SOCIAL CONDITIONS AND HEALTH

MOMENTUM AND INSIGHT TO ACT

Health is more than health care. Health care is essential, but our health is largely shaped by the social conditions in which people are born, grow, work, live, and age. These conditions shape health in a way that is beyond the reach of the health system. Factors including environmental conditions, socioeconomic factors, health behaviors, access to medical care, and power layer over each other accumulating impact and creating different opportunities to be healthy. At their best, social conditions can improve health, such as through safe, affordable housing, access to good education and healthy foods, and sustainable income. At their worst, social conditions negatively influence health, well-being, and life expectancy.

There is a growing focus on the role of social conditions in shaping health and push to move towards care systems that integrate health and social care. This shift is being driven by a confluence of factors, including unsustainable health care costs, deteriorating health outcomes and increasing disparities, a push for greater value in health care, and the potential of social care integration to deliver better care at lower cost.

Multi-partner initiatives addressing adverse social conditions are emerging across the country and offer many ideas to adapt and apply to the Olympic region. There is no standard playbook of how best to improve social conditions in a community. Specific initiatives are often customized to local community needs and context. Initiatives showing promise, however, share the following common elements: 1) mobilize a broad range of partners, 2) design and partner with community, 3) utilize an integrator organization to align partners, 4) coordinate funding from multiple sources, 5) invest in data sharing, and 6) take a long-term view.

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BACKGROUND

Olympic Community of Health (OCH) engaged [Collaborative Consulting](#) to look at how adverse social conditions across the region are impacting health and explore whether there are opportunities for region-wide, collaborative interventions. Identifying and addressing social conditions that negatively impact health is a priority of the Washington Medicaid Transformation Project (MTP) and a potential focus for OCH long-term.

One aspect of this project was to review the literature on social conditions and health and evidence-based interventions and to profile multi-partner initiatives aimed at addressing adverse social conditions. Another aspect is a survey of OCH partners asking them whether and how they are responding to people's social needs, what challenges they have faced, and what opportunities they see. The final element is a review of publicly available data on dominant social risk factors in the region. What follows is a synthesis of themes from the literature review and profile of multi-partner initiatives.

Identifying and addressing social conditions that negatively impact health is a priority of the Washington Medicaid Transformation Project (MTP) and a potential focus for OCH long-term. This report is one step in a broader palette of work to support OCH partners in addressing issues no single sector or tribe can tackle alone.

HEALTH IS MORE THAN HEALTHCARE: THE IMPACT OF SOCIAL CONDITIONS ON HEALTH

A multitude of interconnected factors shape health

Although health care is essential, health and well-being do not originate in a clinical setting or hospital. Our health is the product of many interconnected factors that accumulate and influence each other.

- **Individual genetic factors**: predispositions to health or disease ingrained in our genes. Although many diseases, such as diabetes, cardiovascular disease, and cancers, have some genetic component, risk, morbidity, and mortality are often influenced by environmental exposures and behaviors.
- **Health behaviors:** the daily choices we make that promote or damage health including tobacco use, diet and exercise, substance use, stress coping strategies. Our health behaviors are greatly influenced by culture, socio-economic factors, and environmental conditions.
- **Medical care**: availability, use and quality of medical care influence health. However, improvements in medical care have a relatively small impact on mortality. In the twentieth century life expectancy increased by thirty years, only five of which are attributable to better medical care.
- **Socio-economic factors**: including education, employment, income, housing, community safety, social cohesion influence our health. Education level and poverty are two of the most consistent predictors of the likelihood of death, driven in part based on how these factors influence other downstream factors.
- **Environmental conditions:** the physical environment influences our health. Environmental pollutants, food and water contaminants, structural and safety hazards in work and living environments all contribute to morbidity and mortality.

- **Power:** power influences decision making, resource allocation, what is acceptable in society, and priorities at the national, state, community, and organization level. It can be described as "upstream of the upstream factors". Imbalances in power can be reinforced in societal systems.

These factors layer over each other and have a cumulative impact over time creating different opportunities to be healthy. The Dahlgren & Whitehead model of health (Figure 1) illustrates this layering. For example, an individual's ability—and motivation—to exercise and eat healthy can be constrained by living in a neighborhood that lacks safe areas and supermarkets. Neighborhood choice can be constrained by income level and employment status, which are, in turn, influenced by education level. Neighborhood conditions, economic opportunity and education quality and access are influenced by decision making and resource allocation by those with power. [1-4]

Figure 1: Layering of the factors that shape health [2]

About 20% of what creates health is related to access and quality of health care. The remaining 80% is shaped by social structure: physical environment, socioeconomic factors, and health behaviors. These conditions shape health in a way that is beyond the reach of the health system (Figure 2). [1,5-9]

Figure 2: Factors that Contribute to Health
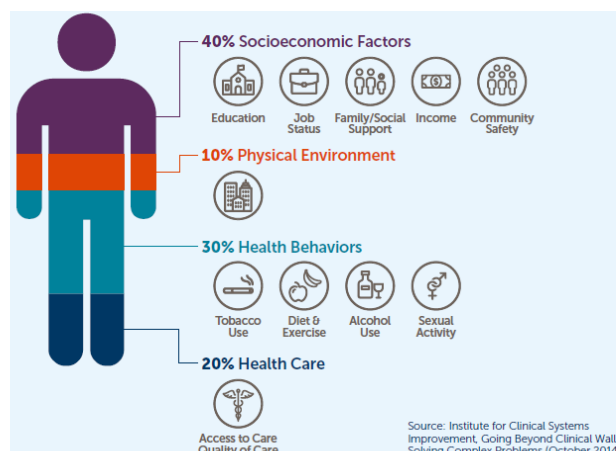
These factors, social determinants of health, affect everyone

The social conditions that shape our health outcomes are often referred to as the social determinants of health (SDoH), defined by the World Health Organization as "the conditions in which people are born, grow, work, live, and age" (Table 1).[8, 10] The term SDoH is often misinterpreted as being negative or applying to only select groups of people. Everyone's health, however, is shaped by their social conditions. For some it is positive while for others it is negative. At their best, social conditions can improve health, such as through safe & affordable housing, access to good education and healthy foods, and sustainable income. At their worst, social conditions negatively influence health, well-being, and life expectancy. Adverse social conditions create risks to health –so called social risk factors – such as housing instability, inconsistent access to food, exposure to violence and unstable social relationships. [5, 11-12]

Table 1: Terminology Related to SDoH[5]

Social determinants	The conditions in which people are born, grow, work, live, and age that affect a wide range of health, functional, and quality of life outcomes and risks
Social risk factors	Underlying adverse social conditions that may be associated with negative health outcomes, such as poor housing or unstable social relationships
Social needs	Social risk factors that consider an individual's preferences and priorities. Social needs differ from social risks by emphasizing the individual's priorities of which social interventions that they most need and want
Social care	Systems and services, such as housing, food, and education, provided by government and private, profit and nonprofit, organizations for the benefit of the community

[Healthy People 2020](#) categorizes social conditions into five groups: economic stability, education, social and community context, health and health care, neighborhood and built environment. Table 2 provides examples of underlying factors associated with each group. Systematically identifying and addressing social risk factors can help minimize and reverse their damaging effects on health outcomes. [5, 11-15]

Table 2: Social determinants of health and underlying factors [5,12,13]

Economic stability	Education	Social and community context	Neighborhood and physical environment	Health and health care
Employment	Early childhood education & development	Civic participation	Violence & safety	Access & coverage to health care
Income		Discrimination	Housing quality	Quality of care
Debt	Education level	Incarceration	Transportation	Provider cultural competency
Food security	High school graduation	Social cohesion	Walkability & Parks	Health literacy
Housing		Support systems	Environmental pollutants	
	Language & literacy	Stress	Air & water quality	
	Vocational training			

Improving health depends on addressing adverse social conditions

Over two decades of research demonstrates the negative impacts of adverse social conditions on health. Poverty, job insecurity, housing instability, housing quality, environmental pollutants, food insecurity, lack of educational support, social isolation, chronic stress have all been shown to impact health (Table 3). For more on the evidence linking adverse social conditions and negative health impacts see Healthy People 2020.

Table 3: Evidence Linking Social Conditions and Health [1,3, 7, 11, 13, 16-21]

Economic Stability	
Income	**Higher income, longer life** Adult life expectancy increases with increasing income. Men and women in the highest-income group live six or more years longer than the lowest income group. Income is a pathway to a clean and safe living environment, improved housing quality, food insecurity, and education. **Lower income, more chronic illness** Poverty is associated with increased risk diseases including cardiovascular disease, arthritis, diabetes, chronic respiratory diseases, cervical cancer, and mental distress. **Unemployment is associated with cardiovascular disease, depression, substance use and health problems**
Housing	**Housing stability affects mental and physical well-being** Housing instability: trouble paying rent, overcrowding, living with friends/relatives, moving often, spending >30% of income on housing, and homelessness. • Homelessness increases risk of communicable diseases, environmental exposures, mental health disorders, asthma, and death • Overcrowding affects mental health, stress levels, relationships, and sleep • Moving often is associated with increased likelihood of chronic conditions and poor physical health in children
Food Security	**Food security increases obesity risk** Income and employment impact ability to purchase food. Neighborhood conditions and transportation can impact physical access to food. Food insecurity can: • Increase risk of chronic conditions including obesity, in adults • Increase risk for obesity and developmental problems in children
Social and Community Context	
Stress	**Health is harmed by stress** Stress caused by social division, trauma, violence, and perceptions of limited choices exerts effects that can grow over the life course. Chronic stress can: • Create hormone changes that damage heart, kidneys, and immune system • Alter genes allowing effects of trauma passage to a future generation • Result in lifelong effects on growth, development, and brain architecture because of exposure in early life
Social isolation	**Social isolation is deadly** Socially isolated persons have a death rate two to five times higher than that of those who maintain close ties to friends, family, and community.

Education	
Education level	**More education, longer life** The most consistent predictor of likelihood of death is level of education. College graduates can expect to live at least 5 years longer than individuals who have not finished high school. Education is a pathway to better jobs, higher income, health insurance, and the resources to live in healthier and safe neighborhoods. **Less Education, worse health** Less education is linked with overall poorer health and increased risk for major disease and disability. **Less education linked with unhealthy behaviors** Less education is associated with being less likely to receive health screenings and seek preventative health care.
Early Childhood Development	**First 5 years crucial to development and can have lifetime impacts** The first 5 years of life are crucial to development adverse exposures can have lifetime impacts on social, cognitive, emotional, and physical development. • Exposure to environmental hazards (i.e. lead in home) can negatively impact health and lead to cognitive delays • Early life stress can lead to inadequate coping skills, reduced social functioning, and difficulty regulating emotion • Childhood malnutrition and micronutrient deficiencies are linked with increased risk for morbidity, developmental delays, and obesity
Physical and Neighborhood Environment	
Housing Quality	**Housing quality can exacerbate health conditions and stress** Poor housing quality increases likelihood of lead poisoning, asthma, and other respiratory conditions
Pollutants	**Environmental pollutants associated with various diseases** Clean air and water are essential to good health. This is particularly true for children with asthma and adults with respiratory conditions. • Environmental pollutants, contaminants of food and water supplies have been associated with cancers, allergies, and other diseases of various organ systems • Chronic exposure to air pollutants increases cardiovascular disease and death risk • Poor communities are at a higher risk of exposure to negative environmental conditions including proximity to factories or highways, soil pollution, contaminated drinking water, runoff from toxic wastes, and flooding
Health and Health Care	
Access to care	**Barriers to access can lead to missed or postponed care** Access to health care can be impacted by insurance status, cost of care, transportation, and availability of services. Barriers that prevent or limit access to health care can increase poor health outcomes and disparities. • Uninsured individuals are less likely to receive care • Lack of transportation can lead to delayed or skipped medication, missed appointments, and postponed care. • Limited availability of services can lead to wait times and delayed care

Social risk factors are amplified in rural areas

Rural communities experience unique challenges related to adverse social conditions and negative health impacts. Rural residents are more likely to:

- Have **limited access to health care**, traveling greater distances to access health care because of fewer hospitals, providers, specialists, and emergency services.
- Be uninsured.
- Face **greater transportation barriers,** potentially impacting access to health care, healthy food, and economic opportunity.
- Be **food insecure**, recent estimates suggest over 2 million rural residents live in areas that have limited access to affordable and healthy food. Barriers to healthy food include transportation, income levels, availability, and cost.
- **Lack access to broadband,** 40% of rural communities lack access to high-speed internet impacting work, education, and health care services.
- **Experience historical trauma in tribal communities** stemming from loss of land, discrimination, and policies of segregation have a lasting impact on the health and wellbeing of tribal communities.[13,22-24]

ADDRESSING SOCIAL CONDITIONS THAT IMPACT HEALTH

Communities, community-based organizations, and social services have long understood the importance of social conditions in shaping health. Additionally, there is a growing focus in healthcare to move towards care systems that integrate health and social care. This shift is driven by a confluence of factors including unsustainable health care costs, deteriorating health outcomes and increasing disparities, a push for greater value in health care, and the potential of social care integration to deliver better care at lower cost. Any one factor alone might not influence change, but together they are leading to a great transformation in how we view health, healing, and the systems designed to cultivate it.

America is not getting good value for its health dollar

The United States spends significantly more money on health care than any peer country, but we are sicker and dying earlier than our peers. The U.S. ranks top out of thirty-five peer nations in national spending on health care as a percentage of GDP. In 2018, the U.S. spent $3.6 trillion on health care services, almost 17% of the U.S. economy (GDP) and more than $10,500 per person. This is significantly more than all 35 peer countries in the Organisation for Economic Co-operation and Development (OECD); most all spend less than 12.5% of GDP $6,000 per capita on health care spending.[5,20,25]

Despite this massive investment, Americans die earlier and are sicker than their peer countries.
- The U.S. is losing ground in life expectancy. Life expectancy is lower and has not kept pace with progress in peer countries. In 1980, the U.S. ranked 14th among peer countries in life expectancy at birth. We have slipped to 27th place among 35 peer countries.

- Health outcomes are worse. Infant mortality, low birth weight, injuries and homicides, adolescent pregnancy and sexually transmitted diseases, HIV/AIDS, drug-related deaths, obesity, diabetes, heart disease, chronic lung disease and disability rates are higher.
- Disparities are worse. Differences in health that are avoidable, health inequities, are greater in the U.S. than in peer countries.[5,19,20, 25]

The U.S. has poor health outcomes in multiple areas and life expectancy is declining.
- Life expectancy is declining for the first in a century.
- Nearly 60% of adults have a chronic condition.
- Over 40% of adults are obese.
- Huge disparities in health outcomes and access exist. For example, a 40-year-old American man in the poorest 1% income bracket will die almost 15 years earlier than a man in the richest 1%.
- Sickest 5% of individuals account for 50% of health care spending.[19, 26, 27]

Underinvestment in social services is a key driver of poor health outcomes

Although the U.S. spends heavily on health care, it prioritizes treatment over prevention and spends significantly less on social services that contribute to health such as investments in housing, nutrition, education, the environment, and unemployment support. Health and social care spending, however, are both related to health outcomes and the U.S.'s investments in health care have an opportunity cost. Spending on health care delivery can crowd out investments in strengthening social services that help make and keep people healthy (i.e. unemployment, nutrition support, and housing).

Countries in the OECD that spend more of their GDP on social services relative to health care services have better health outcomes (higher ratios of social-to-health care spending). The U.S., however, has the lowest social-to health ratio of all its peers. For every $1 spent on health care, about $0.90 is spent on social services in the U.S. In contrast, other OECD countries on average spend $2 dollars on social services for every $1 spent on health care. This difference likely accounts for the U.S. poorer health performance.[5,19,25,27]

U.S. Social Programs Improve Health[25]

Studies of the U.S. **Earned income tax credit (EITC) benefits**, cash transfers to low- and moderate-income working people, show that more generous EITC benefits predict improvements in maternal health, physical health and mental health as well as improved birth outcomes and development. Benefits vary between states and the states with higher benefit rates have better health returns.

Studies of the U.S. **Supplemental Nutrition Assistance Program (SNAP),** show the benefits are causally linked with increased consumption of fresh fruits and vegetables and decreased consumption of sugar-sweetened beverages. Additionally, a temporary expansion of SNAP benefits in Massachusetts was linked with reductions in inpatient Medicaid expenditures.

The COVID-19 pandemic is amplifying the need to address social conditions

Across the country the COVID-19 pandemic is exacerbating social risk factors for millions, including the loss of employment, subsequent health coverage loss, worsening food insecurity, and increasing housing instability. Many marginalized communities have been impacted disproportionately. This includes disparities in existing health conditions, exposure to chronic pollution that may exacerbate disease progression, who can work from home, who must continue going into work, and who can safely shelter-in-place. The pandemic is amplifying and accelerating the need for systems to identify the social risk factors driving poor health and develop local partnerships to address them.[28]

The push for greater value is incentivizing reforms in health care payment and delivery

In response to rising costs and poor performance on quality indicators and health outcomes, the U.S. healthcare system is undergoing a transition from volume-based care to value-based care. At its core value-based care focuses on maximizing value for customers- achieving the health outcomes that matter to the patients at the lowest costs. This transition requires moving from health care systems organized and paid for based on what providers do (i.e. fee-for service payment for services provided-visits, procedures, tests, hospitalizations) towards systems organized around what patients need and outcomes achieved. It requires restructuring how health care delivery is conceptualized, organized, measured, and reimbursed.

Driven by this shift towards value-based care and reimbursement, as well as pressures to contain costs, government, commercial and employer payors are moving away from fee-for-service models toward value-based payment models (Figure 3) that incentivize health outcomes through performance-based payments or penalties, bundled or capitated payments, and shared risk and/or reward contracts (Table 4). Value-based care programs are increasingly being adopted across the U.S., 35.8% of all U.S. healthcare dollars in 2018 were paid via alternative payment models.

This value shift is helping align incentives to integrate medical and social care and encourage focus on social conditions that impact health. As a result, health providers, insurers, and employers are increasingly looking towards interventions and partnerships to address adverse social conditions as a mechanism to improve health outcomes and manage costs more effectively.[5,10,16,29-31]
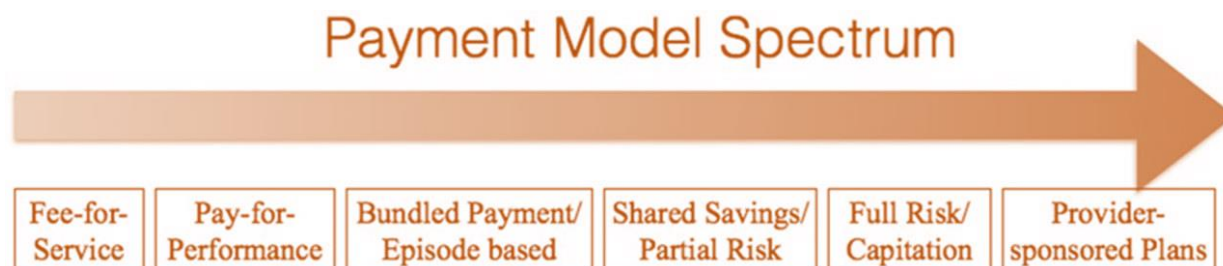
Figure 3: Payment Model Spectrum[29]

Table 4: Value-Based Payment Models [5,10,16,29]

Table 4: Value-Based Payment Models [5,10,16,29]

Pay-for-Performance	A variety of payment strategies that link provider performance and reimbursement. Providers are paid fee-for-service with payment adjustments up or down based on value metrics. Value is increased by improving outcomes and quality, reducing costs with maintaining, or both improved outcomes and reduced costs.
Bundled payments/Episode based	Payment for a set of services that occur over time and/or across settings. Payment can be linked to a condition (diabetes), setting (hospital stay), or procedure (hip replacement). Payment is fixed regardless of what services are provided. The provider is responsible for all costs of care management.
Shared savings/Partial risk	Some portions of payment are dependent on achieving cost savings for the patient population served, while also realizing specific health outcomes or quality improvement targets. If savings are attained, the provider receives a portion of the savings.
Global capitation/Full risk	Providers receive an upfront per-member, per month lump sum payment to cover a wide range of services. Providers bear full financial risk by receiving fixed payment for contracted services and are financially accountable if costs exceed payment.

Payment and delivery reforms offer vehicles to integrate health and social care

A broad range of payment and delivery reform initiatives and experiments have been launched at the federal and state level that promote addressing adverse social conditions through the healthcare system. These initiatives provide vehicles for the integration of social and health care delivery and provide more flexibility in paying for social services. These reforms reflect the broader movement towards value-based care, care integration, and whole-person care delivery models which aim to address patients' physical, mental, and social needs. This increase in public investment and care delivery reforms have stimulated creativity and emergence of partnerships and initiatives across the country focused on social conditions to improve health. Descriptions of some reforms follow.[5,8,12,30,32]

1115 Medicaid Demonstration Waivers are state Medicaid demonstration programs that waive certain federal Medicaid requirements and allow for more integrated and coordinated care. The models vary by state but increasingly states are using the waivers to test new approaches to care including connecting people to social services and using funding to pay for social services that directly affect health. **Oregon** has used the 1115 waivers to establish Coordinated Care Organizations (CCOs) that receive global payment for each enrollee and provides flexible funding to offer health related services. CCOs partner with community-based partners to address social conditions that affect health.

Delivery System Reform Incentive Payments (DSRIP) these initiatives are part of the 1115 Medicaid waivers allowing for more flexibility in Medicaid requirements. They provide new funding opportunities and support movement to value-based payment. These initiatives vary by state but link Medicaid funding to process and performance metrics, which may involve addressing social needs and factors. In **New York**,

provider systems implement DSRIP projects aimed at ensuring people have supportive housing. In **Texas**, some providers use DSRIP funds to install refrigerators in homeless shelters to improve access to insulin.

Health Homes are a Medicaid State Plan option that allows states to provide care coordination and management services to people with eligible chronic conditions. There is flexibility in the health home design but there is an explicit focus on team-based, whole person care that integrates medical, behavioral and social services. Health home services include comprehensive care management, care coordination, health promotion, comprehensive transitional care, patient and family support, as well as referrals to community and social support services.

Medicaid Managed Care Organizations (MCOs) are organizations that contract with state Medicaid agencies to manage the health benefits and other services for the Medicaid population. This strategy encourages care coordination and incentivizes managing healthcare costs. A growing number of states are requiring Medicaid MCOs address social conditions as part of their care delivery and as a result MCOs are increasingly engaging in social needs screening, referral and navigation programs to link members to social services, developing social service resource databases, utilizing community health workers, and partnerships with community organizations to implement initiatives.

Centers for Medicare & Medicaid (CMS) 2018 Accountable Health Communities Model is focused on connecting Medicare and Medicaid beneficiaries to community services to address health-related social needs. The model tests whether systematically identifying and addressing health-related social needs through screening, referral, and community navigation services will improve health and reduce costs.

CMMI State Innovation Models Initiative (SIM) provides funding and technical support to states for the development and testing of payment and delivery reform models to improve quality, reduce costs and improve population health. The reform initiatives include a key focus on population health and recognize the role of social conditions in health outcomes.[5,12,33]

Potential of social care to deliver better outcomes at lower cost

Programs that address adverse social conditions return value. Recently there has been an increase in research demonstrating effectiveness and potential health and financial returns from interventions focused on addressing adverse social conditions. Scientific studies have found that investments in housing, income support, food and nutrition, education, and care coordination are showing promise as viable strategies to improve health outcomes and/or reduce costs.[5,8,10, 21, 34]

One review of published evaluations found 100% of income support programs, 88% of care coordination and community outreach programs, 83% of housing support programs, and 64% of the nutritional support programs reviewed had a significant positive effect on health alone or health and cost combined [21,35]. Table 5 provides a selection of evidence-informed strategies to improve adverse social conditions for health. For more strategies or a deeper exploration of the available evidence visit Robert Wood Johnson Foundation's Take Action to Improve Health website.[36] Additionally, Appendix 1 provides a sample of outcome evaluations published in the scientific literature.

Table 5: What Works to Improve Social Conditions for Health[36]

ECONOMIC STABILITY

Housing

Housing First
Housing model that provides rapid access to permanent housing along with wrap around support to individuals who are chronically homeless.

Scientifically supported: Programs reduce homelessness, increase   housing stability, reduce hospital utilization, and improve participant mental health and well-being.

Service-enriched housing
Housing model to provide permanent rental housing with social services available onsite or by referral, usually for low income families, seniors, veterans, or people with disabilities.

Some evidence: Programs reduce homelessness, increase housing stability, reduce hospital utilization, and reduce participants anxiety and mental health conditions**.**

Income

Earned Income Tax Credit (EITC)
Volunteers, professionals, or paraprofessionals help low to moderate income working individuals/families receive refundable earned income tax credits from the government.

Scientifically supported: EITC increases employment, income, and financial stability for families. Improves birth outcomes (reducing low birth weight and infant mortality), and improved maternal and child health.

Childcare subsidies
Working parents or those attending school given financial assistance for childcare.

Scientifically supported: Subsidies increase employment and earnings for families. Subsidies are also linked with increased enrollment in higher quality center-based care.

Employment

Adult Vocational training
Individuals are supported in acquiring job-specific skills through education, certification programs, or on-the-job training.

Scientifically supported: Programs increase participants' employment and earnings.

Youth short-term employment and apprenticeship programs
Short-term employment opportunities for youth. Students provided professional opportunities combining academic, on-the-job training, or mentorship.

Some evidence: Programs increase employment and earnings during participation and decrease arrests for violent crime**.**

Expert opinion: Youth apprenticeship programs are a strategy expected to increase employment and employment skills**.**

Food Security

Fruit and vegetable incentive programs
Participants receive matching funds to purchase healthy foods such as fresh fruits and vegetables; often called bonus dollars, market bucks, produce coupons, or nutrition incentives.

Scientifically supported: Programs increase affordability, access, purchase, and consumption of fruits and vegetables. Shown to increase the variety of fruits and vegetables purchased as well as dietary intake.

Electronic Benefit transfer payment at farmers markets
Enable farmers markets to accept EBT- the electronic payment system to issue and redeem Supplemental Nutrition Assistance Program (SNAP).

Expert opinion: Early research associates EBT access at farmers markets with increased fruit and vegetable purchases and consumption**.**

NEIGHBORHOOD AND PHYSICAL ENVIRONMENT

Access to Healthy Food

School breakfast programs
Programs that provide students with free nutritious breakfast in cafeteria, hallway carts, or classrooms.

Scientifically supported: Programs increase academic engagement and achievement, healthy food consumption, and breakfast nutrition.

School gardens
Students are supported growing fruit and vegetables at school, usually coupled with nutrition education, taste testing, and food preparation lessons.

Scientifically supported: School gardens increase vegetable consumption and willingness to try new vegetables. Also, a recommended strategy to promote healthy eating, improve nutrition, and reduce obesity.

Healthy food in convenience stores
Local food outlets (corner stores, gas stations, etc.) are encouraged to carry fresh produce and healthy food options. Often coupled with marketing and display support as well as nutrition education to increase demand for healthy food.

Some evidence: That fresh produce and other healthy foods in corner stores increases access to, knowledge of, and purchasing of healthy foods and a strategy to prevent obesity.

Nutrition prescriptions
Patients are provided prescriptions with healthy eating goals and can redeem prescriptions for fruit and vegetables at local markets.

Expert opinion: Suggested strategy to increase healthy food and decrease unhealthy food consumption. Subsidies and financial incentives for healthy foods have been shown to increase healthy food purchases.

Housing Quality

Home environment assessments and remediation

Volunteers, professionals, or paraprofessionals help residents assess and remediate environmental home health risks (e.g., improved ventilation, integrated pest management, and other allergen control efforts).

Scientifically supported: Programs encourage behaviors that reduce asthma triggers and allergen exposure, decrease use of urgent care and health care costs, and improve health outcomes.

Housing rehabilitation loans & grants

Funding is provided primarily to low- or median-income families, to repair, improve, or modernize dwellings and remove health or safety hazards.

Scientifically supported: Programs enable home improvements that result in improvements in respiratory outcomes, overall physical and mental health, and well-being measures. Housing improvements have also been shown to reduce absences from school and work, and hospitalizations.

Walkability

Complete Streets & streetscape design initiatives

Enhance street walkability by increasing sidewalk coverage and walkway connectivity, street crossing safety features, and traffic calming measures.

Scientifically supported: Streetscape improvements increase physical activity, reduce traffic speed, and increase pedestrian and cyclist safety.

Traffic calming

Modify the built environment to slow traffic speed and alter patterns via speed humps, pedestrian center crossing islands, roundabouts, etc.

Scientifically supported: Traffic calming measures reduce traffic speed, redistribute traffic, increase pedestrian and cyclist safety, and increase bicycling and walking.

EDUCATION

Early Childhood Education and Development

Early childhood home visiting programs

Provide at-risk expectant parents and families with young children information, support, and training regarding child health, development, and care from prenatal through early childhood via home visitors.

Scientifically supported: Programs prevent child maltreatment and injury and improve child development. Programs have also been shown to improve birth outcomes, maternal health, parenting behaviors and attitudes, and increase family self-sufficiency.

High School Graduation

Health career recruitment
Students from disadvantaged backgrounds are recruited and trained for careers in health fields including providing information about careers in field, classes, practicum experiences, and school admission advising.

Scientifically supported: Programs improve participants' academic achievement increasing grades, likelihood of high school graduation, and college or clinical school entry.

Mentoring programs for high school graduation
Programs that connect at-risk students with trained adult volunteers to provide ongoing guidance for academic and personal challenges.

Scientifically supported: Programs for at-risk students improve high school graduation rates.

College access programs
Help students prepare for college, complete applications, and enroll, especially first-generation applicants and students from low income families.

Scientifically supported: Programs increase college enrollment.

HEALTHCARE

Access to Healthcare

Rural training in medical education
Expand medical school training and experiences focused on skills necessary to practice in rural areas.

Scientifically supported: Programs increase the number of physicians who choose to practice in rural areas, increasing access to care for rural patients.

School-based health centers
Provide health care services on school premises to attending students; services provided by nurses, nurse practitioners, or physicians

Scientifically supported: Programs increase access to care, improve health outcomes, improve quality of care, and increase academic achievement. Programs are associated with improved quality of care, reduced hospital utilization, increased immunization, and improved health behaviors.

Telemedicine
Deliver consultative, diagnostic, and treatment services remotely for patients who live in areas with limited access to care; also called telehealth

Scientifically supported: Telemedicine increases access to care, especially for individuals with chronic conditions and those in rural areas.

INSIGHTS FROM THE FIELD

Existing multi-partner initiatives offer insight for the Olympic region

Multi-partner initiatives addressing adverse social conditions are emerging across the country and offer many ideas to adapt and apply to the Olympic region. There is no standard playbook of how best to improve social conditions in a community. Specific initiatives are often customized to local community needs and context, and as a result vary in scope, scale, and factors addressed. Additionally, interventions can range from action focused on the individuals to action focused on communities. Table 6 provides an example of levels of interventions to address unmet medical transportation needs. Table 7 illustrates a sampling of multi-partner initiatives organized by area of focus.

Table 6: Sample interventions to address transportation barrier to health care [5]

Individual	Awareness	Ask people about their transportation needs in the clinical setting
↓	Adjustment	Reduce the need for in-person care appointments by using other options such as telehealth appointments
	Assistance	Provide transportation vouchers so patients can travel to and from appointments
	Alignment	Invest in community ride-sharing programs
Community	Advocacy	Work to promote policies that fundamentally change the transportation infrastructure within the community

Table 7: Multi-sector Interventions to Improve Social Conditions [5,9,19, 32, 36-39]

Intervention Area	Interventions
Screening and referrals	• Online community resource libraries that collate available social resources • Social needs screening in the clinical settings and referrals to community based social care resources
Economic Stability	
Housing	• Multi-stakeholder collaboratives investing to build affordable housing • Housing as healthcare providing target populations with permanent housing and support services • Rehabilitation to improve the safety and quality of existing housing stock (energy audits, building inspections, improved ventilation) • Advocacy for policies that promote and increase affordable and high-quality housing
Employment, Income Support	• Training community members for health careers (medical assistants, medical secretaries, nurses, community health workers) • Youth apprenticeship and internship programs in local non-profit or health care organizations

	• Teams helping individuals enroll in government safety net programs (food stamps, WIC, Earned income tax credit) • Medical legal partnerships to support patients appeal denials for benefits such as food stamps, disability, insurance • Advocacy for policies that expand unemployment insurance, childcare subsidies, and living wage
Food Security	• Food incentive programs that provide vouchers to purchase healthy foods at local food outlets • Fresh food carts that travel to neighborhoods to increase access to fresh fruits and vegetables • Pop up markets/ food pharmacy at clinical sites • Healthy corner/convenience store initiatives to increase availability of fresh produce and healthy food options in local food outlets • Advocacy related to food security (federal nutrition programs)
Neighborhood and Physical Environment	
Neighborhood Environment	• Community greening initiatives to convert lots to green spaces or build community gardens • Increasing availability of parks and trails • Initiatives to improve sidewalks and lighting in neighborhoods • Mixed use redevelopment in vacant lots or old big box stores that combines residential, commercial, and recreational areas
Transportation	• Free or discounted bus, transit, or taxi vouchers • Partnerships with local CBOs that provide transportation • Dial-a-ride transit and volunteer ridesharing programs
Internet	• Wi-Fi hotspot lending programs to boost internet access • Community and municipal owned broadband • Wireless internet towers and receiver antennas in place of broadband where fiber network not possible due to terrain or distance between

Although initiatives will vary and evolve based on local needs and context, initiatives showing promise share the following common elements:
- Mobilize a broad range of partners,
- Design and partner with the community,
- Utilize an integrator organization to align partners,
- Coordinate funding from multiple sources,
- Invest in data sharing, and
- Take a long-term view.

Mobilize a broad range of partners

Adverse social conditions are interrelated and multifaceted. No single organization has the capabilities and authorities necessary to address them alone. Success depends on mobilizing a range of partners. Strategies for partnerships include:

- Align around a shared vision and strategy,
- Establish shared measures,
- Acknowledge and address power differentials,
- Include community members as partners,
- Dedicate time to relationship,
- Establish working groups, and
- Delineate clear and deliberate roles

Align around a shared vision and strategy for change before moving into action. Partners establish a common understanding of the problem being addressed, priorities, and strategies for achieving change. Differences are identified, discussed, and resolved before moving into action.

Establish shared measures. Shared measures and associated data collection tools are established to capture the impact of the cross -sector work, track progress, and ensure accountability among partners. Aspire to establish innovative measures that go beyond health outcomes and cost effectiveness to capture the full effect of the initiative. Areas of consideration include effects of process on partners and community, community member perspectives on experiencing the intervention and its impact, relationship building, community mobilization and economic development.

Acknowledge and address power differentials. Partners acknowledge differentials in power and resources and design processes to facilitate shared and transparent decision making.

Include members of the community as partners. Community members and leaders are included as partners in problem identification, solution design, decision making, implementation, and oversight. Initiatives leverage and build on assets and capacities that already exist in the community and strengthen community leadership for sustained change.

Dedicate time to relationship building. Building trust and relationships across partners takes time. Time is dedicated to ongoing meetings, communication, and relationship building opportunities allowing partners to develop and appreciate a common motivation for the work, build experience and processes for working together, develop shared approaches and vocabulary, and promote trust.

Establish working groups small groups of people who champion and lead the work from each partnering organization.

Delineate clear and deliberate roles among team members to push work forward.[6,30,39-48]

Utilize an integrator organization

Partnerships are critical and they are difficult to establish and maintain. It takes time, effort, and resources. It also often involves navigating differences in goals and incentives; asymmetries in power and resources; and cultural and organizational differences. Successful initiatives often utilize a credible integrator organization that bring partners together and align work. The integrator provides infrastructure to manage cross partner work including facilitating shared vision and strategy, enabling shared decision making, providing communication and relationship building support; establishing data collection and reporting infrastructure; and monitoring and maintaining momentum of progress. [6,30,39-48]

Healthcare Anchor Network
Collaboration of 45 healthcare systems supported and coordinated by an integrator organization.

The healthcare anchor network is a national collaboration of more than 45 leading healthcare systems building more inclusive and sustainable local economies by harnessing their economic power to benefit the long-term health and well-being of the communities they serve. Anchor strategies include inclusive, local hiring and internal workforce development; place-based investing; and local purchasing. The Healthcare Anchor Network helps partners rapidly and effectively advance an anchor mission approach within their institutions, their communities, and within the healthcare sector.

The healthcare anchor network is supported and coordinated by the integrator organization The Democracy Collaborative; they provide a full-time team dedicated to creating productive opportunities for anchor institutions to work together. A platform is provided for the network where member institutions can connect and share with peers; design shared solutions; access and learn from collated evidence base, tools, strategies, and case studies; and build a shared policy and advocacy agenda around addressing upstream social determinants of health.

Design and partner with community

Initiatives that aim to address adverse social conditions are more effective if conducted with the community and reflect the perspectives, preferences, and decision-making of individuals and communities most affected. Oftentimes individuals who are most affected have little voice in design, decision making, and implementation of interventions. Achieving partnership with a community is an ongoing process of identifying constituents; inviting underrepresented to the process; repairing and building trust; and building inclusion and shared influence into all processes. Strategies to foster partnership with communities include:

- Commit to and invest in ongoing, long-term community engagement.
- Take time to listen to and learn from community members.
- Incorporate trust building and relationship repair as part of the process.
- Focus on priorities identified by the community.
- Identify and build upon strengths, assets, and solutions that already exist in the community.
- Incorporate community capacity and power building as initiative goals and measures.
- Implement transparent decision making and conflict resolution processes.[30,41,46-49]

> **Community Outreach & Patient Empowerment (COPE)**
> *Native-controlled non-profit focused on healthy, prosperous, and empowered American Indian/Alaska Native communities.*
>
> COPE believes that the power to overturn long-standing, historical health inequalities lies inherently in Native communities themselves. Their mission is based on investing in community resources and aligning their work with the vision of tribal leadership. A wide range of programs have been implemented in partnership with community including fruit and vegetable prescription program, health Navajo stores initiative to increase fruit and vegetables and traditional foods in convenience stores and trading posts, connecting local growers to markets, youth leadership and power building, culturally appropriate health education, and community health representative training and outreach program.
>
> **Thrive Allen County**
> *Rural health advocacy organization- mobilizing community to improve community health, healthcare access, and economic development.*
>
> Thrive Allen County is the largest and most prominent rural health advocacy organization in Kansas. The Thrive coalition plays a key role in the county's community improvement journey by catalyzing efforts to improve healthy lifestyles, health care access, and economic development and serving as a connector across efforts. Their work is based in building public and political will and marshalling resources to meet community needs. Initiatives are resident identified and implemented through community mobilizing. Successes include improving healthcare and food access, increasing availability of trails and parks, and establishing statewide rural advocacy coalition to ensure rural voices have a seat at the legislative table.

Coordinate funding from multiple sources

Adequate and sustainable funding is often the most noted challenge for initiatives. Social services funding is often less and delivered through a fragmented patchwork of federal, state, local, and philanthropic sources incentivizing short-term narrowly focused interventions. Additionally, it is difficult to determine return on investment (ROI) due to: short funding cycles mis-matched to longer time horizons necessary to see returns; investments in upstream interventions made by one sector accruing savings or benefits to another sector; lack of accounting for spillover impacts beyond the institution implementing the intervention. Strategies to achieve sustainable financing include:

- Leverage multiple funding streams in a pooled financial model,
- Pursue multiple funding sources,
- Capture soft ROI, and
- Capture and reinvest savings into initiatives.

Leverage multiple funding streams into a pooled financial model: Create a common larger pool of funds that multiple sectors and partners contribute towards coordinated impact on a shared goal. Appendix 2 highlights some mechanisms to achieve larger buckets of funds for initiatives.

Pursue multiple funding sources: Identify and pursue a range of funding sources including motivated investors (health payers, local government, philanthropy, private investors). Multiple sources increase sustainability by decreasing dependence on any single funder. Appendix 2 highlights potential funding sources.

Capture 'soft' return on investment: Soft ROI are the range of benefits that could accumulate to initiative collaborators that are not easily quantified in dollar terms. These soft returns include benefits such as improved connection to the communities for health systems or payers, improved collaboration and relationships among partners, positive public relations and organizational reputation in the community, improved morale and organizational culture. Capturing and sharing soft ROI as a measure of success can be a powerful driver in initial investment and partner participation.

Capture and reinvest savings into initiatives: A portion of savings resulting from more efficient care and improved health are reinvested in efforts to address upstream efforts to further improve health creating a reinforcing loop of improved health and savings. [8, 12, 18, 33, 35,50-52]

Housing is Health Initiative
Six health systems to pool resources to build affordable housing.

Central City Concern is a non-profit focused on homelessness, poverty, and addiction in Portland, OR. The organization brought together six health care systems to pool resources and invest in affordable housing and support services. The six partners have pooled their community benefit dollars to invest $21.5 million dollars in three affordable housing developments each serving a specific population.

Invest in Data Sharing

Data and technology play an integral in interventions; they provide infrastructure to identify top social risk factors, populations for intervention, and referral resources; coordinate services between partners; and assess shared outcomes and progress. Many communities, however, lack the data infrastructure and data sharing ability necessary to support their efforts. Partners are limited by lack of social needs data being collected as well as technical, financial, and legal barriers to data sharing. Integrating data can be expensive, time consuming and prevented by real or perceived legal barriers. Strategies to improve data sharing include:

- Incorporate data sharing as a key component of the partnership.
- Spend time identifying and developing shared data goals.
- Identify a limited set of data fields necessary to start and incorporate into partner data systems.
- Co-design data sharing scope and workflows; include these in data sharing agreements.
- Provide resources and guidance to address real and perceived legal barriers.[5,6,12, 18, 30, 41, 45, 53]

Camden Coalition of Healthcare Providers

Non-profit focused on integrating medical and social care. Integrated data is core to their approach

Camden Coalition of Healthcare Providers is a multidisciplinary non-profit in Camden, NJ that develops person centered programs and models of care that address medical and social barriers to health. The Coalition coordinates a portfolio of local interventions including care management, Housing First, a medical legal partnership, social needs screening and navigation, etc. Core to their approach is using real-time integrated data, community engagement, and convening to inform programs aimed at care redesign. The partnership consists of 20 local non-profits, 4 hospitals, primary care offices, and FQHCs.

The organization established and manages a regional Health Information Exchange (HIE) that provides integrated data to local providers. The HIE is a backbone to care redesign and is used to identify social risk factors in communities, populations for intervention, individuals to enroll in programs, monitor progress, and coordinate services between community and clinical partners. Over 30 sites contribute data to and use the HIE including hospitals, primary care, labs, jails, and other healthcare facilities.

Take a long-term view

Upstream adverse social conditions are not easily solved with short-term, narrowly focused, one-off interventions. Improving social conditions requires long-term commitment and action. Initiatives can take years or decades to show measurable impact, timeframes that are often at odds with investor and partner expectations. Strategies that help initiatives commit to long-term action include:

- Develop and share narratives that articulate lasting impact, change sought, and progress.
- Develop a portfolio of initiatives aimed at desired change; innovate and adjust as evidence evolves.
- Think of and plan for initiative in phases.
- Embed and embrace learning, iteration, and flexibility into processes and structures.
- Establish short and medium-term objectives that build into the longer-term goals. Track progress along the way to bolster momentum and sustained investment for the long-term. [39, 41, 46, 48]

ProMedica
Community-based anchor institution on 10-year journey to shift from healthcare to integrated health and wellness.

ProMedica has embraced their role as a community-based anchor institution and have been on a 10-year journey to shift their focus from healthcare to integrated health and wellness. In addition to providing traditional healthcare services, they implement a portfolio of broad-based, multifaceted initiatives aimed at improving employment, education, food security and housing in the communities they serve. They take an "all-in" approach to addressing adverse social conditions; connecting traditional interventions like food clinics to strategies that build community wealth such as establishing a grocery store in an areas lacking affordable healthy food and connecting this to employee training programs. Interventions focus on healthy food access, neighborhood improvement, community wealth building, employment.

Appendix 1: Addressing adverse social conditions evidence snapshot [19, 21, 35, 54-56]

Intervention Area	Intervention Description & Outcomes
Economic Stability	
Income support, Food security	**Women, Infants, and Children (WIC)** (nationwide) Federal supplemental nutrition program **Outcomes:** • Reduced rates of low birth weight and preterm birth • Increased child immunization rates
Income support, Food security	**Food Prescription Pilot Program** (Pasadena, TX) **Intervention:** Participants screened and recruited at school-based health clinics and FQHC, eligible participants provided with food prescription for 30 pounds of a variety of fresh produce plus four healthy, nonperishable food items every 2 weeks. This was coupled with nutrition education. **Outcomes:** • Participants reported a reported a 94.1% decrease in the prevalence of food insecurity • 99% of participants reported eating "all" or "most" of the food provided • Program costs were $12.20 per participant per redemption • Interviews revealed that providers and participants felt the program was well received and highly needed
Income support	**Great Smoky Mountains Study** (North Carolina) **Intervention:** Income supplements to American Indians from casino revenue **Outcomes:** • Improved mental health outcomes in adolescence that persisted through adulthood • Increased education and • Reduced criminal offenses
Housing	**Housing for Health** (Los Angeles, CA) **Intervention:** Permanent supportive housing initiative in Los Angeles, implemented by LA County Department of health Services. **Outcomes:** • 96% of participants stably housed • 60% reduction in use of public services among participants • Participants spent 75% less time in the hospital and 70% fewer ER visits in the year following the intervention • LA county saved over $6.5 million by year 2 of the program, county saved $1.20 for every $1 spent

Housing	**Housing First Initiative** (Seattle, WA) **Intervention:** Housing for people experiencing chronic homelessness and severe alcohol programs **Outcomes:** • $29,388 per person per year in net savings. • After 6 months, there was a 53% in health care and public service costs for housed participants relative to wait-list controls • Significant reductions in alcohol consumption by participants • Emergency detoxification services declined by 87%, incarceration declined by 52%
Neighborhood and Physical Environment
Access to healthy food, **Food security**	**Health Center Based Community Supported Agriculture** (Massachusetts) **Intervention:** Participants received subsidized community-supported agriculture membership (which provided a weekly farm produce pickup at a community health center in central MA. Controls received healthy eating information and financial incentive equal to CSA amount. **Outcomes:** • Intervention group significantly improved their average health eating index score, relative to the control group • Food insecurity was lower in the intervention group
Housing quality, **Care coordination**	**Boston Children's Hospital Community Asthma Initiative** (Boston, MA) **Intervention:** Multi-disciplinary coordinated disease management program. A bundle of asthma prevention measures including nurse home visits, home inspections for mold and pests, cleaning to remove mold and pests. **Outcomes:** • Reductions in asthma-related hospitalization and ED visits • Reductions in missed school days (children) and lost workdays (parents) • Savings of $83,863 in first 3 years, $215,000 when adding in benefits due to reductions in school and workdays missed
Housing quality	**Green Health Housing Renovation** (Washington, D.C.) **Intervention:** Housing Improvements that include integrated design, location and neighborhood fabric, site, water conservation, use of sustainable materials, and healthy living environments. **Outcomes:** • Improvements in self-reported health in adults • Significant improvements in water/ dampness problems, cockroaches and rodents, and reduced pesticide use
Education

Early childhood, Care coordination	**Nurse Family Partnership** (nationwide) **Intervention:** Early childhood home visitation program targeting low-income first-time mothers, beginning during pregnancy and continuing through 2 years, focused on mother's health and child's development **Outcomes:** • Reductions in all-cause mortality among mothers • Reductions in preventable mortality in children • Improved cognitive development • Reduced arrest rates and child abuse rates • Fewer days on food stamps • $18,054 return per family over long term driven by reductions in crime, violence, child abuse and high-risk behaviors

Appendix 2: Funding mechanisms

Following are examples of mechanisms used by initiatives to pool resources

Braided funding	Two or more existing funding streams are coordinated or aligned to pay for interventions. They maintain their connection back to the original source and any applicable constraints on the funds.
Blended funding	Two or more funding sources are put into a collective pool. Funds are more flexible because they are not tracked back to the original source, usually there are not specific requirements or constraints on funds.
Wellness trust or fund	A funding pool raised and set aside specifically to support community health initiatives that improve health outcomes of targeted populations.
Pay for success models/Social Impact bonds	A pooled funding model that uses market-based approach to pay for evidence-based interventions that reduce health care costs by improving social conditions. Relies on investors willing to fund interventions up front and bear risk in return for repayment and reward if the intervention succeeds.
Collaborative Approach to Public Good Investments (CAPGI)	An approach to a fair process for local partners to make joint investments for projects focused on social conditions based on willingness to pay and perceived value. The process includes using data to identify where and how to intervene, partners working with a trusted broker to confidentially bid on and receive an assigned price for selected intervention based on willingness to pay and perceived value, vendors implement intervention while trusted broker oversees implementation.

Following are examples of sources to fund initiatives addressing social conditions

Philanthropy	**Foundation funding**: Philanthropies are increasingly interested in leveraging their funding for greater impact through investments in collective efforts.
	Impact and program specific investment: In addition to charitable giving, many philanthropies invest funds from endowments into programs that align with their mission. These funds require reliable return on investment.
Non-Profit Hospitals	**Community benefit dollars:** Non-profit, tax-exempt hospitals are required to provide community benefit services. These services can include community-building and community health improvement efforts.
Federal Government	**Federal grants:** Identify federal grant opportunities that align with the initiative focus. Grants.gov provides a searchable website of forecasted and open grants, with the ability to search by area of focus.

	Section 1115 waiver: This waiver allows flexibility in use of Medicaid resources to connect to and pay for social care that directly affect an individual's health.
	Delivery System Reform Incentive Payment (DSRIP): Programs provide funding for a finite amount of time to support payment and care delivery transformation. May include funding to support establishment of partnerships.
Providers and Hospitals	**Investment in a portfolio of strategies:** Providers and hospitals may be willing to invest in strategies if there are projected cost savings to their entity from the intervention, interventions help meet quality benchmarks, they operate under value-based payment arrangements, and/or they assume risk for patient populations.
Payers (public, commercial, and self-funding employers)	**Investment in a portfolio of strategies:** Payers may invest in a portfolio of strategies serving their customers in response to real or projected costs savings (via set price, payments for performance targets met, or based on ROI).
Private investors	**Social impact bonds:** Investors provide funding for a specific set of activities with an agreement that their investment will be returned, with interest, if activities result in certain outcomes.
	Community development financial institutions (CDFI): Financial institutions that are committed to providing access to capital and investment for low-income and vulnerable communities. Investments require a return at a low interest rate and must contribute to community development.
Local or state government	**Establish a new local or state tax or fee**: Partners advocate for a new tax or fee earmarked to fund a wellness initiative. Taxes include sales or property tax increases, tax on specific activity (i.e. medical waste disposal) products.
	Redirect existing taxes or fees: Partners advocate to redirect existing tax or fee to support a wellness initiative.
Employers	**Investment in a portfolio of strategies:** Employers may invest in an initiative to improve the health of their employees, reduce absenteeism, working while sick, and/or disability claims.
Crowdfunding	**Small investments or donations:** Large numbers of people contribute to the initiative through crowdfunding platforms like indiegogo.com, startsomegood.com, openideo.com, charity.gofundme.com, fondly.com.

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