how funds received by an HEC and its participating organizations will be used to support HEC administration, operations, and prevention interventions. Two key design elements merit further description: how will HECs receive funding, and once funding is received, how will it be distributed?

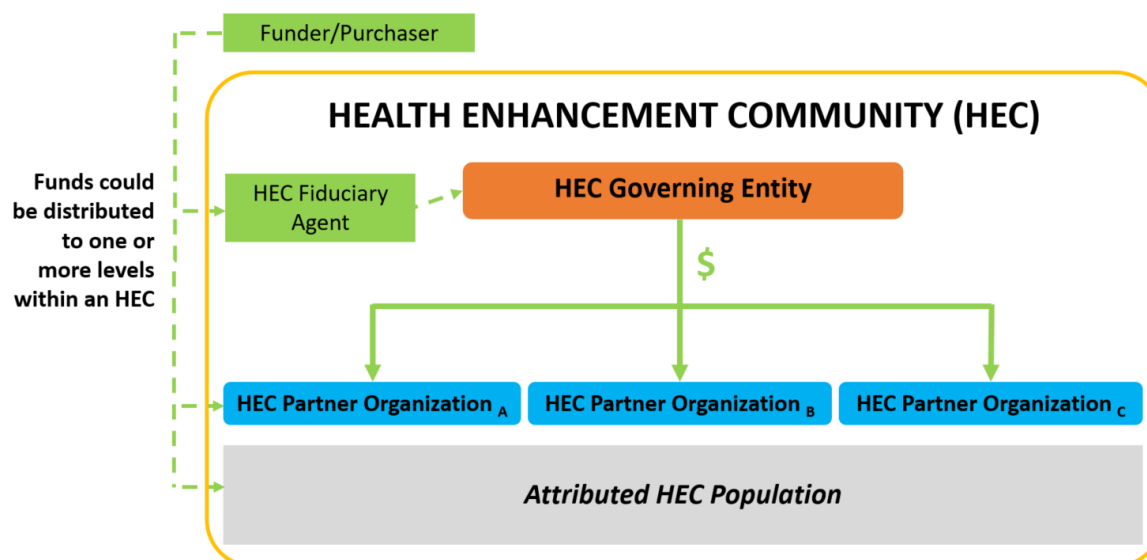
7.2.4.1. HEC Mechanism for Receiving Financing

Financing to support HEC activities, both near- and long-term, is envisioned to come from a variety of sources as described above. These sources, which may include philanthropic grants; state, federal, and local investment dollars; existing programmatic revenue streams; shared savings payments; and other new sources may be received by individual HEC participating organizations or they may be received by the HEC. This financing model is meant to be flexible in this regard, in part because different HEC funders may have different preferences and requirements regarding which HEC-related organization(s) receive particular revenue streams. The goal is not to create additional barriers or unnecessary bureaucratic requirements but to recognize there will be many funding pathways, all of which should be encouraged.

To the extent an HEC receives financing centrally (e.g., shared savings distributions), it will need to have the capacity to receive and manage the monies itself or it will need to rely on a fiduciary agent under contract with the HEC or the State Partnership to manage and disburse the funding on its behalf. There are a few options for a fiduciary agent that will be explored. HECs may elect to contract with their own fiduciary agent, either one of their members or a vendor. The State Partnership may select one or more central fiduciary agents through a procurement process and give HECs the option of using the services with the goal of reducing the administrative burden on HECs. The State Partnership may also explore a procurement process to select a preferred list of fiduciary agents that meet criteria. Regardless of the option(s) selected, to ensure program integrity, the Population Health Council recommends that the State Partnership will develop a detailed set of financial management requirements and capabilities that HECs or a designated fiduciary agent will need to meet including adherence to generally accepted

accounting rules, ability to receive and distribute funds, and reporting on revenues and expenses. See Figure 23 for an illustration of potential funding pathways.

Figure 23. Health Enhancement Community Funds Flow Illustration



7.2.4.2. HEC Financing Distribution

Once centralized funding is received by an HEC, an HEC will need a mechanism to determine how funding will be distributed, for what purpose, and to whom. These model design elements are often collectively referred to as aspects of “funds flow.” In considering how HECs will manage their funds flow processes, a likely suggestion is to look to how ACOs manage similar processes. However, ACO approaches to developing funds flow models among participating provider organizations (e.g. primary care practices, specialists, hospitals, etc.) may have limited application in an HEC environment. This section explores those applications.

ACOs receive shared savings payments from payers based on their ability to achieve quality benchmarks and savings relative to total cost of care benchmarks. Once shared savings are received from a payer, ACOs typically have some degree of flexibility in the distribution of funds internally among ACO participating provider organizations. Funds are often distributed to participating provider organizations based on a formula determined by an ACO’s governance body. Funds flow formulas are calculated by a series of weights and calculations that are tied to an ACO’s shared savings payments and each provider organization’s contribution toward meeting overall quality and cost metrics. These quality and cost metrics are usually related to the ACO’s overall performance measures under contract with a payer. To the extent ACOs receive shared savings distributions from payers, it is often true that a portion of the shared savings revenue is used to fund investments in infrastructure, care coordination programs, or key system partners that are deemed strategically important to the overall success of the ACO.

Several features of ACO funds flow models have applicability in an HEC context. Firstly, ACO funds flow models are typically embedded in the organization’s overall governance structure; decisions about funds flow weights and calculations are typically decided before financing is received, often through an annual process involving one or more governance committees. Similarly, HECs will need to prospectively agree

upon such internal distribution formulas within any constraints imposed by funders and purchasers. Secondly, some portion of ACO funding is used to re-invest in the infrastructure and operations of the organization itself. In an HEC context, this could be critical to sustaining HEC operations and will likely need to be a “first draw” on any funds received.

Unlike ACOs, however, many HEC partner organizations will not receive “base” revenue for providing health care services because they are not health care providers. This characteristic of HECs will make it difficult, if not impossible, to use such a revenue stream as a basis for determining each partner organization’s relative share of the overall shared savings distribution. However, this may be an advantage of the HEC model because it will require discontinuing use of revenue and volume metrics to think more creatively about how to determine the proportionate economic value each partner organization contributes toward the overall success of an HEC in meeting prevention benchmarks and the improved health of the community.

Rather than create a set of detailed rules governing internal HEC funds flow, the Population Health Council recommends that HECs have formal governance processes in place to develop and manage the internal flow of funds *before* major sources of funding are received. Indeed, HECs having to decide on the process for funds flow is one of the primary reasons for requiring HECs to have formal partnership agreements and bylaws. In recognition that HECs may need further guidance however, the State will collaborate with HECs, consumer groups, and other stakeholders (e.g., private and public-sector employers, municipalities, and state agencies) to provide a set of guidelines, about how HEC funds could be distributed internally. For example, a minimum threshold for investment of funds into HEC infrastructure and operations may be a suggested guideline. Moreover, guidelines for the balanced distribution of funds between community-based organizations and more traditional health care providers may be developed. The guidelines will need to be sensitive to any constraints or requirements set by funders and purchasers. For example, purchasers may insist upon certain terms and conditions regarding funds flow that may vary.

The State will require annual public reporting on HEC internal funds flow to ensure HECs remain accountable to their communities.

7.3. Savings and Benefits

An important aspect of the HEC design process is to identify and forecast the potential economic savings and benefits that will accrue as a result of HEC efforts to improve child well-being pre-birth to age 8 years and healthy weight and physical fitness among all residents. Because these initiatives have the potential to cross multiple payers and sectors, a multi-pronged approach is necessary to identify savings and benefits among likely partners.

Medicare has strong potential to be a long-term HEC financing partner. Connecticut spends more per person than almost all other states. Connecticut ranked fifth in Medicare per capita spending in 2014—behind only New Jersey, Florida, New York, and Maryland.¹⁷³ Therefore, it is an area of significant focus

¹⁷³ Kaiser Family Foundation, 2014. <https://www.kff.org/medicare/state-indicator/per-enrollee-spending-by-residence/?currentTimeframe=0&sortModel=%7B%22colId%22:%22Per%20Enrollee%20Medicare%20Spending%20by%20Residence%22,%22sort%22:%22desc%22%7D> . Date accessed 8/15/18.

in this section. The “Medicare Impact Model,” described below, attempts to estimate these savings for Medicare.

Besides cost savings to the Medicare program, prevention efforts can yield savings and economic benefits to other health care payers and employers. This section also describes some of the work underway to leverage the Medicare Impact Model to develop and refine analyses applicable to other purchasers in order to produce a complete, statewide view of the potential economic value of health improved.

7.3.1. Medicare

Using publicly available data, a 10-year “Medicare Impact Model” was created to estimate baseline per capita costs for the Connecticut Medicare population (without HEC interventions) and estimate the potential health care savings that could be achieved due to HEC interventions. The model attempts to estimate, at a high-level, baseline Connecticut Medicare spending projections from 2021 to 2030 with and without HEC interventions focused around increasing healthy weight and physical fitness, an important health priority among the Medicare population which can affect a number of chronic co-morbid conditions, beneficiaries’ overall quality of life, and utilization of health care services. The following section describes the data sources, methodology, key assumptions, and outputs of the analysis.

7.3.1.1. Data Sources

The Medicare Impact Model relies upon publicly available data from a variety of sources, including:

- **Medicare Geographic Variation Public Use File:** The Medicare Geographic Variation Public Use File, an online source of data tables that enables researchers and policymakers to evaluate variation in the utilization and quality of health care services for the Medicare Part A and Part B fee-for-service population by geographic area. The file includes 10 years of data (CY2007–CY2016) and includes demographic, spending, utilization, and quality indicators at the state, hospital referral region, and county levels. The Medicare Geographic Variation Public Use File also contains population-level average HCC risk scores. HCCs summarize each beneficiary’s expected cost of care relative to other beneficiaries. An average HCC score for a population summarizes the expected cost of care for the population relative to the nationwide average expected expenditure. This data file was used as the primary data source for historical Medicare enrollment, Medicare FFS per capita costs, and HCC risk scores.
- **CMS Medicare Advantage/Part C Contract and Enrollment Data Database:** Data for Medicare Advantage payment rates, HCC risk scores (2007-2015) and Medicare Advantage state/county enrollment (2008-2018) by plan type were aggregated from this online database, which serves as a central repository for publicly available data on contracts and plans, monthly enrollment numbers, service area data, and contract information for Medicare Advantage. Using information from the database, average Medicare Advantage payments and HCC risk scores by county and year were calculated. Medicare Advantage penetration rates for 2017 and 2018 were also developed from this data.
- **Medicare Trustees Report (2018):** The Medicare Trustees Report is a comprehensive document prepared by CMS Office of the Actuary containing information on the past and estimated future financial operations of the Hospital Insurance and Supplementary Medical Insurance Trust

Funds, including Medicare Part D (pharmacy) per person costs estimates and long-term trend projections. These long-term trend projections informed the Connecticut-specific Medicare expenditure trends used in the model.

- **Chronic Conditions Warehouse:** The Chronic Conditions Warehouse (CCW) from CMS includes Medicare data on prevalence rates, utilization, and spending for the Medicare FFS population by state/county for 19 chronic conditions (2007-2015). Conditions include Alzheimer's Disease and Related Dementia, Heart Failure, Arthritis (Osteoarthritis and Rheumatoid), Hepatitis (Chronic Viral B & C), Asthma, HIV/AIDS, Atrial Fibrillation, Hyperlipidemia (High Cholesterol), Autism Spectrum Disorders, Hypertension (High Blood Pressure), Cancer (Breast, Colorectal, Lung, and Prostate), Ischemic Heart Disease, Chronic Kidney Disease, Osteoporosis, Chronic Obstructive Pulmonary Disease, Schizophrenia and Other Psychotic Disorders, Depression, Stroke, and Diabetes. This data source was used to develop savings estimates associated with conditions related to obesity.
- **National Health Expenditure Data Projections (2018):** This data from CMS Office of the Actuary includes historical spending in each state by type of good or service delivered (hospital care, physician and clinical services, retail prescription drugs, etc.), source of funding for those services (private health insurance, Medicare, Medicaid, out-of-pocket spending, etc.) and by sponsor (businesses, households, and governments). Projections are based on the National Health Expenditures and are estimates of spending for health care in the U.S. over the next decade. These long-term trend projections informed the Connecticut-specific Medicare expenditure trends used in the model.
- **Connecticut State-Level Census Population Projections:** Statistical projections prepared by the University of Connecticut, Connecticut State Data Center that provides population projections to assist state agencies to identify demographic trends and changes within Connecticut. These projections of the population are created by sex and five-year cohort from 2015 to 2040 based on birth and mortality data from the Connecticut Department of Public Health, migration data from the U.S. Census Bureau Population Estimates and American Community Survey (ACS), and population data from the U.S. Census Bureau Decennial Census. These projections were used to estimate the projected total Medicare population in Connecticut through 2030.
- **CDC Collection of Online Resources & Inventory Database (CORIDOR) Behavioral Risk Factor Surveillance System (BRFSS):** Connecticut prevalence data for obesity by age cohort relies upon BRFSS data compiled by the Connecticut Department of Public Health.

MEDICARE’S HIERARCHICAL CONDITION CATEGORY (HCC) SCORES

Medicare’s Hierarchical Condition Category (HCC) Scores capture how costly a person is anticipated to be relative to all other beneficiaries. A person’s demographics and diagnoses are used to determine a risk score. Risk scores can be “rolled up” from the person-level to a population-level. A higher risk score denotes a person or population that has more health conditions or service needs that will result in higher health care spending. Hierarchical Condition Category (HCC) Scores are recalibrated by CMS each year, such that the national HCC risk score equals 1.0. A risk score in Connecticut higher than 1.0 would indicate that Connecticut’s average morbidity is higher than the national average. A risk score lower than 1.0 would indicate that Connecticut’s average morbidity is lower than the national average.

7.3.1.2. *Methodology and Assumptions*

The Medicare Impact Model estimates the impact of HEC interventions through a multi-step approach. A first step involves projecting Connecticut’s baseline Medicare per capita spending (without any HEC interventions) from 2021 to 2030. Medicare per capita spending was projected to CY2030 based on historical Connecticut Medicare per capita trends, national Medicare per capita trends from the Medicare Trustees Report and National Health Expenditure projections. Historically, Connecticut Medicare per capita growth trends have been higher than the national average. The average annual per capita Medicare trend in Connecticut is estimated to be 5.1 percent without any HEC interventions.

Included within this first step is trending forward HCC risk scores for Connecticut’s Medicare population. In examining historic risk trends among the Medicare fee-for-service (Part A and Part B) and Medicare Advantage (Part C) populations, differential risk trends were observed suggesting migration of healthier beneficiaries from Medicare fee-for-service to Medicare Advantage over time. Specifically, the data show increasing HCC risk scores over time for the fee-for-service population compared to relatively flat HCC risk scores for the Medicare Advantage population. (Table 10). Moreover, the percentage of Connecticut’s Medicare beneficiaries enrolled in Medicare Advantage plans has steadily increased over time and now exceeds 30 percent. (Table 11). These trends suggest that the entire Medicare population, including beneficiaries enrolled in fee-for-service and Medicare Advantage plans, will likely need to be included in the HEC Initiative to guard against an otherwise serious confounding factor—specifically, if healthier Medicare beneficiaries are migrating to Medicare Advantage plans over time, the fee-for-service population will continue to become a relatively higher risk population. This phenomenon would make it a challenge to evaluate the success or failure of any HEC intervention focused solely on the Medicare fee-for-service population. Including the entire Medicare population in the HEC Initiative is also consistent with the goals and place-based design of the initiative more generally. HEC interventions will be broad-based and affect all Medicare beneficiaries. CMS, as the ultimate purchaser and owner of the health risk for both the fee-for-service and Medicare Advantage populations, will yield savings for both populations.

Table 10. Connecticut Average Medicare Fee-for-Service and Medicare Advantage HCC Risk Scores by Year

Medicare Population	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Fee-for-Service	1.01	1.02	1.03	1.03	1.04	1.03	1.04	1.05	1.05	1.06
Medicare Advantage	0.98	1.01	1.03	0.92	0.92	0.92	0.96	0.95	1.01	0.97
All Medicare	1.01	1.02	1.03	1.01	1.01	1.00	1.02	1.02	1.04	1.03

Table 11. Percent of Connecticut Medicare Beneficiaries Enrolled in Medicare Advantage by Year

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Medicare Advantage Penetration Rate	12.4%	16.5%	19.2%	20.7%	22.1%	24.8%	26.5%	27.5%	29.1%	30.2%

As indicated in Table 10, Connecticut's HCC risk score for the entire Medicare population (including both Part A and Part B fee-for-service beneficiaries and Medicare Advantage beneficiaries) increased from 1.01 to 1.03 from 2007 to 2016. If Connecticut's historic trend in HCC risk scores continues its upward trajectory relative to the national average of 1.00 (a fixed point that is annually reset), it suggests an HCC risk score equal to or close to 1.06 by approximately 2030.

With these baseline trend numbers, the second step of the model involves estimating the potential impact to Medicare expenditures should the HEC program be implemented (with HEC interventions). For Medicare, this included an examination of the current and projected prevalence rates of obesity in Connecticut's Medicare population and estimating how reductions in the projected rate of obesity could lead to overall Medicare health care expenditure savings.

7.3.1.3. Outputs

Three scenarios were tested to assess the range of the potential impact to Medicare expenditures should the HEC program be implemented and successfully reduce the rate of increase in obesity and related disease conditions in the Medicare population. The Medicare Impact Model tests potential changes in the HCC risk score and costs due to reductions in the prevalence rate of obesity and related disease conditions that could be directly attributable to HECs.

Using trend data provided by the Connecticut Department of Public Health, the rate of obesity among the Medicare population in 2030 is estimated to be 36.7 percent, an increase of 11.8 percentage points over 2016 data, which show the rate of obesity at 24.9 percent. The three scenarios tested the impact of limiting the growth of obesity prevalence in the Medicare population at the following levels in 2030:

- **Scenario 1:** 31.2 percent
- **Scenario 2:** 27.5 percent
- **Scenario 3:** 23.9 percent (one percentage point less than the 2016 prevalence rate)

Table 12. Summary of Medicare Impact Model Savings Scenarios ¹⁷⁴

Metric	2016	2030			
		Baseline	HEC Intervention Scenarios		
		(Without HEC interventions)	Scenario 1 Lower Savings	Scenario 2 Medium Savings	Scenario 3 Higher Savings
Obesity Prevalence (Age 65+)	24.9%	36.7%	31.2%	27.5%	23.9%
<i>Percentage Point Change from 2016</i>	N/A	11.8	6.3	2.6	-1.0
<i>Percentage Change from 2016</i>	N/A	47.4%	25.3%	10.6%	-4.0%
Total CT Medicare Risk Score (Fee for Service and Medicare Advantage populations)	1.03	1.06	1.04	1.02	1.01
Average Annual Per Capita Costs	\$10,917	\$20,815	\$20,406	\$20,135	\$19,864
Average Annual Per Capita 10-yr Trend	N/A	5.1%	4.9%	4.8%	4.6%
Cumulative Savings (2021-2030) \$ (billions)	N/A	N/A	\$1.38 B	\$2.33 B	\$3.29 B
Cumulative Savings (2021-2030) %	N/A	N/A	1.1%	1.9%	2.7%

Note that the model assumes the HEC program starts January 1, 2021, is implemented statewide, and includes all full Medicare beneficiaries enrolled in either Medicare Advantage or fee-for-service. Medicare Part D is assumed to be excluded from any Medicare Shared Prevention Savings program, consistent with other Medicare Shared Savings Programs. However, the HEC program could similarly reduce costs to Medicare Part D if the model is successful in reducing the prevalence rate of obesity and related disease conditions.

¹⁷⁴ Estimates subject to change based on further actuarial analysis and review.

7.3.1.4. *Data Limitations*

The Medicare Geographic Variation Public Use File is summary level data and is not provided at the beneficiary level. This constrains the ability to stratify the data into more granular views of narrowly-defined population segments, including by age group and localized geography, such as by town or ZIP code.

Another limitation of the Medicare Public Use File is that it only includes Medicare Parts A and B data and does not include Medicare Advantage (coverage via a private health plan) and Medicare Part D¹⁷⁵ (pharmacy). The Medicare Impact Model estimated these spending categories using extrapolated data from national and state sources.

In addition, baseline projections assume the Medicare program continues under current law. Projections of long-term health care costs are highly uncertain. Technological advances, new treatments and/or efficiencies could serve to either increase or decrease future costs. As new data and information is available, projection assumptions will need to be updated. As HECs evolve, modeling assumptions will need to be updated. Actual results are likely to be different than expected.

7.3.2. *Medicaid*

In addition to the Medicare Impact Model, the Population Health Council recommends conducting a similar analysis using Medicaid claims and enrollment information. Of particular interest to Connecticut's Medicaid program will be modeling the potential impacts of both HEC health priorities—improving child well-being pre-birth to age 8 years and improving healthy weight and physical fitness among all residents. Since both priorities are relevant to Medicaid populations, impact modeling for Medicaid could be further stratified by age group and category of eligibility, to reflect the diversity of characteristics and costs of the Medicaid population. The Medicaid model would also need to consider the migration patterns into and out of Medicaid.

7.3.3. *Employers*

Like Medicare and Medicaid, employers are a significant purchaser of health care insurance in Connecticut. According to the Kaiser Family Foundation, approximately 54 percent (1.9 million) of Connecticut's residents received health insurance coverage through employer-sponsored insurance in 2016. For Connecticut state employees, OSC will begin examining employee health risk and cost data to consider a complementary shared savings model with HECs. Such a tool for analyzing employee health risk will be useful for engaging other Connecticut employers regarding their covered populations. However, for many employers, long-term shared savings arrangements with HECs may not be a practical pathway due to relatively small covered populations and the geographic distribution of employees.

Nevertheless, there may be opportunities to develop strategies with commercially insured and self-funded employers to use direct to ACO incentives that reward long-term improvements in employee health. There may also be opportunities to use VBID techniques to engage employees in long-term behavioral and lifestyle changes to support healthy weight and physical fitness (e.g., purchasing of

¹⁷⁵ Original Medicare includes Medicare Part A (hospital insurance) and Medicare Part B (medical insurance). Medicare Part A covers Medicare inpatient care, including care received while in a hospital, a skilled nursing facility (for a limited time period), and, in limited circumstances, at home. Medicare Part C is also known as Medicare Advantage and refers to private health plans that offer Parts A and B coverage. Medicare Part D covers prescription drugs.

healthy food, improving exercise habits) and adopt policies that support child well-being (e.g., work-family supports for low-income families). Employers that have a significant and enduring physical presence in communities or regions will also be encouraged to implement “anchor institution” strategies such as the examples indicated in Section 3.3.5.4. These approaches may be more amenable to employers than a place-based HEC strategy and would likely occur in later phases of HEC program design and development.

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8. STATE AND FEDERAL ENABLING ACTIONS

8.1. Role of State in Administering the HEC Initiative

State government has a critical role in promoting health improvement, health care system transformation, and empowering local cross-sector governance and collaboration through the HEC Initiative. Using Connecticut's Behavioral Health Partnership as a model, the Population Health Council recommends establishing a multi-agency partnership, the State Partnership for Health Enhancement (State Partnership), to oversee and administer the HEC Initiative. The State Partnership would comprise multiple State agencies that have purviews that include child well-being and healthy weight and physical fitness. As with the Behavioral Health Partnership, agencies would support HECs in multiple ways. This includes pursuing legislative and regulatory changes that will support HECs and enable the HEC Initiative, enabling the provision of a centralized resource for technical assistance and other types of support as HECs form and implement interventions, and establishing an HEC Advisory Committee that would advise on the implementation and performance of the HEC Initiative. The agency participants, structure, and specific roles would have to be defined and Memoranda of Understanding executed to establish the State Partnership. However, the Behavioral Health Partnership provides a useful model for establishing a state structure that leverages existing agencies and minimizes the need for resources to support a new structure. Over time, whether as part of the State Partnership or as a critical partner, a variety of state agencies will likely be engaged partners in the HEC effort, including:

- Office of Health Strategy
- Department of Public Health
- Department of Social Services
- Department of Children and Families
- Department of Mental Health and Addiction Services
- Office of Early Childhood
- Connecticut Insurance Department
- Office of the State Comptroller
- Department of Education
- Department of Housing
- Department of Corrections
- Department of Developmental Services
- Department of Rehabilitation Services, State Unit on Aging

8.2. Statewide Support

8.2.1. Technical Assistance for HECs

The Population Health Council recommends that the State Partnership provide and/or contract for centralized technical assistance infrastructure support for HECs' planning and implementation and to foster cross-HEC learning. The recommended technical assistance includes training, targeted resources,

templates and other tools, coaching, access to experts with on-the-ground experience, and a facilitated learning community among HECs. Examples of support are:

- *A Building Your HEC Governance Structure Package* with sample formal partnership agreements, bylaws, contracts, backbone organization scopes, and job descriptions for key HEC personnel
- Near-term financing technical assistance, tools, and coaching for HECs to assess their needs
- Assistance with identifying, prioritizing, and pursuing near-term and upfront financing, including grant writing and other fundraising
- Assistance with developing financial plans and pro formas for the HEC, including exploring start-up and ongoing costs and capacity needs as well as evaluating existing resources and assessing revenue opportunities
- HEC change packages with high-level “change concepts,” driver diagram, and logic model templates, critical change tactics, and other information and tools
- Access to existing toolkit and change packages on select interventions such as home visitation programs
- Trainings from experts on key topics such as effective and meaningful community engagement and involvement strategies, managing multi-sector collaboratives, and accessing and using data to understand and drive performance
- Sustainability planning guide and tools to support HEC-driven sustainability efforts
- Cultivating anchor institutions
- In-person and web-based trainings and interactive learning community group forums

8.2.1.1. *Statewide HEC Advisory Committee*

The Population Health Council recommends that the State Partnership establish an HEC Advisory Committee that will be responsible for advising the State Partnership and HECs on the implementation and performance of the HEC Initiative. The committee will comprise representatives from each HEC and key stakeholders. Examples of roles for the committee include:

- Reviewing progress and performance of the HEC Initiative and recommending strategies to accelerate progress and improve performance
- Reviewing and providing input on funding and financing strategies
- Identifying and recommending state-level and local policies to support HECs generally and health equity, child well-being, and health weight/physical fitness aims specifically
- Recommending technical assistance and other support for HECs

8.3. State-Level Statutory and Regulatory Levers

To ensure workable and successful implementation of the HEC Initiative, the Population Health Council recommends the creation of new legal and regulatory authorities that enable HECs and the financial, operational, and administrative structures that will support them. There are a variety of potential

regulatory and legislative changes that could be necessary or advisable to implement the HEC Initiative. At a high level, the following potential policy, legal, and operational needs must be considered:

- Modify VBP and VBID initiatives to align incentives with HEC and other state goals
- Assure an appropriate and adequate workforce for HECs
- Design and support the necessary health information technology (HIT) infrastructure to guide and inform HEC programmatic activities and state monitoring and reporting
- Enable appropriate governance and administrative structures for emerging HEC models

8.3.1. Modifying Existing VBP Initiatives

Certain modifications to existing VBP arrangements in Connecticut would help align health care payments from commercial payers, Medicaid, and Medicare with HEC activities.

A crucial element of the State's broader delivery system reform goals is the Primary Care Modernization (PCM) initiative, which would define primary care practice capabilities that enable more flexible and efficient care delivery and create payment model options to support the reform. The PCM initiative and associated reforms will be implemented on a multi-payer basis and will have a significant impact among providers participating in ACOs. As noted in Section 7, Connecticut will explore how to encourage existing organizations in the health care system, such as ACOs, employers, commercial health plans, and health care providers, to have formalized relationships with HECs.

Other alignment opportunities include increasing the use of VBID and direct-to-employee incentives (provided outside of the insurance benefit) described in Section 7.1.2. The models can place a greater emphasis on prevention-oriented activities and services to reward healthy behavior.

8.3.2. Workforce

HECs will design and implement a range of interventions, many of which may rely on Community Health Workers (CHWs). CHWs are currently working in Connecticut. Although community colleges offer education and training, there is currently no formal process for State certification. OHS issued a draft report of the SIM CHW Advisory Committee in July 2018 that included a series of recommendations for creating a statewide CHW certification program. The report urges the adoption of legislation to implement the CHW Advisory Committee's recommendations, which would support the HEC Initiative as well.

8.3.3. HIT and Privacy

The data and HIT infrastructure needs of the HEC Initiative are addressed in Section 6 of this report. Under a complementary SIM initiative, OHS is in the process of developing a Core Data Analytics Solution (CDAS) through the University of Connecticut (UConn) and its Analytics and Information Management Solutions (AIMS) group. Generally, the HEC Initiative will take a population-level approach, and the data that will need to be shared with HECs and across HECs will be population-level data, not individually identifiable data. While it is possible that, as the HECs and their interventions and relationships with payers evolve, there will be a need for exchange of more heavily protected confidential data, the current plan for data exchange and HIT will not require HECs to exchange personal health information and therefore will not require changes to current regulatory and statutory schemes governing data exchange and privacy.

8.3.4. Governance and Administration

The Initiative will create new entities, HECs, at the local level. The Population Health Council also recommends the establishment of the State Partnership to administer the HEC Initiative. Therefore, the new legal entities and authorities recommended could potentially be enabled by statutory changes to empower relevant state and local agencies to structure and participate in the initiative. Such legislation might cover a range of topics including:

- Authority of the State Partnership member agencies to negotiate necessary agreements to enable the participation of Medicare and other payer or state agency purchasing partners
- Authority to define HECs and to select or arrange for a process to select HECs
- Authority to arrange financing for near-term and ongoing HEC investments
- Authority to direct revenue to HECs, including authority for the State Partnership to contract for services from fiduciary agents
- Authority to contract for other centralized HEC administrative or programmatic functions, such as technical assistance, training, and evaluation services
- Creation of an HEC Advisory Committee, including composition, charter, and authority of the committee

8.3.5. HEC Interventions

The statutory and regulatory levers addressed above emphasize changes that are necessary to enable HECs and their activities from an operational perspective. However, there are also key state-level legislative actions that would further support HECs in improving child well-being and healthy weight/physical fitness.

- **Child Well-Being:** Minnesota is an example of a state that passed legislation to expand children’s mental health grants to include training for parents and local non-profits on the impact of adverse childhood experiences and developed a website “to share information and strategies to promote resilience and prevent trauma.”¹⁷⁶
- **Healthy Weight and Physical Fitness:** Thirty-six states and Washington, D.C. have adopted a shared use policy that either requires or recommends cooperation between schools and communities to allow local residents to access schools' recreational facilities outside of school hours. Shared use agreements can help increase opportunities for physical activity in communities.¹⁷⁷

8.4. Federal Regulatory Levers

8.4.1. Multi-Payer Model Agreement

The purpose of SIM is to accelerate health care system transformation. To further this purpose, CMS has issued guidance to states about how to engage CMS in discussions about Medicare participation in

¹⁷⁶ Minnesota Statutes Section 245.4889. <https://www.revisor.mn.gov/statutes/cite/245.4889>. Date accessed 8/14/18.

¹⁷⁷ Shared Use of Facilities. (n.d.). *The State of Obesity*. <https://stateofobesity.org/state-policy/policies/shareduse/>. Date accessed 10/21/18.

state-driven transformation, including the process for SIM states to engage CMS in the co-development of multi-payer models and the criteria that CMS will use to judge whether to consider Medicare participation in a multi-payer model. An explicit goal of the HEC Initiative is to engage private and public purchasers, including Medicare.

The vehicle through which Medicare participation in the HEC Initiative and PCM would be authorized is likely to be a “Multi-Payer Model Agreement” with CMS. The Model Agreement would define the innovative reform effort the state is undertaking, authorize Medicare’s participation in that effort, and sets the terms and conditions of that participation. In Connecticut, the reform effort addressed in such an agreement would include the HEC Initiative and PCM, which together constitute Connecticut’s broader payment and delivery reform model.

In guidance updated in October 2017, CMS re-asserted and expanded upon principles in previously established guidance for multi-payer models and Medicare participation.¹⁷⁸ The October 2017 guidance provided detail on the following six principles that CMS will use to assess state proposals for Medicare alignment with proposed multi-payer payment and service delivery models:

- Patient-centered
- Accountable for total cost of care
- Transformative
- Broad-based
- Feasible to implement
- Feasible to evaluate

To date, there are three such initiatives: Maryland’s All-Payer Model, which initially focused on hospital spending and is expanding in 2019 to include more comprehensive services and initiatives; Vermont’s All-Payer Model, which enables Medicare participation in an ACO Initiative; and Pennsylvania’s Rural Health Model, which sets global budgets for hospital services. Delaware, Washington, Iowa, and Colorado, all SIM states, are also considering a Medicare Multi-Payer Model Agreement as part of their SIM sustainability strategies.

Connecticut has engaged in exploratory conversations with CMS about Medicare’s participation in the HEC and PCM models. The working assumption, pending further development of the HEC financing model, is that such participation might involve Medicare support for start-up financing, ongoing financing, or both.

Based on CMS guidance and other Multi-Payer Model Agreements, such an agreement will outline necessary waivers needed to authorize Medicare participation and define certain other expectations. Those expectations are outlined below.

¹⁷⁸ Update to Guidance: Medicare Alignment in Multi-Payer Models under the State Innovation Models Initiative. (n.d.). *Centers for Medicare and Medicaid Services*. <https://innovation.cms.gov/Files/x/sim-medicare-mpmodelsguidance.pdf>. Date accessed 8/14/18.

8.4.1.1. *Financial Targets*

Multi-payer models have set explicit financial targets for all-payer spending growth, usually associated in some way with historic economic growth in a state. This is a fundamental component of a multi-payer reform, because it sets a goal to contain growth in overall health care spending to a set growth rate.

Multi-payer models have also set separate, explicit financial targets for Medicare spending growth. In a sense, these financial targets provide CMS with assurance that the operation of the initiative will save money or will not cause Medicare or overall spending to increase more than it otherwise would have in the absence of the initiative. There are certain important concepts with respect to financial targets that will need to be analyzed and discussed with CMS and with stakeholders in Connecticut.

First, a Model Agreement must define baseline Medicare spending growth. Maryland's original Model Agreement defined Medicare spending growth with reference to actual national Medicare growth rates in a given year. By contrast, Vermont's Model Agreement defines Medicare spending growth with reference to projected national Medicare growth (to provide the state with a "prospective" target).

MARYLAND'S ALL-PAYER MODEL AGREEMENT

CMMI is currently engaging in discussions with the state of Maryland to refine the expansion of the Maryland All-Payer Model beginning in 2019. One element of the expansion is particularly relevant to the HEC model. Maryland's original model, which focused primarily on hospital payments, was extended in 2017 and included a voluntary Care Redesign Model, which created incentives for hospitals to engage in projects with community partners to achieve defined goals. Going forward, CMMI and Maryland are discussing how to quantify actual Medicare savings from population health efforts, and how to ensure that savings can be leveraged to support those efforts.

Second, the Model Agreement must stipulate over what timeframe financial targets should be calculated. The HEC model is unique in its focus on mostly interventions that would yield longer-term savings. Maryland and Vermont's original agreements used a 5-year period, while Maryland's expanded model contemplates a 10-year agreement. The Pennsylvania initiative contains six performance years after an initial planning year. The timeframe of a Connecticut Model Agreement will be of central importance to accommodate the long-term health improvement goals of the HEC Initiative. A related issue concerns monitoring compliance with the financial targets: if interventions are expected to provide savings over a longer time frame, CMS and Connecticut must determine how to monitor whether the state is "on track" to achieve its targets during the operation of the model.

Third, the Model Agreement must describe what services will be included in calculating the financial target and whether those services need to be the same across payers. It will have to indicate if prescription drug spending as well as services that are covered differentially across payers, such as behavioral health and substance abuse services and long-term services and supports, are included.

It is important to note that financial targets (as instituted in other states) do not represent state financial liabilities. The states are not obligated to "pay back" Medicare if the spending reduction target

is not reached. Rather, the ultimate consequence of a failure to stay on track to meet a financial target is that the Model Agreement and Medicare’s participation in the initiative may end.

8.4.1.2. Quality Measures

A central element of any Model Agreement will involve performance measures that allow CMS and Connecticut to assess the initiative. It will be important to align performance measures in a Model Agreement with measures used to assess HEC performance. Given the goals of the HEC model, these measures may be population- and prevalence-focused. Because a Model Agreement would cover both the HEC and the State’s associated primary care payment reforms, the State or CMS may also wish to consider including certain more traditional health care delivery measures as well.

8.4.1.3. Scale Targets

Multi-payer models are intended to use the leverage of multiple payers acting in alignment to drive health system transformation. As a result, CMS will likely expect any Model Agreement to set targets for beneficiary/member participation in the initiative, such as the percentage of participating payers or the percentage of covered (or attributed) Connecticut residents.

9. HEC DESIGNATION

9.1. HEC Procurement Process

HECs will be designated through a state procurement process. The process will occur in three phases:

Phase 1 - Pre-Procurement: The State Partnership will prepare for the HEC procurement. If feasible, the Population Health Council recommends that during this period communities interested in becoming HECs begin to work with community members and stakeholders to develop initial plans for key HEC areas including their geographies, partners, governance structures, potential interventions (existing and new), and other key HEC implementation details in preparation for procurement.

Phase 2 - HEC Procurement and Pre-Implementation: The State will issue a Request for Applicants (RFA) to designate HECs. The prospective HECs will submit their proposals and engage in an iterative process with the State to conduct a readiness assessment; refine HEC proposals (including refining HEC geographies); finalize HEC designation; and assign or, in some cases, have HECs self-assign themselves to two implementation tracks based on the outcomes of the readiness assessment. The State will provide technical assistance, training, and access to Subject Matter Experts to assist applicants. This process will foster, from the beginning, collaboration between the State Partnership and HECs and among HECs. This will help ensure that designated HECs are ultimately structured to promote their success and sustainability.

Phase 3 - HEC Implementation: Selected HECs will begin implementation based on their track assignment. Having two implementation tracks recognizes that some existing community collaboratives will be ready to develop an HEC and, after initial planning and ramp-up periods, launch HEC activities. Other existing community collaboratives or new collaborations may need additional time and support to prepare to develop an HEC and initiate HEC activities. The two implementation tracks will help ensure that groups that are most ready can move ahead while others can continue to work on their readiness. The first track will complete ramp-up activities initiated in the HEC Procurement phase (such as establishing their governance structures; hiring and onboarding new staff; developing policies, procedures, and workflows; and developing and initiating a communication strategy about the HEC Initiative) and begin implementation. The second track will continue to receive technical assistance, training, and other support based on their readiness assessment and begin implementation six months after the first track.

9.2. Implementation Roadmap

The HEC Initiative will be implemented through a 10-year, multi-phased approach, estimated to begin January 1, 2019. The Population Health Council recommends the following phases.

9.2.1. Phase 1: Pre-Procurement (Months 0–6)

In this phase, the State Partnership will be established to oversee and support the HEC Initiative. If feasible, communities will begin to define their prospective HEC. Stakeholder and community engagement will initiate and continue through this phase as the HEC model is finalized. Groundwork will be laid for recommended statutory/regulatory changes to support the HEC model and goals. The State Partnership will work to establish the infrastructure needed to select and support HECs. The process to ultimately select the individual HECs will also be established, including the development of the HEC Request for Applicants (RFA), evaluation criteria and process, and award notification and contracting

process/terms. Communities interested in becoming HECs will work with community residents and stakeholders to prepare for the HEC RFA release in Phase 2.

9.2.2. Phase 2: HEC Procurement and Pre-Implementation (Months 7—24)

In this period, prospective HECs will apply and be designated as HECs. Building on the work in the pre-procurement process, selected HECs will undergo a brief ramp-up period to prepare for and ultimately implement interventions selected for and by their communities. The HEC financing model will be negotiated with potential funders and the HEC financing model will be finalized with the commitment of near-term financing. The State Partnership will establish and implement centralized HEC supports, including establishing the information technology infrastructure within CDAS, the statewide technical assistance model, and the development and initiation of the HEC Advisory Committee.

9.2.3. Phase 3: HEC Implementation (Months 25—120)

This phase will involve the full implementation of HECs across Connecticut and include the implementation of interventions in HECs' geographies. The State Partnership will implement ongoing monitoring and reporting of the HECs and adjustments to the model will be made to achieve and maximize outcomes. The State Partnership will also provide ongoing support to HECs through statewide strategies identified in Phase 1 and 2. HECs will report on progress annually, demonstrate results within this period, and any shared savings incentives/arrangements achieved will be distributed to HECs accordingly.

An implementation roadmap with specific goals, measurable milestones, and timeline is provided below.

9.2.4. Implementation Roadmap: Goals, Milestones, Timeline

Goal	Milestone	Timeline
PHASE 1: PRE-PROCUREMENT (Months 0-6)		
HEC Oversight and Support	Establish State Partnership for Health Enhancement (State Partnership)	Month 3
	Finalize MOU for State Partnership agencies	Month 6
	HEC Y1 workplan completed	Month 3
Financing Model Plan: Development and Implementation	Financing options selected and prioritized	Month 4
	Concept paper/proposal for funders developed	Month 5
	Concept paper/proposal for funders submitted/provided to potential funders	Month 6
HEC Design Details: Finalized	HEC design elements/guidelines are finalized with community member and stakeholder input	Month 5
	Detailed HEC model updated and finalized	Month 6

Goal	Milestone	Timeline
Statutory and Regulatory Changes (State level): Development	Statutory and regulatory levers identified	Month 6
HEC Selection: RFA Planning	HEC pre-planning process initiated for interested communities with community members and other stakeholders	Month 3-6
	Selection criteria and iterative selection process established	Month 4
	Contracting requirements and process established	Month 5
	HEC Request for Applicants (RFA) created	Month 6
PHASE 2: HEC PROCUREMENT AND PRE-IMPLEMENTATION (Months 7—24)		
HEC Selection: Iterative Selection Process	RFA released	Month 7
	Final HEC geographic boundaries identified	Month 10
	HECs selected for Tracks 1 and 2 and notified	Month 12
	Ramp-up TA provided to HECs	Months 12-24
Financing Model: Development & Finalization	Terms negotiated	Month 12
	Terms finalized	Month 14
	Agreements drafted and finalized	Month 18
Statewide Intervention: Design	Statewide interventions (e.g., legislation, regulatory changes, social media campaigns) designed	Month 12
IT Infrastructure: Established	CDAS reporting mechanisms for HECs developed	Month 12
	Training for HECs on data measurement collection, reporting, and use of CDAS developed	Month 12
HEC Oversight and Support	Statewide centralized HEC supports designed	Month 12
	HEC Y2-5 workplan completed	Month 12
	HEC Advisory Committee established	Month 15
	HEC Advisory Committee convened	Month 15 - Ongoing

Goal	Milestone	Timeline
	Statewide centralized HEC supports implemented	Month 18- Ongoing
	Statewide interventions (e.g., social media, legislative/regulatory changes) implemented	Month 18 – ongoing
HEC Implementation: Initiation	HEC Track 1 ramp-up period completed and Track 1 launched	Month 18
	HEC Track 2 ramp-up period completed and Track 2 launched	Month 24
HEC Interventions	Interventions implemented	Month 18 - Ongoing
Statutory and Regulatory Changes (State-level): Legislation Development	Legislation drafted, reviewed and finalized	Month 16
	Legislation filed	Month 18
	Legislation enacted	Month 24
PHASE 3: HEC IMPLEMENTATION (Months 25—120)		
HEC Oversight and Support	HEC Demonstration Y1 progress and outcome report submitted by HECs	Year 3, Month 3
	HEC Y2 annual report completed by State	Year 3, Month 6
	HEC Demonstration Y2 progress and outcome report submitted by HECs	Year 4, Month 3
	HEC Y3 annual report completed by State	Year 4, Month 6
	HEC Demonstration Y3 progress and outcome report by HECs	Year 5, Month 3
	HEC Y4 annual report completed by State	Year 5, Month 6
	3-year analysis of HEC impact completed by State	Year 5, Month 6
	HEC Y6-10 workplan completed by State	Year 5, Month 9
	HEC Demonstration Y4 progress and outcome report submitted by HECs	Year 6, Month 3
	HEC Y5 annual report completed by State	Year 6, Month 6
	HEC Demonstration Y5 progress and outcome report submitted by HECs	Year 7, Month 3

Goal	Milestone	Timeline
	HEC Y6 annual report completed by State	Year 7, Month 6
	HEC Demonstration Y6 progress and outcome report submitted by HECs	Year 8, Month 3
	HEC Y7 annual report completed by State	Year 8, Month 6
	6-year analysis of HEC impact completed by State	Year 8, Month 6
	HEC Demonstration Y7 progress and outcome report submitted by HECs	Year 9, Month 3
	HEC Y8 annual report completed by State	Year 9, Month 6
	HEC Demonstration Y8 progress and outcome report submitted by HECs	Year 10, Month 3
	HEC Y9 annual report completed by State	Year 10, Month 6

10. APPENDICES

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APPENDIX 1. PROVISIONAL MEASURES LIST

The table below includes the provisional measures under the two priority areas: child well-being and healthy weight and physical fitness. Measures were chosen based on evidence connecting them with the two priority areas. As baseline data is collected, sub-categories of measures will be added to address observed health disparities. In addition, health equity/inequity measures will be incorporated into the provisional measures list based on the results of a concurrent project under the Health Information Technology Program Management Office. The purpose of that project is to identify health equity data and collect and pilot those key data elements within a data and analytics solution. Additionally, provisional measures may include relevant Medicaid HEDIS measures to ensure alignment with primary care.

Domain	Provisional Measure	Numerator Description	Denominator Description	Source
Child Well-Being				
Primary Composite Measure	Substantiated child abuse/neglect cases per 1,000 children ages birth to 5	Total number of children with at least one substantiated allegation of abuse or neglect	Total children divided by 1,000	Connecticut Department of Children and Families
	Rate of chronic absenteeism	Number of students chronically absent per school year	Total students enrolled	Connecticut State Department of Education EdSight
	Performance level on all six domains of the Kindergarten Entrance Inventory	Number of students scoring a one or two across the six domains of the entrance inventory including literacy skills, numeracy skills, physical/motor skills, creative/aesthetic skills, and personal/social skills.	Total Kindergarteners	Connecticut State Department of Education EdSight
Secondary Measures Related to Children	Children in Placement per 1,000 Children	Total number of children in placement with the Department of Children and Families	Total children divided by 1,000	Connecticut Department of Children and Families
	Children referred to Juvenile Court per 1,000 children	Total number of children referred to Juvenile Court	Total children divided by 1,000	State of Connecticut Judicial Branch, Case Management Information System
	Rate of school suspensions	Number of students suspended per school year	Total students enrolled	Connecticut State Department of Education EdSight
	Rate of non-graduates no longer enrolled in a four-year graduation cohort	Number of students in a four-year graduation cohort that did not graduate and are no longer enrolled in the school	Total students in four-year graduation cohort	Connecticut State Department of Education EdSight

Domain	Provisional Measure	Numerator Description	Denominator Description	Source
	Rate of children who moved schools in the past two years	Number of students who moved schools in the past two years	Total students enrolled divided by 1,000	Connecticut State Department of Education EdSight
	Hospital emergency department visits for children with injuries per 1,000 children	Number of child hospital emergency department visits due to a primary external injury code for any injury, any intent	Total children divided by 1,000	Hospital Emergency Department Data
	Hospital emergency department visits for children related to substance abuse per 1,000 children	Number of child hospital emergency department visits due to substance abuse	Total children divided by 1,000	Hospital Emergency Department Data
	Hospital emergency department visits for children related to mental health issues per 1,000 children	Number of child hospital emergency department visits due to mental health issues	Total children divided by 1,000	Hospital Emergency Department Data
	Hospital inpatient admissions for children related to substance abuse per 1,000 children	Number of child hospital inpatient admissions due to substance abuse	Total children divided by 1,000	Hospital Admissions Data
	Hospital inpatient admissions for children related to mental health issues per 1,000 children	Number of child hospital inpatient admissions due to mental health issues	Total children divided by 1,000	Hospital Admissions Data
	Disruptive behavior disorder prevalence	Children diagnosed with disruptive behavior disorders	Total children	Electronic Health Records
	<i>Composite measure:</i> Children screened for elevated blood lead levels under 6 years of age and children testing positive for elevated blood lead levels	Number of children screened for elevated blood lead levels under 6 years of age	Number of children under 6 years of age	Connecticut Department of Public Health, Lead Poisoning Prevention and Control Program
		Number of children testing positive for elevated blood lead levels	Number of children tested for elevated blood lead levels	
Secondary Measures	Births to parents who have not completed high school	Number of babies born to parents who have not completed high school	Total births	Connecticut Department of Public Health, Vital records

Domain	Provisional Measure	Numerator Description	Denominator Description	Source
Related to Parents Child Well-Being	Births to a mother who smoked during pregnancy	Number of babies born to a mother who smoked during pregnancy	Total births	Connecticut Department of Public Health, Vital records
	Child Low Birthweight	Number of babies born with weight below 2,500 grams	Total births	Connecticut Department of Public Health, Vital records
	Teen birth rate	Number of teenage women ages 15-19 given birth	Total women ages 15-19	Connecticut Department of Public Health, Vital records
	Incarcerated caregiver per 1,000 children	Number of incarcerated caregivers	Total children divided by 1,000	Connecticut Department of Corrections
	Percent of mothers screened for maternal depression	Number of mothers receiving screening for maternal depression	Total mothers	Electronic Health Records
Future Secondary Measure	Kindergarten students with no early intervention	Number of Kindergarten students without having accessed an early intervention prior to starting school	Number of Kindergarten students	Integrated Data Set from Early Intervention Implementing Organizations
Healthy Weight and Physical Fitness				
Primary Measures	Adult obesity prevalence	Number of adults 18 or older who are obese. Obesity is defined as having a body mass index (BMI) of 30.0 or greater.	Number of people age 18 or older.	Electronic Health Records; tracked in alignment with existing weight- and nutrition-related measures (e.g., HEDIS)
	Child obesity prevalence	Number of children who are obese. Obesity is defined as falling into the weight category greater than or equal to the 95th percentile.	Number of children under 18	Electronic Health Records; tracked in alignment with existing weight- and nutrition-related measures (e.g., HEDIS)
Secondary Measures	Students reaching health standard on Connecticut Physical Fitness Assessment – grade 4	Number of children in grade 4 assessed reaching the health standard on the Connecticut Physical Fitness Assessment	Number of children assessed in grade 4	Connecticut State Department of Education EdSight

Domain	Provisional Measure	Numerator Description	Denominator Description	Source
	Students reaching health standard on Connecticut Physical Fitness Assessment – grade 6	Number of children in grade 6 assessed reaching the health standard on the Connecticut Physical Fitness Assessment	Number of children assessed in grade 6	Connecticut State Department of Education EdSight
	Students reaching health standard on Connecticut Physical Fitness Assessment – grade 8	Number of children in grade 8 assessed reaching the health standard on the Connecticut Physical Fitness Assessment	Number of children assessed in grade 8	Connecticut State Department of Education EdSight
	Students reaching health standard on Connecticut Physical Fitness Assessment – grade 10	Number of children in grade 10 assessed reaching the health standard on the Connecticut Physical Fitness Assessment	Number of children assessed in grade 10	Connecticut State Department of Education EdSight
	Adult hypertension prevalence <ul style="list-style-type: none"> • Age-adjusted • Non-age-adjusted 	Number of adults 18 and older diagnosed with hypertension.	Number of people age 18 or older.	Electronic Health Records
	Adult diabetes prevalence <ul style="list-style-type: none"> • Age-adjusted • Non-age-adjusted 	Number of adults 18 and older diagnosed with diabetes.	Number of people age 18 or older.	Electronic Health Records
	Congestive heart failure prevalence	Number of adults 18 and older diagnosed with congestive heart failure.	Number of people age 18 or older.	Electronic Health Records
	Coronary heart disease prevalence	Number of adults 18 and older diagnosed with coronary heart disease	Number of people age 18 or older.	Electronic Health Records
	Stroke prevalence	Number of adults 18 and older diagnosed with stroke	Number of people age 18 or older.	Electronic Health Records
	Chronic kidney disease prevalence	Number of adults 18 and older diagnosed with chronic kidney disease	Number of people age 18 or older.	Electronic Health Records
	Rheumatoid Arthritis/Osteoarthritis prevalence	Number of adults 18 and older diagnosed with rheumatoid arthritis or osteoarthritis	Number of people age 18 or older.	Electronic Health Records

Domain	Provisional Measure	Numerator Description	Denominator Description	Source
<i>Future Secondary Measure</i>	<i>Activity levels</i>	<i>Potentially: Number of steps walked by adults</i>	<i>Total adult population</i>	<i>Fitness Tracker</i>

APPENDIX 2. PLANNING PROCESS APPROACH AND STAKEHOLDER ENGAGEMENT

Note: This appendix reflects stakeholder engagement conducted and planned as of the release of this draft to the Population Health Council (10/22/18) and will be updated in future versions.

The Health Enhancement Community design and planning process is informed and driven by community input from a diverse set of multi-sector stakeholders across Connecticut. The community and stakeholder engagement principles deployed throughout the planning process included:

- Bi-directional communication and feedback with stakeholders where HEC components and recommendations were continuously vetted and adjusted
- In-person meetings, follow-up meetings, webinars, emails, and public posting of information
- Input from a broad array of stakeholders—including but not limited to community members, existing collaboratives, health care providers, employers, community organizations, local government representatives, and others—as active participants and co-creators of the ultimate HEC approach
- An emphasis on obtaining input from community members whose lived experience within communities must be a key factor shaping what HECs are and do
- An emphasis on health equity and garnering input from those who represent or serve populations with health disparities
- Broad dissemination of HEC concepts using clear, consumer-friendly messaging
- Review and consideration of prior input and recommendations available from other related advisory groups, and relevant reports and resources

The HEC strategy is an initiative of the Connecticut State Innovation Model (SIM), which is jointly implemented by the newly established Office of Health Strategy (OHS) and the Department of Public Health (DPH). Connecticut received SIM funding from the Center for Medicare and Medicaid Innovation (CMMI) in 2014. This phase of the SIM HEC planning process initiated in February 2018, and consulting firm Health Management Associates was hired to work with the SIM Program Management Office and the SIM Population Health Council to develop an innovative, actionable strategy to support and enable HECs.

A critical element of the planning process has been to build a strong foundation that enables the HEC strategy to be successful. To do this, it was essential to design the HEC strategy based on perspectives and considerations from stakeholders across Connecticut whose communities will benefit from HECs, and/or who may be involved in implementing and sustaining HECs. To that end, the planning process has incorporated stakeholder input and thought leadership at every juncture and on all key HEC design topics. This was achieved through:

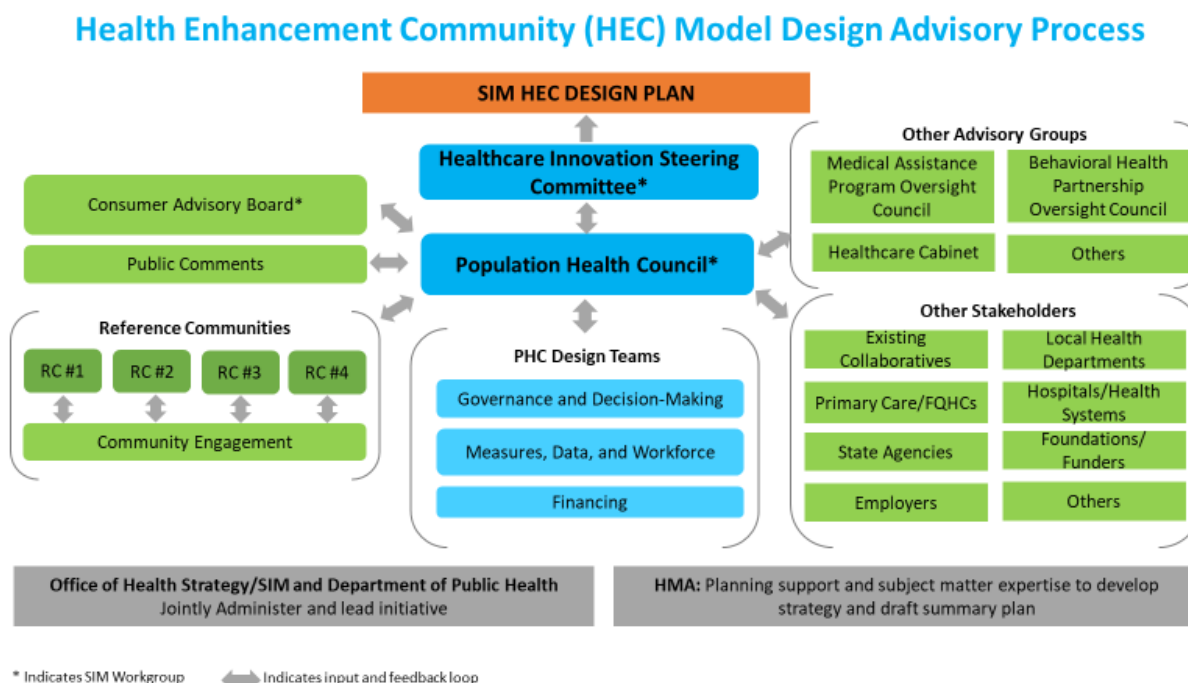
- Meetings with stakeholder groups such as the Population Health Council and its Design Teams, the Healthcare Improvement Steering Committee, the Consumer Advisory Board, and the

Connecticut Health Improvement Coalition SHIP Advisory Council to share information about HECs, discuss input, ideas, and recommendations

- Engagement of Reference Communities, who contracted with the state to engage in an in-depth design process July to November 2018 that provides recommendations and community-specific solutions to advance the development of an actionable HEC strategy; additional detail on the Reference Communities is provided in Section 5 of this report
- Engagement of community members about the proposed HEC model, including in Reference Community meetings and facilitated discussion sessions with existing community groups as well as Reference Communities-hosted community conversations and mini-focus groups, brief in-person surveys and key informant interviews, and facilitated discussion sessions at existing community events
- Interviews and meetings with stakeholder organizations and individuals
- Public posting of materials and webinars throughout the process
- A broad communication strategy that included dissemination of information through SIM e-newsletter updates
- **A public comment period (planned)**

The figure below shows the planning process framework for stakeholder input and multi-directional information sharing.

Figure 24. Multidirectional Flow of Information and Stakeholder Input to Support Decision-Making



This report is the culmination of this phase of the planning process and articulates the SIM Population Health Council's HEC recommendations to the Healthcare Innovation Steering Committee. The Population Health Council, the Office of Health Strategy, and the Department of Public Health are grateful for the significant and ongoing input and involvement of all the organizations and individuals who have contributed to the HEC strategy and who have submitted public comments.

Below is a listing of key stakeholder meetings and stakeholder groups that have been involved in the design process.

Key Stakeholder Meetings – *This list will be updated with additional meetings that occur.*

Key Stakeholder Engagement Meetings	
March 8, 2018	Healthcare Innovation Steering Committee Meeting
March 29, 2018	Population Health Council Meeting
April 24, 2018	Connecticut Health Improvement Coalition: SHIP Advisory Council Meeting
April 26, 2018	Population Health Council Meeting
May 31, 2018	Population Health Council Meeting
May 31, 2018	Connecticut Hospital Association Community Health Coordinators Meeting
June 7, 2018	Reference Community Deep Dive Session #1 with Health Improvement Collaborative of Southeastern Connecticut
June 11, 2018	Reference Community Deep Dive Session #1 with Greater Waterbury Health Partnership
June 12, 2018	Reference Community Deep Dive Session #1 with Greater Norwalk Health Improvement Collaborative
June 12, 2018	Consumer Advisory Board Meeting
June 14, 2018	Healthcare Innovation Steering Committee Meeting
June 21, 2018	Population Health Council Webinar on Value-Based Payment Design to Support HECs
June 28, 2018	Population Health Council Meeting
July 10, 2018	Reference Community Deep Dive Session #1 with North Hartford Triple Aim Collaborative
July 10, 2018	Consumer Advisory Board Meeting
July 12, 2018	Healthcare Innovation Steering Committee Meeting
July 17, 2018	Connecticut Health Improvement Coalition: SHIP Advisory Council Meeting
July 19, 2018	PHC Design Team #3, Webinar #1: Governance and Decision-Making
July 20, 2018	PHC Design Team #1, Webinar #1: HEC Interventions, Measures, Data, Workforce PHC Design Team #2, Webinar #1: HEC Financing
July 23, 2018	Reference Community Deep Dive Session #2 with Greater Waterbury Health Partnership
July 25, 2018	Reference Community Deep Dive Session #2 with North Hartford Triple Aim Collaborative
July 26, 2018	Population Health Council Meeting
July 26, 2018	Reference Community Deep Dive Session #2 with Health Improvement Collaborative of Southeastern Connecticut
July 30, 2018	Reference Community Deep Dive Session #2 with Greater Norwalk Health Improvement Collaborative

July 30, 2018	PHC Design Team #2, Webinar #2: Financing
July 31, 2018	PHC Design Team #1, Webinar #2: Interventions, Measures, Data, Workforce
August 1, 2018	PHC Design Team #3, Webinar #2: Governance and Decision-Making
August 8-9, 2018	Reference Community Follow-Up Webinars with North Hartford Triple Aim Collaborative
August 30, 2018	Reference Community HEC Data and Information Technology Infrastructure Webinar
September 5, 2018	Reference Community HEC Financing and Funds Flow Webinar
September 17, 2018	Healthier Greater New Haven Partnership Collaborative Webinar
September 18, 2018	Local Health Departments Webinar
September 25, 2018	Bridgeport Primary Care Action Group Collaborative Webinar
September 25, 2018	State Agency Webinar
September 27, 2018	Population Health Council Meeting
October 4, 2018	PCMH+ Participating Entities Meeting
October 9, 2018	Population Health Council Webinar
October 10, 2018	CT Behavioral Health Partnership Oversight Council Meeting
October 11, 2018	Clifford Beers – Parents Group Meeting
October 11, 2018	Healthcare Innovation Steering Committee Meeting
October 18, 2018	Community Health Center Association of Connecticut Webinar
October 23, 2018	Connecticut Association of School-Based Health Centers Webinar (planned)
October 23, 2018	Northwest Cares Meeting (planned)
November 8, 2018	Christian Community Action HEALTH Group Meeting (planned)
November 9, 2018	Council on Medical Assistance Program Oversight Meeting (planned)
November 13, 2018	Healthcare Cabinet meeting (planned)
November 15, 2018	Healthcare Innovation Steering Committee Meeting (planned)

Stakeholder Groups

Community Members

Information provided by community members from the SIM Listening Sessions and State Health Improvement Plan engagement influenced the selection of the priorities and other aspects of the model. The Consumer Advisory Board had provided input on the community engagement process so that the process meaningfully captures input of community members, the community member input helps shape the HEC design, and community members hear how their input shaped the design.

Reference Communities also either included community members in the planning activities and/or did outreach to get their input on the HEC design. Community residents provided meaningful feedback that influenced or validated the design of the model and/or will inform the planning and implementation of HECs and the HEC Initiative.

Reference Communities

The four Reference Communities collectively include more than 100 member organizations, with broad representation including the following sectors:

- Associations
- Community members
- Community organizations
- Consumer advocacy groups
- Education/academic institutions
- Employers and businesses
- Government
- Health care services/infrastructure
- Health plans/payers/insurers
- Investors, philanthropy organizations, foundations
- Housing organizations
- Public Health services/infrastructure
- Social services organizations

Membership for each Reference Community is provided below. For additional detail on Reference Communities and their input and engagement throughout this process, please see Section 5 of this report.

Reference Community: Greater Norwalk Health Improvement Collaborative Members

American Heart Association	Norwalk Community Health Center
AmeriCares Free Clinic	Norwalk Grows
Campbell's Soup Company	Norwalk Office of Early Childhood
City of Norwalk, Health Department	Norwalk Public Library
Connecticut Counseling Centers	Norwalk Public Schools
Day Street Community Health Center	Pepperidge Farm
Fairfield Health Department	Riverbrook Regional YMCA
Grade A ShopRite	Sacred Heart University
Liberation Programs	Stepping Stones Museum for Children
Mountainside Treatment Center	United Way of Coastal Fairfield County
Norwalk ACTS	Western Connecticut Health Network/Norwalk Hospital
Norwalk Community College	Westport Family YMCA

Reference Community: Greater Waterbury Health Partnership Members

American Heart Association	Physician One Urgent Care
AmeriCorps/FoodCorps	Pomperaug District DPH
Benchmark Quality	Salute Homecare
Boys & Girls Club	St. Mary's Hospital/ Trinity Health of New England
Brass City Harvest	St. Vincent DePaul Mission
Bridge To Success	StayWell Health Center
Central Naugatuck Valley Regional Action Council	TEAM
Chesprocott Health District	UConn Waterbury
Cigna	Unite Here Health
City of Waterbury	United Way of Greater Waterbury
Community Health Center, Inc.	Value Options/Beacon Health
ConnectiCare	Visiting Nurse Association

Connecticut Community Foundation	Waterbury Department of Public Health
Connecticut Department of Mental Health & Addiction Services (DMHAS)	Waterbury Health Access Program
Connecticut Department of Public Health (DPH)	Waterbury Hospital/ Prospect Medical Holdings, Inc.
Health 360/NWCT AHEC	Waterbury Housing Authority
Heart Center of Greater Waterbury	Waterbury Neighborhood Council
Independence Northwest	Waterbury Public Schools
Malta House of Care	Wellmore Behavioral Health
Melissa's Project	Wellspring
Naugatuck Valley Community College	Western Connecticut Area Agency on Aging
Naugatuck Valley Project	Western Connecticut Mental Health Network
New Opportunities	YMCA

Reference Community: Health Improvement Collaborative of Southeastern Connecticut Members

Alliance for Living	New London Branch National Association for the Advancement of Colored People
Catholic Charities	New London Community and Campus Coalition
Child and Family Agency of SECT	New London County Food Policy Council
City of New London	New London Parks and Recreation
Community Foundation for Eastern Connecticut	New London Police Department
Community Health Center, Inc.	Partners for Healthy Communities
Connecticut College	Sound Community Services
Connecticut Community for Addiction Recovery	Southeastern Council on Alcohol and Drug Dependency
Connecticut Legal Services	Southeastern Connecticut Council of Governments
Eastern Area Health Education Center	Southeastern Connecticut Enterprise Region
FRESH New London	Southeastern Mental Health Authority
Groton Parks and Recreation	Thames Valley Council for Community Action, Inc.
Health and Technology Vector Inc	The Connection
Hispanic Alliance	United Action CT
Homeless Hospitality Center	United Community and Family Services
L+M Hospital/ Yale New Haven Health	Visiting Nurses Association of SECT
Ledge Light Health District	

Reference Community: North Hartford Triple Aim Collaborative Members

City of Hartford Health and Human Services	North Hartford Promise Zone
City of Hartford Office of the Mayor	Saint Francis Hospital and Medical Center/Trinity Health Of New England
Community Solutions	UConn
Connecticut Children's Medical Center	United Way of Central and Northeastern Connecticut

Connecticut Health Foundation	Wellville
North Hartford NRZ resident liaison	

Population Health Council

Description: The Population Health Council is charged with developing a vision for improving Population Health in the context of payment, insurance and practice reforms, and community integration and innovation. The Council will leverage existing resources and build on the framework established in the State Health Improvement Coalition to advance population health planning and establish a long term public health strategy. The Council will focus on addressing root causes of disease and defining priorities based on burden of cost, reducing inequities and improving overall health. The Council will make recommendations regarding the establishment of Community Prevention Service Centers and the designation of Health Enhancement Communities.

Population Health Council meeting materials, presentations, and handouts provided throughout the HEC planning process, are available on its website:

<http://www.healthreform.ct.gov/ohri/cwp/view.asp?a=2765&q=336904>

Population Health Council Members

Craig Glover	Norwalk Community Health Center
Elizabeth Beaudin	Connecticut Hospital Association
Elizabeth Torres	Bridgeport Neighborhood Trust
Frederick Browne	Griffin Hospital
Garth Graham	Aetna Foundation
Hayley Skinner	ProHealth Physicians
Hugh Penney	Yale University
Hyacinth Yennie	Maple Avenue NRZ Group
Jeannette Weldon	Connecticut Health and Educational Facilities Authority
Lisa Honigfeld	Child Health and Development Institute
Lyn Salsgiver	Bridgeport Hospital
Martha Page	Hartford Food System
Patricia Baker	Connecticut Health Foundation
Rick Brush	Wellville
Steven Huleatt	West Hartford Bloomfield Health District
Susan Walkama	Wheeler Clinic
Tekisha Everette	Health Equity Solutions

Population Health Council Design Team #1: Interventions, Measures, Data, Workforce

Edith Karsky	Connecticut Access for Community Action
Hayley Skinner	ProHealth Physicians
Karen Siegel	Health Policy Fellow (Connecticut Voices for Children)
Katie Piwnica-Worms	Pediatrician & Healthy Policy Fellow at Yale School of Medicine
Lisa Hageman	Backus Hospital - Hartford HealthCare
Lisa Honigfeld	Child Health and Development Institute
Martha Page	Hartford Food System

Kate McEvoy	Connecticut Department of Social Services
Michelle James	Community Action Agency of Western CT
Rick Brush	Wellville
Supriyo Chatterjee	CHF Health Leadership Program, Former Fellow

Population Health Council Design Team #2: Financing

Deborah Monahan	Thames Valley Council for Community Action
Jeanette Weldon	Connecticut Health and Educational Facilities Authority
Karen Siegel	Health Policy Fellow (Connecticut Voices for Children)
Kate McEvoy	Connecticut Department of Social Services
Lyn Salsgiver	Bridgeport Hospital
Rick Brush	Wellville
Susan Walkama	Wheeler Clinic
Toni Hirst	New Opportunities

Population Health Council Design Team #3: Governance and Decision-Making

Amos Smith	Community Action Agency of New Haven
Craig Glover	Norwalk Community Health Center
Nancy Hamson	Yale New Haven Health System/Bridgeport Hospital
Pat Baker	Connecticut Health Foundation
Patrick McCormack	UNCAS Health District
Peter DeBiasi	The Access Agency
Rick Brush	Wellville
Roderick Bremby	Connecticut Department of Social Services
Susan Walkama	Wheeler Clinic

Healthcare Innovation Steering Committee

Description: The Healthcare Innovation Steering Committee (HISC) is a diverse, multi-stakeholder committee comprised of providers, consumers, advocates, health plans, and state agencies. The Steering Committee is charged with providing oversight and guidance to the SIM Program Management Office and activities related to the implementation of the SIM Model Test Grant and the Connecticut Healthcare Innovation Plan. The Steering Committee is chaired by Lieutenant Governor Nancy Wyman.

HISC meeting materials, presentations, and handouts provided throughout the HEC planning process, are available on its website: <http://www.healthreform.ct.gov/ohri/cwp/view.asp?a=2765&q=336896>

Healthcare Innovation Steering Committee Members

Alta Lash	United Connecticut Action for Neighborhoods
Anne Foley	Connecticut Office of Policy and Management
Bruce Liang	UConn School of Medicine
Catherine Abercrombie, State Representative	Connecticut House of Representatives

Deremius Williams	Anthem Blue Cross Blue Shield
Elsa Stone	CT Chapter, American Academy of Pediatrics
Frances Padilla	Universal Healthcare Foundation of CT
Jan VanTassel	Connecticut Legal Rights Project
Jeffrey Beadle	Windham Regional Community Council
Joseph Quaranta	Community Medical Group
Katharine Wade	Connecticut Insurance Department
Kristina Stevens	Connecticut Department of Children and Families
Mary Bradley	Pitney Bowes
Miriam Delphin-Rittmon	Connecticut Department of Mental Health & Addiction Services
Nancy Wyman, Committee Chair	Lieutenant Governor
Patricia Baker	Connecticut Health Foundation
Patrick Charmel	Griffin Hospital
Raul Pino	Connecticut Department of Public Health
Dr. Robert McLean	Connecticut Medical Group, LLC
Robin Lamott Sparks	The Coalition for New Britain's Youth
Roderick Bremby	Connecticut Department of Social Services
Shan Jeffreys	Access Health CT
Sharon Langer	Connecticut Voices for Children
Suzanne Lagarde	Fair Haven Community Health Center
Terry Gerratana, State Senator	Connecticut State Senate
Thomas Woodruff	Connecticut Office of the State Comptroller

State of Connecticut Consumer Advisory Board

Description: The mission of the Consumer Advisory Board (CAB) is to advocate for consumers and provide for strong public and consumer input in health care reform policies in Connecticut. The purpose of the Consumer Advisory Board is to ensure significant consumer participation in the planning and implementation process.

CAB meeting materials, presentations, and handouts provided throughout the HEC planning process, are available on its website: <http://www.healthreform.ct.gov/ohri/cwp/view.asp?a=2765&q=336898>

State of Connecticut Community Advisory Board Members

Alan Coker	
Alice Ferguson	
Ann R. Smith	African Caribbean American Parents of Children with Disabilities, Inc.
Arlene Murphy (Co-Chair)	
Denise O. Smith	UConn Health Disparities Institute
Jason Prignoli	
Jeffrey G. Beadle	Windham Regional Community Council
Kelly Ray	

Kevin Galvin (Co-Chair)	Small Business for a Healthy Connecticut
Linda Guzzo	
Nanfi Lubogo	PATH Parent to Parent/Family Voices of Connecticut, Connecticut Family to Family Health Information Center
Rev. Bonita Grubbs	Christian Community Action, Inc.
Robert Krzys	
Stephen Karp	National Assoc. of Social Workers – Connecticut Chapter
Terry Nowakowski	Partnership for Strong Communities
Theanvy Kuoch	National Cambodian-American Health Initiative, Khmer Health Advocates
Velandy Manohar, MD	

Connecticut Health Improvement Coalition: SHIP Advisory Council

Description: Established in January 2013, The Connecticut Health Improvement Coalition is a diverse partnership of local, regional, and statewide organizations and agencies that address public health from a variety of traditional and non-traditional perspectives. The implementation framework for the coalition is based on Healthy CT 2020: The Connecticut State Health Assessment (SHA) and Connecticut State Health Improvement Plan (SHIP). DPH provides a leadership role in convening coalition partners through 7 Action Teams and facilitates a collaborative process to successfully implement the SHIP. The strength of the Coalition is the active participation of partners from across the state working together to connect health improvement efforts, leverage activities, maximize resources, and build upon existing infrastructure.

Meeting materials are available on its website: <https://portal.ct.gov/DPH/State-Health-Planning/State-Health-Assessment--Plan-2012/State-Health-Improvement-Planning-Coalition>

Connecticut Health Improvement Coalition: SHIP Advisory Council Members

Andrea Boissevain	Connecticut Association of Directors of Health
Brenetta Henry	Consumer Representative
Colleen Gallagher	Department of Correction
Elaine O’Keefe	Yale School of Public Health
Elizabeth Beaudin	Connecticut Hospital Association
George McDonald	Consumer Representative
Glenn Cassis	Multicultural Health Partnership
James Maloney	Connecticut Institute for Communities, Inc.
Janet Storey	CT Dept. of Mental Health and Addiction Services
John Frassinelli	Department of Education
Jordana Frost	March of Dimes
Judy Dicine	Chief State's Attorney Office
Kathi Traugh	Connecticut Public Health Association
Lynne Ide	Universal Health Care Foundation
Lynne Weeks	Connecticut Association of School Based Health Centers
Marcus McKinney	Trinity Health-New England
Mark Abraham	DataHaven

Mary Boudreau	Connecticut Oral Health Initiative
Mehul Dalal	Department of Public Health
Nancy Yedlin	Donaghue Foundation
Patricia Baker	Connecticut Health Foundation
Patrick McCormack	Uncas Health District
Phyllis DiFiore	Department of Transportation
Raul Pino	Department of Public Health
Rob Zavoski	Department of Social Services
Robyn Anderson	Advanced Behavioral, Inc.
Robyn Gulley	North Central Area Agency on Aging
Scott Sjoquist	Mohegan Tribal Health
Shawn Lang	AIDS CT
Terry Nowakowski	Partnership for Strong Communities
Yvette Bello	Hartford Foundation for Public Giving

Other Stakeholders

This list will continue to be updated with additional stakeholders engaged.

Others who contributed to, informed, and/or provided input into various aspects of the HEC design and planning process include the following.

CT Office of Health Strategy	CT Office of the State Comptroller
CT Department of Public Health	CT Department of Social Services, Division of Health Services
Center for Medicare and Medicaid Innovation	Vita Health and Wellness District
Stew Leonard's	Connecticut Hospital Association Community Health Coordinators
General Dynamics Electric Boat	Data Across Sectors for Health (DASH)
UConn AIMS – Analytics and Information Management Solutions	Jenna Lupi, SIM Community Health Worker Advisory Committee
CT Association for Community Action (CAFCA)	CT Health and Housing Stability Workgroup
CT American Academy of Pediatrics Executive Committee	CT Behavioral Health Partnership Oversight Council
Susan Nappi, United Way of Greater New Haven	Charlie Slaughter, CT Department of Children and Families
Eleanor Michael, Multi-System Trauma Informed Collaborative (MSTIC)	Marcus Smith, Healthy Homes Program
Nancy Trout, Connecticut Children's Medical Center	CT Medical Assistance Program Oversight Council (MAPOC) - planned
CT Healthcare Cabinet - planned	

Stakeholders Engaged – Summary Unduplicated List

This list will continue to be updated with additional stakeholders engaged.

Below is a summary list of stakeholder entities/organizations engaged through this process, including all stakeholder groups listed above. This includes membership of the Reference Communities, Population Health Council, Healthcare Innovation Steering Committee, and other groups engaged.

Access Health CT	Liberation Programs
Advanced Behavioral, Inc.	Lieutenant Governor
Aetna Foundation	Local Health Departments
African Caribbean American Parents of Children with Disabilities, Inc.	Madison Health Department
AIDS CT	Malta House of Care
Alliance for Living	Maple Avenue NRZ Group
American Heart Association	March of Dimes
AmeriCares Free Clinic	Medical Assistance Program Oversight Council
AmeriCorps/FoodCorps	Melissa's Project
Anthem Blue Cross Blue Shield	Milford Hospital
Backus Hospital - Hartford HealthCare	Mohegan Tribal Health
Benchmark Quality	Mountainside Treatment Center
Boys & Girls Club	Multicultural Health Partnership
Brass City Harvest	National Assoc. of Social Workers – Connecticut Chapter
Bridge To Success	National Cambodian-American Health Initiative, Khmer Health Advocates
Bridgeport Hospital	Naugatuck Valley Community College
Bridgeport Neighborhood Trust	Naugatuck Valley Project
Bridgeport Primary Care Action Group Collaborative	New London Branch National Association for the Advancement of Colored People
Campbell's Soup Company	New London Community and Campus Coalition
Catholic Charities	New London County Food Policy Council
CCCYMCA	New London Parks and Recreation
Center for Medicare and Medicaid Innovation	New London Police Department
Central Naugatuck Valley Regional Action Council	New Opportunities
Chesprocott Health District	North Central Area Agency on Aging
Chief State's Attorney Office	North Hartford NRZ resident liaison
Child and Family Agency of SECT	North Hartford Promise Zone
Child Health and Development Institute	Norwalk ACTS
Christian Community Action, Inc.	Norwalk Community College
Cigna	Norwalk Community Health Center
City of Hartford Health and Human Services	Norwalk Grows
City of Hartford Office of the Mayor	Norwalk Office of Early Childhood
City of New London	Norwalk Public Library
City of Norwalk, Health Department	Norwalk Public Schools
City of Waterbury	Partners for Healthy Communities

Community Action Agency of New Haven	Partnership for Strong Communities
Community Action Agency of Western CT	PATH Parent to Parent/Family Voices of CT, Connecticut Family to Family Health Information Center
Community Foundation for Eastern Connecticut	Pediatrician & Healthy Policy Fellow at Yale School of Medicine
Community Health Center, Inc.	Pepperidge Farm
Community Medical Group	Physician One Urgent Care
Community Solutions	Pitney Bowes
ConnectiCare	Pomperaug District DPH
Connecticut Access for Community Action	Population Health Council
Connecticut American Academy of Pediatrics Executive Committee	ProHealth Physicians
Connecticut Association for Community Action	Project Access - New Haven
Connecticut Association of Directors of Health	Project Launch - Clifford Beers Clinic
Connecticut Association of School Based Health Centers	Quinnipiack Valley Health District
Connecticut Behavioral Health Partnership Oversight Council	Riverbrook Regional YMCA
Connecticut Chapter, American Academy of Pediatrics	Sacred Heart University
Connecticut Children's Medical Center	Saint Francis Hospital and Medical Center/Trinity Health Of New England
Connecticut College	Salute Homecare
Connecticut Community for Addiction Recovery	SCSU CARE
Connecticut Community Foundation	SIM Community Health Worker Advisory Committee
Connecticut Counseling Centers	Small Business for a Healthy Connecticut
Connecticut Department of Children and Families	Sound Community Services
Connecticut Department of Correction	Southeastern Connecticut Council of Governments
Connecticut Department of Education	Southeastern Connecticut Enterprise Region
Connecticut Department of Mental Health & Addiction Services	Southeastern Council on Alcohol and Drug Dependency
Connecticut Department of Public Health	Southeastern Mental Health Authority
Connecticut Department of Social Services	St. Mary's Hospital/ Trinity Health of New England
Connecticut Department of Transportation	St. Vincent DePaul Mission
Connecticut Health and Educational Facilities Authority	State Agency Webinar
Connecticut Health and Housing Stability Workgroup	StayWell Health Center

Connecticut Health Foundation	Stepping Stones Museum for Children
Connecticut Health Improvement Coalition: SHIP Advisory Council	Stew Leonard's
Connecticut HIT Officer	TEAM
Connecticut HIT PMO	Thames Valley Council for Community Action, Inc.
Connecticut Hospital Association	The Access Agency
Connecticut Hospital Association Community Health Coordinators	The Coalition for New Britain's Youth
Connecticut House of Representatives	The Connection
Connecticut Institute for Communities, Inc.	Trinity Health-New England
Connecticut Insurance Department	UConn AIMS – Analytics and Information Management Solutions
Connecticut Legal Rights Project	UConn Health Disparities Institute
Connecticut Legal Services	UConn School of Medicine
Connecticut Medical Group, LLC	UConn Waterbury
Connecticut Office of Early Childhood	UNCAS Health District
Connecticut Office of Health Strategy	Uncas Health District
Connecticut Office of Policy and Management	Unite Here Health
Connecticut Office of the State Comptroller	United Action CT
Connecticut Oral Health Initiative	United Community and Family Services
Connecticut Public Health Association	United Connecticut Action for Neighborhoods
Connecticut State Senate	United Way Greater New Haven
Connecticut Voices for Children	United Way of Central and Northeastern Connecticut
Consumer Advisory Board	United Way of Coastal Fairfield County
Consumer Representatives	United Way of Greater Waterbury
Data Across Sectors for Health (DASH)	Universal Health Care Foundation
DataHaven	Universal Healthcare Foundation of CT
Day Street Community Health Center	Vale New Haven Hospital Foundation
Donaghue Foundation	Value Options/Beacon Health
East Shore District Health Department	Visiting Nurse Association
Eastern Area Health Education Center	Visiting Nurses Association of SECT
Fair Haven Community Health Center	Vita Health and Wellness District
Fairfield Health Department	Waterbury Department of Public Health
FRESH New London	Waterbury Health Access Program
General Dynamics Electric Boat	Waterbury Hospital/ Prospect Medical Holdings, Inc.
Grade A ShopRite	Waterbury Housing Authority
Griffin Hospital	Waterbury Neighborhood Council
Groton Parks and Recreation	Waterbury Public Schools
Hartford Food System	Wellmore Behavioral Health

Hartford Foundation for Public Giving	Wellspring
Health 360/NWCT AHEC	Wellville
Health and Technology Vector Inc	West Hartford Bloomfield Health District
Health Equity Solutions	Western Connecticut Area Agency on Aging
Health Policy Fellow (Connecticut Voices for Children)	Western Connecticut Health Network/Norwalk Hospital
Healthcare Innovation Steering Committee	Western Connecticut Mental Health Network
Healthier Greater New Haven Partnership Collaborative	Westport Family YMCA
Heart Center of Greater Waterbury	Wheeler Clinic
Hispanic Alliance	Windham Regional Community Council
Homeless Hospitality Center	Yale – OPHP
Independence Northwest	Yale New Haven Health
L+M Hospital/ Yale New Haven Health	Yale University
Ledge Light Health District	YMCA
	YSPH:CARE

APPENDIX 3. REFERENCE COMMUNITY ENGAGEMENT FRAMEWORK

The following interrelated topics and questions guided the Reference Community engagement process.

Topic	Questions that will be answered in partnership between the reference communities and the State <i>If your Collaborative were to enter into this demonstration...</i>	What will enable us to answer that question?	After we answer the questions, what will we need to have
Community Overview	What do we need to know about your community to provide context for this work?	Data and information collected and presented by the Collaborative on community characteristics and current and prior efforts, including from community health needs assessments, focus groups, listening sessions, surveys, etc. Data and information provided by the State and consultants on community characteristics. Examples from SMEs	Synthesis of key community characteristics and current and prior efforts
Health Improvement Priorities	What are the biggest health problems that you would prioritize for the next 3, 5, and 10 years?	A process to assess and pick priorities using criteria such as: <ul style="list-style-type: none"> • Is the problem preventable? • How many people in your community are directly or indirectly effected? • Is problem or risks associated with the problem increasing? • How bad are the health outcomes of the problem? • How costly are the poor outcomes and who pays those costs? 	3-5 priorities by timeframe

Topic	Questions that will be answered in partnership between the reference communities and the State <i>If your Collaborative were to enter into this demonstration...</i>	What will enable us to answer that question?	After we answer the questions, what will we need to have
		<ul style="list-style-type: none"> • Are their evidence-informed strategies that show good outcomes or promise of good outcomes? • Can our collaborative can do something to improve outcomes and reduce costs? • Can make significant improvements in 3, 5, and 10 years? • Are their existing resources available to support solutions? • How likely is it that we can sustain solutions with existing resources? • How likely is it that we can sustain solutions with new lasting resources? • What interests community members the most? <p>Data and information from the Collaboratives, the State, and consultants from community needs assessments, Community Health Improvement Plans, Department of Population Health data (BRFSS), national reports (e.g., 500 cities report), All-Payer Claims Database, etc.</p> <p>New data and information from community focus groups, listening sessions, surveys, etc.</p>	

Topic	Questions that will be answered in partnership between the reference communities and the State <i>If your Collaborative were to enter into this demonstration...</i>	What will enable us to answer that question?	After we answer the questions, what will we need to have
Root Causes	What are the biggest drivers of the above health problems in your community?	Data and information from the Collaboratives, the State, and consultants from community needs assessments, Community Health Improvement Plans, Department of Population Health data (BRFSS), Quality Improvement tools, local reports, curated evidence-based literature (from State, local health departments, and SMEs) New data and information from community focus groups, listening sessions, etc.	1-3 root causes per priority
Health Improvement Strategies	What are the evidence-informed strategies that would be undertaken to address the root causes?	Community Health Improvement Plans, existing local initiatives, curated resources/options (from the State and SMEs) New information from community focus groups, listening sessions, etc.	2-3 strategies per root cause
Target Population	What are the populations that you will target your strategies to achieve the expected outcomes	Community Health Improvement Plans, existing local initiatives, curated resources/options (from the State and SMEs) New information from community focus groups, listening sessions, etc.	Target populations per strategy
Activities	What are the activities that would support each strategy?	Community Health Improvement Plans, existing local initiatives, curated resources/options (from the State and SMEs)	2-3 activities per strategy

Topic	Questions that will be answered in partnership between the reference communities and the State <i>If your Collaborative were to enter into this demonstration...</i>	What will enable us to answer that question?	After we answer the questions, what will we need to have
Existing Resources	What existing resources (e.g., funds, reimbursement, staff, infrastructure, etc.) could be leveraged to support implementing and sustaining the HEC infrastructure, strategies, and activities?	Scan of community resources and assets by organizations and source (municipal, state, private, etc.) Examples from other states (from State and SMEs)	Resource plan
Implementation Funds	How would the upfront funds be raised to implement the proposed HEC infrastructure, strategies, and activities?	Scan potential or committed implementation funds by source Examples from other states (from State and SMEs)	Financing plan for raising funds to support implementation
Sustainable Financing	What additional financial vehicles will be explored to sustain this effort?	Financing scope, including details of what will need to be sustained long term Scan of community sustainable financing options by source (municipal, state, private, etc.), including opportunities to braid or blend resources Examples from other initiatives (from State and SMEs) (e.g., social impact bonds, wellness trust)?	Financing plan for raising sustainable financing

Topic	Questions that will be answered in partnership between the reference communities and the State <i>If your Collaborative were to enter into this demonstration...</i>	What will enable us to answer that question?	After we answer the questions, what will we need to have
Accountability Management	How will strategies and activities be coordinated, managed, and monitored?	Management resources that leverage existing Collaborative infrastructure Examples from other initiatives and states (from State and SMEs)	Accountability framework and management plan
Tracking Progress	Which process and outcome measures would you track?	Current indicators being tracked Examples from other initiatives and states (from State and SMEs)	2-3 process measure per activity; 1-2 outcome measures per priority
Data and Qualitative Information	What data and qualitative information would you need to manage each activity and track progress and performance? <i>Note that data must be granular enough to assess progress on activities</i> What barriers will have to be overcome to sharing data?	Current local and state data assets Data from other sources (Data Haven, BRFSS, etc.) Information from community focus groups, listening sessions, surveys, etc. Examples from other initiatives and states (from State and SMEs)	Summary of activity specific data needs and potential solutions to overcome barriers
Key Partners	Which organizations would be responsible for what aspect of implementation?	Assessment of existing Collaborative engagement Examples from other initiatives and states (from State and SMEs)	Engagement plan describing which stakeholders would

Topic	Questions that will be answered in partnership between the reference communities and the State <i>If your Collaborative were to enter into this demonstration...</i>	What will enable us to answer that question?	After we answer the questions, what will we need to have
	Which stakeholders, sectors, and organizations would need to be represented on the Collaborative and in what way?		be involved and how
Partner Commitment	How will responsibility be shared? What would be needed to maintain commitment and engagement?	Local examples Matching strategies, activities, and other roles to specific partners Examples from other initiatives and states (from State and SMEs)	Proposed principles and strategies of commitment; agreement template
Community engagement	How would you engage community residents? How would you communicate progress?	Community focus groups, listening sessions, town hall meetings, and current communication methods	Engagement and communication plan
Partners Capacity	What additional capacity would be needed among partners to support implementation and HEC operations?	Assessment of current capacity vs. anticipated demand Existing capacity-building resources and infrastructure	Partner capacity plan

Topic	Questions that will be answered in partnership between the reference communities and the State <i>If your Collaborative were to enter into this demonstration...</i>	What will enable us to answer that question?	After we answer the questions, what will we need to have
Geographic Size	How large or small would the catchment area of the Collaborative have to be to make an impact and garner investments while still being able to manage the effort?	Granular data and information (from Collaborative and State) Assessment of partners, local assets, and current service areas demarcations	Outline of sufficient geographic boundaries
Collaborative Capacity	What is the additional capacity does the Collaborative need to coordinate and manage the HEC, implementation of strategies and activities, and funds administered by the Collaborative?	Assessment of gaps current capacity Examples from other initiatives and states (from State and SMEs)	Summary of capacity needed, including FTEs and roles
Governance	Would your governance model need to change? If so, how (e.g., nonprofit status)? Who would be the organization leading the effort (the backbone organization)?	Assessment of current governance structure Examples from other initiatives and states (from State and SMEs)	Governance model, proposed changes, and backbone organization

Topic	Questions that will be answered in partnership between the reference communities and the State <i>If your Collaborative were to enter into this demonstration...</i>	What will enable us to answer that question?	After we answer the questions, what will we need to have
Funds Distribution	How would the Collaborative govern and distribute the implementation funds? What principles should govern the distribution of sustainable financing?	Assessment of current fund distribution methods Examples from other initiatives and states (from State and SMEs)	Funds distribution model
Authority	Is the authority that currently exists within the Collaborative and among the partners sufficient to enable implementation? Is state designation needed?	Assessment of current authority Examples from other initiatives and states (from State and SMEs)	Summary of authority levers
Feasibility and Risks	How feasible is it for your region to do this? What are the risks and considerations that should be considered?	Assessment of part successes, barriers, and risks Examples from other initiatives and states (from State and SMEs)	Summary of risks, mitigation strategies, and feasibility analysis
Other Considerations and New Ideas	What would you do differently from what you are doing now	TBD	TBD

Topic	Questions that will be answered in partnership between the reference communities and the State <i>If your Collaborative were to enter into this demonstration...</i>	What will enable us to answer that question?	After we answer the questions, what will we need to have
	<p>that was not captured in the above?</p> <p>What are new ideas that the State should consider in relation to this demonstration?</p>		

APPENDIX 4. CHILD WELL-BEING INTERVENTION EXAMPLES

This Appendix provides examples of child well-being interventions that Health Enhancement Communities may choose to implement. This list includes interventions that focus on pre-birth to age 8 years as well interventions which promote protective factors for caretakers or potential caretakers meeting characteristics correlated with the presence of adverse childhood experiences. This list is for illustrative purposes and will continue to evolve. A full menu of options will be developed and provided by the State which can be used by HECs as part of their intervention selection process.

#	Intervention Name	Source	Intervention Category	Root Cause	Descriptions	Resources Needed	Timeline on ROI	Evidence
1	School-Based Violence Prevention	https://www.cdc.gov/policy/hst/hi5/violenceprevention/index.html	Programmatic	Violence and crime	Universal school-based violence prevention programs provide students and school staff with information about violence, change how youth think and feel about violence, and enhance interpersonal and emotional skills such as communication and problem-solving, empathy, and conflict management. These approaches are considered “universal” because they are typically delivered to all students in a particular grade or school.	Delivered in school-settings	2 years	Strong evidence
2	Treatment Foster Care Oregon: Foster Care Program for Severely delinquent youth	http://toptierevidence.org/programs-reviewed/multidimensional-treatment-foster-care	Programmatic	Stress and trauma	TFCO (formerly Multidimensional Treatment Foster Care, or MTFC) provides severely delinquent youths with foster care in community families trained in behavior management and emphasizes preventing contact with delinquent peers. Typical community treatment for such youth, by contrast, often involves placement in a group residential care facility with other troubled youth.	Requires foster families deliver the intervention	2 years	Strong evidence

#	Intervention Name	Source	Intervention Category	Root Cause	Descriptions	Resources Needed	Timeline on ROI	Evidence
3	Peer Support in Mental Health	https://www.mentalhealthamerica.net/sites/default/files/Evidence%20for%20Peer%20Support.pdf	Programmatic	Stress and trauma	Peer services are effective in assisting individuals self-manage their whole health needs. When trained peers employed by a local community organization provide a variety of services, including connections to social and rehabilitation services, participants with peer support are significantly more likely to make connections to primary medical care	Requires Peer Support Specialists	1-3 years	Some evidence
4	Treatment for Pregnant Women with Opioid Use Disorders	https://ncsacw.samhsa.gov/resources/opioid-use-disorders-and-medication-assisted-treatment/default.aspx	Programmatic	Stress and trauma	The rate of opioid misuse and dependence is escalating in many communities, including amongst pregnant and parenting women. In addition, substance use treatment systems are reporting increases in the number of individuals seeking treatment for opioid use disorders. Child welfare systems are reporting increases in caseloads, primarily among infants and young children coming into care and hospitals are reporting increases of infants born with neonatal abstinence syndrome. A coordinated, multi-systemic approach that is grounded in early identification and intervention can assist child welfare and treatment systems in conducting both a comprehensive assessment and ensuring access to the range of services needed by families. Collaborative planning and implementation of services are yielding promising results in communities across the country.	Requires working with providers and child welfare.	1-3 years	Some evidence

#	Intervention Name	Source	Intervention Category	Root Cause	Descriptions	Resources Needed	Timeline on ROI	Evidence
5	Nurse Family Partnership	http://evidencebasedprograms.org/document/nurse-family-partnership-nfp-evidence-summary/	Programmatic	Economic instability	A nurse home visitation program for first-time mothers – mostly low-income and unmarried – during their pregnancy and children’s infancy.	Delivered by nurses.	3 years	Strong evidence
6	Child FIRST: Home Intervention Program for Low-Income Families with at risk children	http://evidencebasedprograms.org/programs/child-first/	Programmatic	Economic instability	A home visitation program for low-income families with young children at high risk of emotional, behavioral, or developmental problems, or child maltreatment.	Visitation done by a master’s level developmental/mental health clinician and a bachelor’s level care coordinator.	3 years	Strong evidence
7	Violence: Early Childhood Home Visitation to Prevent-Child Maltreatment	https://www.thecommunityguide.org/findings/violence-early-childhood-home-visitation-prevent-child-maltreatment	Programmatic	Physical insecurity (violence and crime)	Home visitation to prevent violence includes programs in which parents and children are visited in their home by: nurses, social workers, paraprofessionals, community peers. Some visits must occur during the child’s first 2 years of life, but they may be initiated during pregnancy and may continue after the child’s second birthday.	Delivered by nurses, social workers, paraprofessionals, and/or community peers	3 - 5 years	Strong evidence

#	Intervention Name	Source	Intervention Category	Root Cause	Descriptions	Resources Needed	Timeline on ROI	Evidence
8	Permanent Supportive Housing	https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5975075/	Systems	Economic instability	Five recommendations include: 1) child welfare agencies need systematic efforts to help family apply for public housing waitlists. 2) Create partnerships between child welfare agencies and community-based homelessness prevention providers. 3) Create model for investing funds for contract with homelessness prevention. 4) Child welfare leadership joins local homeless services provider networks to advocate for children and families. 5) Diversify approaches to addressing inadequate housing that threatens child well-being.	Policy and systems	5 - 10 years	Some evidence
9	Parent Education Programs (conducted outside of the home)	http://www.academyhealth.org/files/RapidEvidenceReview.ACEs_Prevention.pdf	Programmatic	Education	These programs have been shown to address some “changeable” parental risk factors associated with ACEs, such as inadequate parenting skills, attitudes about child rearing, and dysfunctional parenting habits. They are shown to have a marginal impact on other risk factors such as depression and stress.		1-3 years	Some evidence

#	Intervention Name	Source	Intervention Category	Root Cause	Descriptions	Resources Needed	Timeline on ROI	Evidence
10	Dual treatment programs for substance abuse	http://www.academyhealth.org/files/RapidEvidenceReview.ACEs_Prevention.pdf	Programmatic	Education	Combined substance abuse treatment and parenting interventions improve parenting more than substance abuse treatment alone, though few studies include long-term outcomes related to ACEs risk factors.	Generally, the studies found that the earlier these interventions take place, the better in regard to preventing negative outcomes among children. Common obstacles to session attendance include lack of transportation, hunger, unsupervised children, and stigma. Interventions should be accompanied by strategies for addressing each of these obstacles, such as providing vouchers or courtesy rides, meals, child care and a safe, supportive and non-judgmental environment.	1 -3 years	Some evidence

#	Intervention Name	Source	Intervention Category	Root Cause	Descriptions	Resources Needed	Timeline on ROI	Evidence
11	Provide Quality Care and Education Early in Life	https://www.cdc.gov/violenceprevention/pdf/can-prevention-technical-package.pdf	Policy	Education	Preschool enrichment with family engagement and improved quality of child care through licensing and accreditation are two approaches for enhancing parenting practices, parental education, social support, and access to community resources, while simultaneously creating optimal learning environments for young children.		3 - 5 years	Significant evidence
12	Change social norms to support parents and positive parenting	https://www.cdc.gov/violenceprevention/pdf/can-prevention-technical-package.pdf	Cultural Norms	Social norms	Two types of approaches seek to change social norms and the way we think and talk about child abuse and neglect. These include public engagement and education campaigns and legislative approaches to reduce corporal punishment.		5 - 10 years	Some evidence
13	Strengthen economic supports for families	https://www.cdc.gov/violenceprevention/pdf/can-prevention-technical-package.pdf	Policy	Equitable systems	Economic supports for families can be strengthened by targeting household financial security and family-friendly work to include child support, tax credits, SNAP, assisted housing mobility, subsidized child care, family-friendly work policies		3- 5 years	Some evidence
14	Early Childhood Consultation Partnership	https://www.jaaca.p.org/article/S0890-8567(16)30283-0/abstract	Programmatic	Stress and trauma	Provides assistance to preschool to better manage challenging childhood behaviors: Children who received Early Childhood Consultation Partnership (ECCP) had significantly lower rating of hyperactivity, restlessness, externalizing behavior, problem behavioral and total problems compared with children in the control group even after controlling for gender and pretest scores.		1 - 3 years	Some evidence

#	Intervention Name	Source	Intervention Category	Root Cause	Descriptions	Resources Needed	Timeline on ROI	Evidence
15	The Incredible Years	http://www.incredibleyears.com/	Programmatic	Stress and trauma	The Incredible Years® program was selected as a model “Strengthening Families” program by the Center for Substance Abuse Prevention (CSAP), as an “exemplary” program by the Office of Juvenile Justice Delinquency Prevention (OJJDP), and as a “Blueprints” program by OJJDP. The Incredible Years® program series have also been recommended by the Home Office in the United Kingdom as one of the evidenced-based interventions for antisocial behavior and by Sure Start as a recommended program for families with children under five years. As such, the series has been subject to quality reviews by independent groups of scientists, evidenced excellent effectiveness in multiple randomized control group studies, and attained high overall consumer satisfaction ratings.	Strongly recommend leaders become certified as group leaders and that one of our certified trainers is involved in training your staff and providing ongoing consultation. We ask that you let us know about research projects and send us copies of the research results.	1- 3 years	Strong evidence
16	Cognitive Behavioral Therapy Intervention for Trauma in Schools (CBITS)	https://www.cdc.gov/prc/prevention-strategies/intervention-lessons-effects-violence-urban-school-children.htm	Programmatic	Stress and trauma	The Cognitive Behavioral Intervention for Trauma in Schools (CBITS) program is a school-based, group and individual intervention. It is designed to reduce symptoms of post-traumatic stress disorder (PTSD), depression, and behavioral problems, and to improve functioning, grades and attendance, peer and parent support, and coping skills.	CBITS has been used with students from 5th grade through 12th grade who have witnessed or experienced traumatic life events such as community and school violence, accidents and injuries, physical abuse and domestic violence, and natural	1 - 3 years	Strong evidence

#	Intervention Name	Source	Intervention Category	Root Cause	Descriptions	Resources Needed	Timeline on ROI	Evidence
						and man-made disasters.		
17	Bounce Back	https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4573344/	Programmatic	Stress and trauma	Bounce Back is a school-based group intervention for elementary students exposed to stressful and traumatic events. With 20-50 percent of American children experiencing trauma within their families, at their schools, and in their communities, it is essential to help children heal. Bounce Back teaches students ways to cope with and recover from traumatic experiences, so they can get back to doing what they want to do and need to do.	The Bounce Back program includes 10 group sessions, 1-3 group parent sessions, and 2-3 individual student sessions.	1 year	Some evidence
18	Promoting Positive Cultural Norms	https://www.cdc.gov/violenceprevention/pdf/efc-promoting-positive-community-norms.pdf	Cultural Norms	Violence	Recognizing safe, stable, nurturing relationships (SSNRs) and environments as essentials for childhood provides a new and exciting shift in the prevention of child maltreatment. This focus on healthy relationships moves beyond focusing on reducing risk. To be successful in increasing safe, stable, nurturing relationships and environments in our communities, we will need broad engagement with not just parents and primary caregivers, but with all those who	7 – step process	3 – 5 years	Some evidence

#	Intervention Name	Source	Intervention Category	Root Cause	Descriptions	Resources Needed	Timeline on ROI	Evidence
					provide such relationships with children (teachers, day care providers, and coaches), as well as those in decision-making positions (health care providers, school principals, and elected officials). To foster broad engagement and adoption, it is critical to establish a context in our communities that supports safe, stable, nurturing relationships and environments.			
19	Circle of Security – Parenting (COS-P)	https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5543687/	Programmatic and cultural norm	Trauma	Circle of Security International presents trainings around the globe focusing on the early intervention models to increase attachment and security developed by Glen Cooper, Kent Hoffman, and Bert Powell.	Trained facilitators	1-3 years	Some evidence
20	Wraparound New Haven (a program of the Clifford Beers Clinic)	https://www.scattergoodfoundation.org/sites/default/files/innovation-submissions/FINAL%20Wraparound%20New%20Haven%20Brochure_0.pdf	Programmatic	Trauma	The CBC Wrap Around New Haven (WANH) program delivers comprehensive and coordinated care to families with behavioral and physical health needs. Its features include: <ul style="list-style-type: none"> • Connecting families to services that build a healthy lifestyle, including medical services, behavioral health services, and social supports (e.g., housing, school and employment) • Assigning to families a care coordinator who supports the family while helping them identify strengths and needs • Helping families learn to advocate for their children and their family 	Trained care coordinators	1-3 years	Some evidence

#	Intervention Name	Source	Intervention Category	Root Cause	Descriptions	Resources Needed	Timeline on ROI	Evidence
					<ul style="list-style-type: none"> Identifying a team of supports who will work together to develop a family plan of care Working to help the family reach their goals within six to twelve months Visiting in home or another place of family's choosing 			

APPENDIX 5. HEALTHY WEIGHT AND PHYSICAL ACTIVITY INTERVENTION EXAMPLES

This Appendix provides examples of healthy weight and physical fitness interventions that Health Enhancement Communities may choose to implement. This list is for illustrative purposes and will continue to evolve. A full menu of options will be developed and provided by the State which can be used by HECs as part of their intervention selection process.

#	Intervention Name	Source	Intervention Category	Root Cause	Description	Resources Needed	Timeline on ROI	Evidence
1	Obesity: Behavioral Interventions that Aim to Reduce Recreational Sedentary Screen Time Among Children	https://www.thecommunityguide.org/findings/obesity-behavioral-interventions-aim-reduce-recreational-sedentary-screen-time-among	Programmatic	Physical Insecurity	These interventions teach children behavioral self-management skills to help them start or maintain behavior change. Interventions use one or more of the following components: classroom-based education, tracking and monitoring, coaching or counseling sessions, family-based or peer social support.	Most U.S. programs trained existing classroom teachers to deliver the intervention but competing demands with other school subjects was identified as a barrier to implementation.	1-3 years	Strong evidence
2	Physical Activity: Social Support Interventions in Community Settings	https://www.thecommunityguide.org/findings/physical-activity-social-support-interventions-community-settings	Programmatic	Lack of Access	Interventions focus on building, strengthening, and maintaining social networks that provide supportive relationships for behavior change (e.g., setting up a buddy system, making contracts with others to complete specified levels of physical activity, or setting up walking groups or other groups to provide friendship and support).	Included studies reported favorable effects of the intervention on body fat, confidence about exercise, and knowledge of and social support for exercise.	1-3 years	Strong evidence

#	Intervention Name	Source	Intervention Category	Root Cause	Description	Resources Needed	Timeline on ROI	Evidence
3	CHAMPS (Community Health Activities Model Program for Seniors)	http://dne2.ucsf.edu/public/champs/	Programmatic	Lack of Access	A public health model program to promote increased lifetime physical activity levels of seniors. CHAMPS promotes and facilitates physically active lifestyles for seniors. It encourages participants to develop physical activity regimens based on their readiness, preferences, health, and abilities.		1-3 years	Some evidence
4	Nutrition: Gardening Interventions to Increase Vegetable Consumption Among Children	https://www.thecommunityguide.org/findings/nutrition-gardening-interventions-increase-vegetable-consumption-among-children	Programmatic	Built environment and food desserts	Gardening interventions provide children with hands-on experience planting, growing, and harvesting fruits and vegetables in an effort to increase their willingness to consume fruits and vegetables. Interventions must at least one of the following: outside gardens, microfarms, container gardens, other alternative gardening methods.	May be implemented in early care and education settings, schools, afterschool programs, or communities. May incorporate parental component.	1-3 years	Strong evidence
5	Safe Routes to Schools	https://www.cdc.gov/policy/hst/hi5/saferoutes/index.html	Policy/Systems	Safety	Safe Routes to School (SRTS) encourages increased student physical activity through safe and active transport to and from school. SRTS promotes walking, bicycling, or other forms of active transportation among students and their families. SRTS can include educating the community and improving the built environment to ensure safe places for children to walk and bike to and from school.	May require significant up-front cost and community cooperation to build infrastructure.	3 years	Strong evidence

#	Intervention Name	Source	Intervention Category	Root Cause	Description	Resources Needed	Timeline on ROI	Evidence
6	Physical Activity: Built Environment Approaches Combining Transportation System Interventions with Land Use and Environmental Design	https://www.thecommunityguide.org/findings/physical-activity-built-environment-approaches	Systems	Built environment and food desserts	Built environment interventions to increase physical activity create or modify environmental characteristics in a community to make physical activity easier or more accessible. Coordinated approaches must combine new or enhanced elements of transportation systems with new or enhanced land use and environmental design features. Intervention approaches must be designed to enhance opportunities for active transportation, leisure-time physical activity, or both.	Significant up-front cost to build infrastructure.	10 years	Strong evidence
7	Physical Activity: Creating or Improving Place for Physical Activity	https://www.thecommunityguide.org/findings/physical-activity-creating-or-improving-places-physical-activity	Systems	Built environment and food desserts	In these types of interventions, worksites, coalitions, agencies, and communities work together to change local environments to create opportunities for physical activity. Changes can include creating or improving walking trails, building exercise facilities, or providing access to existing facilities.	Many of these programs also provide training in use of equipment, other health education activities, and incentives such as risk factor screening and counseling. Several programs reviewed were conducted at worksites.	10 years	Strong evidence

#	Intervention Name	Source	Intervention Category	Root Cause	Description	Resources Needed	Timeline on ROI	Evidence
8	Obesity: Meal and Fruit and Vegetable Snack Interventions to Increase Healthier Foods and Beverages Provided by Schools	https://www.thecommunityguide.org/findings/obesity-meal-fruit-vegetable-snack-interventions-increase-healthier-foods-beverages-schools	Policy /Systems/Cultural Norm	Lack of Access	Meal interventions and fruit and vegetable snack interventions aim to provide healthier foods and beverages that will be consumed by students, limit access to less healthy foods and beverages, or both.	Intervention success may vary based on school characteristics and intervention components. Schools with greater resources will likely be better able to implement interventions with high fidelity compared with schools that have higher needs.	3 - 5 years	Strong evidence
9	Obesity: Multicomponent Interventions to Increase Availability of Healthier Foods and Beverages in Schools	https://www.thecommunityguide.org/findings/obesity-multicomponent-interventions-increase-availability-healthier-foods-and-beverages	Policy	Lack of Access	Interventions aim to provide healthier foods and beverages in schools that will be consumed by students, limit access to less healthy foods and beverages, or both.		3 - 5 years	Strong evidence
10	Falls Prevention Programs: Matter of Balance, Otago Exercise, Stepping On, Tai Chi	https://www.ncoa.org/wp-content/uploads/2017-Evidence-Based-Falls-Programs-Infographic.pdf	Programmatic	Lack of Access	Workshops and exercise programs to build muscle, improve balance, reduce fear of falling, and develop strategies to reduce falls.		1-3 years	Strong evidence
11	Secrets of Baby Behavior	http://www.calwic.org/storage/documents/webinars/web4_jackie.pdf	Programmatic	Lack of education	Baby behavior was a big reason why many mothers stop breastfeeding, give too much formula, give solid food too early, and give unhealthy food to their babies. Inappropriate feeding may lead to overweight.		1 - 3 years	Some evidence

#	Intervention Name	Source	Intervention Category	Root Cause	Description	Resources Needed	Timeline on ROI	Evidence
12	Baby Friendly Hospital Initiative	https://www.babyfriendlyusa.org/about-us	Systems/Policy	Lack of education	A global program to encourage the broad-scale implementation of the Ten Steps to Successful Breastfeeding and the International Code of Marketing of Breast-milk Substitutes. The BFHI assists hospitals in giving mothers the information, confidence, and skills necessary to successfully initiate and continue breastfeeding their babies or safely feed with formula and gives special recognition to hospitals that have done so.		1 - 3 years	Strong evidence
13	Minding the Baby Home Visitation Program	https://medicine.yale.edu/childstudy/education/practitioner/mtb/	Programmatic	Trauma	Grounded in attachment theory and reflective parenting, Minding the Baby® (MTB) home visiting provides an integrated model of care for first-time young mothers and their families that bridges primary care and mental health approaches to enhancing the mother-infant relationship.		1-3 years	Strong evidence

#	Intervention Name	Source	Intervention Category	Root Cause	Description	Resources Needed	Timeline on ROI	Evidence
14	Black Barbershop Health Outreach Program	https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4244298/	Cultural Norm and Programmatic	Lack of education and access	<p>African American men die disproportionately more than any other segment from preventable diseases. Over the past decade, the Black Barbershop Health Outreach Program has found success in its three-pronged approach to community engagement:</p> <ul style="list-style-type: none"> • SCREEN: We screen men for diabetes as well as high blood pressure. • EDUCATE: We educate men about making life style choices. • REFER: We refer men to local, affordable health care resources. 		1-3 years	Some evidence

APPENDIX 6. ADDITIONAL SIM WORKGROUPS AND WORK STREAMS

Equity and Access Council

The recommendations of this group are intended to promote appropriate safeguards to protect against under-service and patient selection as shared savings programs become the predominant model of health care financing in CT. These recommendations must be considered in the development of finance models for the HEC Initiative.

Health Information Technology (HIT) Council

The HIT Environmental Scan (January 2018) resulted in published recommendations by nearly 300 individuals representing over 130 organizations from across the health care system in Connecticut. Current gaps include incomplete and siloed data which create barriers to managing gaps in care, targeting interventions, and comparing performance to peers and to aggregated populations. Continued work of the HIT Council will ensure communities are able to measure and evaluate success by confirming all appropriate data capabilities are in place and leveraging any existing infrastructure.

Quality Council

Ongoing Council work will ensure measure alignment and development of a public scorecard that broadly represents all involved communities and is meaningful and relevant to HEC measures. Evolution of current measure sets to be inclusive of root causes should be an ongoing scope of work and analysis.

Practice Transformation Task Force

The role of the Practice Transformation Task Force is to recommend advanced medical home standards provide advice on practice transformation processes, foster the alignment of care with delegated delivery care models in the state, and provide ongoing advice during implementation process.

Advanced Medical Home

As of May 2018, 125 practices achieved 2014 NCQA Level II or II recognition under the Advanced Medical Home Program. These practices must be engaged in future community-based efforts to promote health and the essential role of primary care.

Accountable Care Organizations (ACOs)

Five ACOs participate in Connecticut's Medicare Shared Savings Program, two of which also participate in the Advanced Payment ACO model program. In addition, in October of 2016 nine provider networks received authorization to negotiate for participation in PCMH+ (formerly MQISSP), Connecticut Medicaid's shared savings program. This work will leverage ACOs as partners in HECs, including participating in HECs and potentially being a source of and/or conduit for sustainable financing. All efforts under the HECs will be complementary to the ACO work and not duplicative.

Value-Based Insurance Design (VBID) Consortium

Exploration of the role of insurance design that is intended to promote high-value services and employers, particularly those that are self-insured, must continue as an integral component of a multi-factor, multi-sector approach to population health. The 11 self-insured employers recruited into the targeted VBID technical assistance initiative will be consulted to evaluate benefits and challenges of the approach and its potential applicability to other insurance products.

APPENDIX 7. ADDITIONAL REFERENCE MATERIALS

Child Well-Being

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