

2020-2023 CENTRAL OREGON

**REGIONAL HEALTH
IMPROVEMENT PLAN**



CENTRAL OREGON HEALTH COUNCIL BOARD OF DIRECTORS APPROVAL OF THE 2020-2023 CENTRAL OREGON REGIONAL HEALTH IMPROVEMENT PLAN

Health partners in Central Oregon are making important strides to improve the overall health of all residents in our region. These efforts will continue to be facilitated by partnerships among health care, local governments, educators, community-based and non-profit organizations, community and resident groups, and other health-serving entities. To further our vision of a **healthier Central Oregon**, regional partners have once again collaborated to compile the 2020-2023 Central Oregon Regional Health Improvement Plan (RHIP).

In Central Oregon, many people enjoy an enhanced quality of life, however, many inequities are still present. Creating a healthier Central Oregon is critical to our region's

continued success. This plan offers a roadmap through which this can be achieved.

As the Central Oregon Health Council (COHC) Board of Directors, we are committed to the following:

1. Pursuing the priorities, goals, and strategies described in this plan.
2. Continuing to build systems of health that support these priorities and meet the needs of our region.
3. Aligning plans of our respective organizations with the priorities of the RHIP.
4. Facilitating cross-sectoral partnerships to achieve these priorities.

To the extent these goals are achieved, there will be a healthier Central Oregon and healthier citizens to enjoy the special place in which we live, work, and play.

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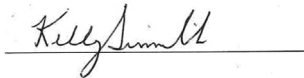
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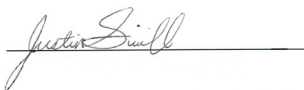
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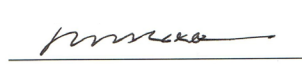
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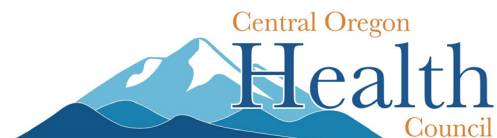
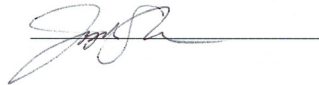
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CENTRAL OREGON HEALTH COUNCIL COMMUNITY ADVISORY COUNCIL APPROVAL OF THE 2020-2023 CENTRAL OREGON REGIONAL HEALTH IMPROVEMENT PLAN

As members of the Central Oregon Health Council (COHC) Community Advisory Council (CAC), it is our duty to ensure the health needs of Oregon Health Plan (OHP) recipients are being fulfilled, and that all residents feel supported in their personal well-being. To this end, and in partnership with community and health care leaders, we fully endorse the 2020-2023 Regional Health Improvement Plan (RHIP). A document which serves as our community's guide for improving the health and well-being of Central Oregon residents.

We developed this plan in partnership with local stakeholders and are proud that it features voices representative of individuals in our society experiencing health inequities. We recognize that this plan, despite its potential, will

remain only a plan until action is taken. We consider it our duty to spark positive change on behalf of the community's needs. We invite you, residents of Central Oregon, to participate in improving the health and well-being of Central Oregonians by joining one of our RHIP priority area workgroups. You can learn more about how to get involved at cohealthcouncil.org.


We, the CAC, are committed to the following:

- Ensuring community members' voices are represented in decision-making
- Raising awareness of the issues to local and state health administrations
- Reducing disparities and increasing health equity across the region

Through our commitments we believe Central Oregon will become the home of healthier individuals and families who can enjoy this special place in which we live, work, play, and thrive.

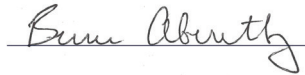
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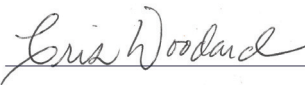
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BRANDON NIXON PHOTO:
FRONT AND BACK COVERS

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INTRODUCTION

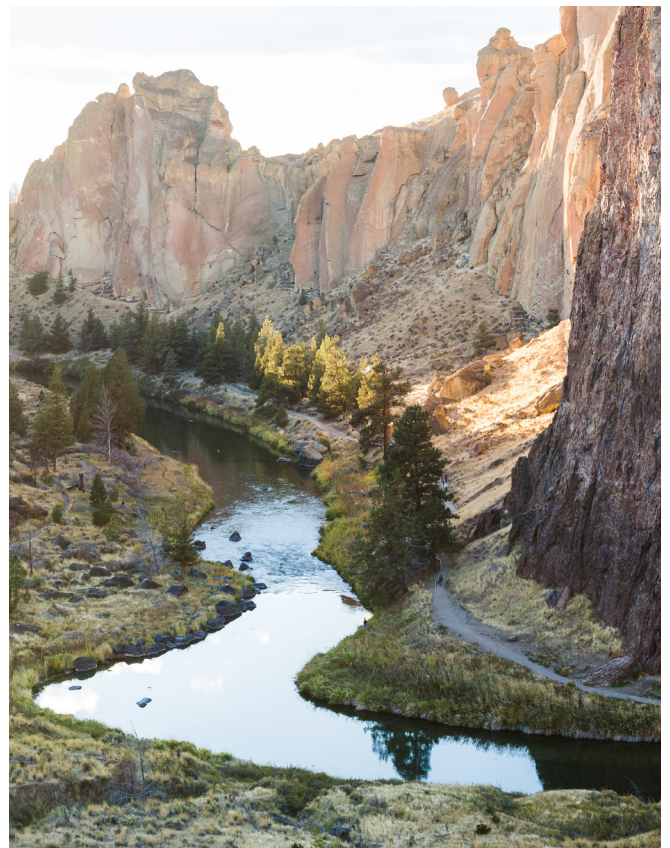
WHAT IS A HEALTH IMPROVEMENT PLAN?

The Centers for Disease Control and Prevention defines a health improvement plan as “a long-term, systematic effort to address public health problems on the basis of the results of health assessment activities and the health improvement process.” A variety of system partners will use the Central Oregon Regional Health Improvement Plan (RHIP) to collectively impact the health of our region’s residents. A health improvement plan is critical for developing policies and taking shared actions to promote health. It defines the vision for the health of our communities via a collaborative process and provides suggested strategies to improve the health status of our varied and diverse region.

Benefits of a health assessment, improvement process, and formal plan include:

- Improved organizational and community coordination and collaboration
- Increased knowledge about health and the interconnectedness of activities
- Strengthened partnerships within local systems addressing health
- Identified strengths, weaknesses, and gaps to inform quality improvement efforts
- Measured benchmarks for public health and health-related practice improvement

In 2015, per Senate Bill 648, the Central Oregon Health Council responsibilities were expanded to require the creation and adoption of a Regional Health Assessment (RHA) and Regional Health Improvement Plan (RHIP) to serve as a strategic population health and health care system service plan for the region. The development of the RHA fulfills requirements for the hospital system, public health, behavioral health, early learning, and other entities, allowing for a collaborative regional process to create and implement the RHA and RHIP.



PROCESS AND METHODS FOR DEVELOPMENT OF THE RHIP

OVERVIEW

The Regional Health Improvement Plan Steering Committee used an evidence-based planning process called Mobilizing for Action through Planning and Partnership (MAPP) to guide the creation of the Regional Health Assessment (RHA). The 2019 RHA's data was the foundation for the consideration of priorities within the 2020-2023 RHIP. Five types of assessments were used through this process to eventually create the RHIP:

1. Health Status Assessment:

Quantitative health indicators were used to describe the health status of communities in Central Oregon.

2. Themes and Strengths Assessment:

Community focus groups were hosted to capture community members' varied experiences with health in Central Oregon.

3. Forces of Change Assessment:

Targeted focus groups were hosted to identify external threats and opportunities relating to health. These include political, economic, and social issues affecting Central Oregon.

4. Public Health System Assessment:

A Public Health Modernization Assessment was used to analyze gaps in the Central Oregon system.

5. The Modified-Hanlon Prioritization:

This method was used to identify a list of health priorities. The Hanlon Method objectively considers criteria and feasibility factors to create a list of health priorities.

HEALTH STATUS ASSESSMENT

In 2019, Central Oregon community partners serving the health of residents in our region created the Central Oregon Regional Health Assessment (RHA) which gives organizations and residents comprehensive information about the region's current health status, needs, and issues. This information provided the central guidance for the creation of the 2020-2023 RHIP.

The 2019 RHA can be found here: <http://cohealthcouncil.org/regional-assessments/>

COMMUNITY THEMES AND STRENGTHS AND FORCES OF CHANGE ASSESSMENTS

From October 2018 to March 2019, a series of 24 community focus groups, with over 240 participants, were hosted throughout Central Oregon to solicit public feedback. Community outreach, focus group facilitation, and qualitative analysis was led by trained RHIP Steering Committee staff. The same staff led all focus groups to ensure consistency of data collection and analysis. The Community Themes and Strengths Assessment sheds light on community issues and concerns, assets and resources, and quality of life. It provides a deep understanding of the issues that Central Oregon residents feel are significant by answering questions such as: "What is important to our community?" "How is quality of life perceived in our community?" and "What assets do we have that can be used to improve community health?"

The Community Themes and Strengths focus groups were completed in collaboration with Abilitree, Central Oregon Veterans Outreach, Central Oregon Health Council's Community Advisory Council, Council on

Aging of Central Oregon, Deschutes County Health Services, Economic Development for Central Oregon, La Pine Community Health Center, Latino Community Association, Let's Talk Diversity Coalition, Metolius City Council, NeighborImpact, Volunteers in Medicine, Westside Church, Youth Action Council's/ Youth Development Council's in Crook, Deschutes, and Jefferson Counties, as well as representatives from the LGBTQ+ and the homeless populations. Twenty-one focus groups were hosted in English and three in Spanish. Additional responses were collected in written format rather than through focus group discussion. This included the City of Sisters, Crook County Health Department, Crook County on the Move, and Jefferson County Public Health.

The Forces of Change Assessment aims to determine trends, factors, and events that may impact the community or local public health system, and the threats or opportunities generated by these occurrences (NACCHO, 2015). The Forces of Change Assessment focuses on legislation, technology, and other impending changes that affect the context in which the community and its public health system operate. This answers the questions: "What is occurring or might occur that affects the health of our community or the local public health system?" and "What specific threats or opportunities are generated by these occurrences?". The Forces of Change Assessment was conducted with health systems leaders throughout Central Oregon, including the Central Oregon Health Council's Provider Engagement Panel, Central Oregon Health Council's Operations Council, the Central Oregon Health Council's Board of Directors, and a regional prevention workgroup. Within these groups, there were representatives from Advantage Dental from DentaQuest, BestCare Treatment

Services, Crook, Deschutes, and Jefferson County Public Health, Deschutes County Behavioral Health, Central Oregon Intergovernmental Council, Central Oregon Pediatrics Associates, Central Oregon Independent Practice Association, East Cascades Women's Group, Gero Leadership Alliance, High Desert Education Service District, High Lakes Healthcare, La Pine Community Health Center, Lutheran Community Services Northwest, Mosaic Medical, PacificSource, Partners in Care, St. Charles Health System, Summit Medical Group, Volunteers in Medicine, and Weeks Family Medicine.

These collaborative partnerships and feedback mechanisms were created because Central Oregon believes addressing social determinants of health and health equity are crucial to a community's health. In addition to focus groups, the region distributed surveys to help understand Community Themes and Strengths. This included 202 responses to surveys collected at county fairs, 208 responses to the RHA mid-point survey, and 705 responses to the St. Charles community phone survey.

THE MODIFIED-HANLON PRIORITIZATION

In August 2019, the modified-Hanlon prioritization was utilized to strategically prioritize possible areas for consideration in the RHIP. Thirty-eight health topics were scored across three areas in the modified-Hanlon (Appendix C and D). These three areas were (1) Impact, (2) Preventability/Controllability, and (3) Feasibility. The impact of each health topic was scored based on how the disease or condition affects the population, such as percent of

population(s), percent of subpopulation(s), hospitalizations, estimated costs, mortality, and years of potential life lost. Preventability and Controllability were scored based on the evidence that exists that the health-related topic can be prevented or controlled. Feasibility was scored on the basis of whether a prevention strategy exists and how feasible it is for Central Oregon health systems partners to implement solutions. Each of the three areas could receive a score ranging between zero to three, with an overall total score ranging from zero to nine (0 = No Impact/Not Preventable or Controllable/Not Feasible and 9 = High Impact/Very Preventable and Controllable/Very Feasible).

Numerous health-related organizations participated in this process providing topical expertise. Members from the following organizations provided their input: Advantage Dental from DentaQuest, Bethlehem Inn, BestCare Treatment Services (Crook and Jefferson County Community Mental Health Provider), Early Learning Hub/Better Together, Central Oregon Independent Practice Association (COIPA), the Central Oregon Community Advisory Council (CAC), Central Oregon Pediatric Associates (COPA), Central Oregon Intergovernmental Council (COIC), the Confederated Tribes of Warm Springs, Crook County Health Department, Deschutes County Health Services (Public Health Department and the Community Mental Health Program), Gero Leadership Alliance, High Desert Education Service District, Jefferson County Public Health, La Pine Community Health Center, Mosaic Medical, PacificSource (Coordinated Care Organization), St. Charles Health System, Summit Medical Group, United Way of Deschutes County, Volunteers in Medicine, and Weeks Family Medicine.

COMBINED CENTRAL OREGON HEALTH COUNCIL BOARD AND COMMUNITY ADVISORY COUNCIL MEETING

In September 2019, the entire Central Oregon Health Council (COHC) Board, Community Advisory Council (CAC), and Co-Chairs from the Operations Council met for a combined meeting, where the final 2020-2023 RHIP priorities were selected. Before prioritizing, participants listened to a detailed presentation on the 2019 Regional Health Assessment results as well as outcomes from the modified-Hanlon prioritization. This information guided discussion and facilitated prioritization.

A consensus workshop was conducted to decide and finalize the RHIP priorities. At the conclusion of the meeting, six priorities were chosen for implementation. More detail on the priorities and chapter layout are in the “How This Plan is Organized” section of the introduction.

DEVELOPMENT OF THE RHIP

In order to represent local expertise in the development of the 2020-2023 RHIP, a Steering Committee, considered regional differences, and offered evidence-based, best, and emerging practice strategies for consideration. The group included numerous topical experts and data analysts from organizations across Central Oregon. Through this collaborative process, Central Oregon partners incorporated a variety of new data to meet the needs and reporting requirements of a broad range of community organizations and partners.

From September through December 2019, the RHIP Steering Committee gathered input from local content experts, the COHC’s Board of Directors, Community Advisory

Council, Operations Council, Provider Engagement Panel, current RHIP workgroups, and a number of health-related advisory boards, organizations, and groups in Crook, Deschutes, Jefferson, northern Klamath counties, and the Confederated Tribes of Warm Springs. In all, the RHIP was developed with expertise, guidance, and support from almost 30 organizations throughout the region.

The 2020-2023 RHIP and all of the six priority areas align with the following priorities of Oregon's 2020-2023 State Health Improvement Plan (SHIP):

- Access to Equitable Preventive Health Care
- Adversity, Trauma and Toxic Stress
- Economic Drivers of Health (housing, living wage, food insecurity, transportation)
- Behavioral Health (Mental Health and Substance Abuse)

For more information on Oregon's SHIP, please visit: <https://www.oregon.gov/oha/PH/ABOUT/Pages/ship-process.aspx>



HOW THIS PLAN IS ORGANIZED

The 2020-2023 Regional Health Improvement Plan priorities are:

- **Address Poverty and Enhance Self-Sufficiency**
- **Behavioral Health: Increase Access and Coordination**
- **Promote Enhanced Physical Health Across Communities**
- **Stable Housing and Supports**
- **Substance and Alcohol Misuse: Prevention and Treatment**
- **Upstream Prevention: Promotion of Individual Well-Being**

The plan includes evidence-based, promising, and emerging strategies to address health improvement priorities. Health equity is considered for all strategies and is arranged in the following categories:

- Health Promotion and Education (Messaging)
- Access to Preventive Health Services
- Policy Improvement
- Redesigning Models of Services
- Collaboration Across Systems
- Equitable Access to Services

These RHIP categorical strategies are defined as follows:

Health Promotion and Education (Messaging) includes learning experiences designed to help individuals and communities improve their health, by increasing their knowledge or influencing their attitudes.

Access to Preventive Health Services include all types of coverage, primary care/prevention services, services addressing social determinants of health, timeliness of service, oral, and behavioral health services. Strategies may look different based on the Central Oregon community and geographic variance.

Policy Improvement includes organizational, local/community, county, or state-level policy and/or other decision-making opportunities related to the priority area.

Redesigning Models of Services includes systemic changes to health-related service delivery to improve the quality, equity, efficiency, and effectiveness of services and interventions for end-users.

Collaboration Across Systems includes engaging and aligning organizations from various sectors of the community to decrease costs, provide equitable services, generate value, and break down barriers to comprehensive and individualized health. Types of organizations might include health care, hospital, education, public health, businesses, non-profits, and community-based organizations, among others.

Equitable Access to Services include those related to ensuring all individuals are able to access high quality, timely, cultural and linguistically personalized resources and supports needed for optimal health. This is achieved when every person has the opportunity to attain their full health potential and no one is deprived of achieving this potential because of social position or other socially determined circumstances. Equitable access strategies may look different based on the Central Oregon community and geographic variance.

This plan ensures efforts are effective and address interrelationships between priorities. The plan is structured to highlight when strategies affect multiple health conditions and how addressing one health behavior can influence other health conditions.

Implementation of the plan requires ongoing community and organizational integration. Examples of sectors that implement RHIP strategies include public health, health care, behavioral health, human services, education, community-based organizations, and government at the individual, provider, system, community, and regional levels. Implementation encourages positive change in our delivery systems to improve access, encourage efficiency, enhance quality, and achieve measurable improvements in health outcomes.

HEALTH EQUITY

Health equity is defined as, “The absence of avoidable, unfair, or remediable differences among groups of people, whether those groups are defined socially, economically, demographically or geographically or by other means of stratification” (WHO, 2018).

Central Oregon recognizes that historical and current mindsets, power imbalances, and structures and policies in various agencies and organizations contribute to inequities in health outcomes for people and populations. Organizations and systems may unintentionally and unconsciously blame and burden excluded and marginalized groups, therefore, it is important to shift our perspective to understand and actively use an equity lens in all our work. Adopting an equity lens can help minimize the impact of policies and practices on the social and built environments. A health equity lens was used to mindfully consider and create interventions, strategies, decisions, and language throughout the RHIP. The graphic on the next page provides various examples of how Central Oregon is striving to shift toward a more equitable approach in the health language that we use.

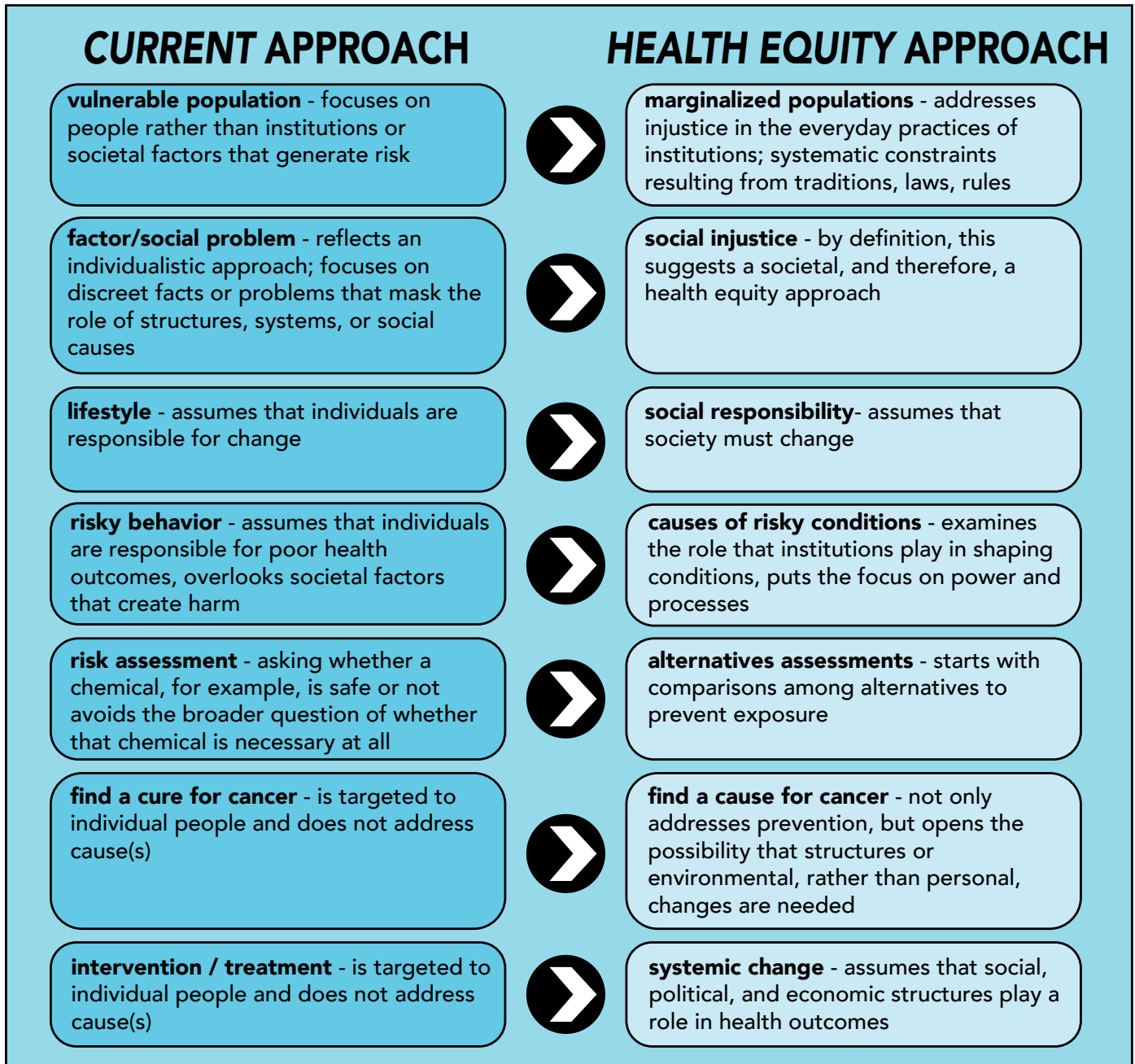




IMAGE: WWW.MMSHEALTHYCOMMUNITIES.ORG

Central Oregon strives toward a health system that creates health equity when all people can reach their full health potential and well-being, and are not disadvantaged by their race, ethnicity, language, disability, gender, gender identity, sexual orientation, social class, intersections among these communities or identities, or other socially determined circumstances. Achieving health equity requires the ongoing collaboration of all Central Oregon communities to address the inequitable distribution of resources and power, and recognizing, reconciling and rectifying historical and contemporary injustices.

Some questions we might ask in our work and efforts to consider equity include the following:

- Who is affected/impacted?
- Have those affected helped to shape the/ this _____?
- Who is included/excluded?
- Who benefits and who is harmed?
- What are the assumptions taking place?
- What does the data tell us?
- What data are missing?
- Who is/is not at the decision making table?
- What values underlie the decision making process?
- What revisions are needed/ what could be done differently?

Health equity is both an outcome and a process and requires ongoing learning, identification, change, and monitoring. But just as inequalities have been developed, they can be reduced. One opportunity to reduce health inequalities is through addressing the social determinants of health.

“Health equity means that everyone has a fair and just opportunity to be as healthy as possible. This requires removing obstacles to health such as poverty, discrimination, and their consequences, including powerlessness and lack of access to good jobs with fair pay, quality education and housing, safe environments, and health care.”

- Robert Wood Johnson Foundation, 2017

We recognize and acknowledge the indigenous land of which we live, work, learn, play and grow. This is the land of the Molalla, Paiute, Klamath, Modok, Yahooskin Band of Snake Indians, Confederated Tribes of Middle Oregon, and Confederated Tribes of Warm Springs. We acknowledge them as the past, present, and future caretakers of this land. It is on their traditional land where we partner to improve the health and well-being of Central Oregonians. We aspire to be good guests honoring the concept in the Warm Springs culture: "This land is for you to know and live upon and pass on to the children."

Acknowledgement is a simple, powerful way of showing respect and taking a step toward correcting the stories and practices that erase Indigenous people's history and culture, while moving toward inviting and honoring the truth. We welcome you to create your own land acknowledgement. Here are a few resources to help you do this important personal work:

- <https://native-land.ca>
- Native Aspirations Coalition participation
- Oregon History Project: The First Peoples
- The Museum at Warm Springs



BRANDON NIXON PHOTO

To reduce health inequalities requires action to reduce socioeconomic and other inequalities. There are other factors that influence health, but these are outweighed by the overwhelming impact of social and economic factors—the material, social, political, and cultural conditions that shape our lives and our behaviors.”

- Marmot & Allen, 2014

SOCIAL DETERMINANTS OF HEALTH

According to the World Health Organization (1948), “Health is a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity.” A person’s health is determined largely by social, economic, and environmental factors, including where we live, go to school and work, the safety and livability of our communities, whether we are economically stable or struggling to get by, whether we have strong social connections, and how we are treated in society, currently or historically. These factors are all determinants of health and help explain why certain segments of the population experience better health outcomes than others. They also explain how external factors influence our ability to live in a healthy way.

Collectively, these factors are known as the social determinants of health. These 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 (HealthyPeople, 2019). Examples of social determinants of health include:

- Safe housing
- Healthy food
- Access to educational, economic, and job opportunities
- Access to health care services
- Quality of education and job training
- Availability of community-based resources
- Transportation options
- Public safety
- Social supports
- Social norms and attitudes (e.g. discrimination and racism)
- Socioeconomic conditions (e.g. poverty)
- Literacy level

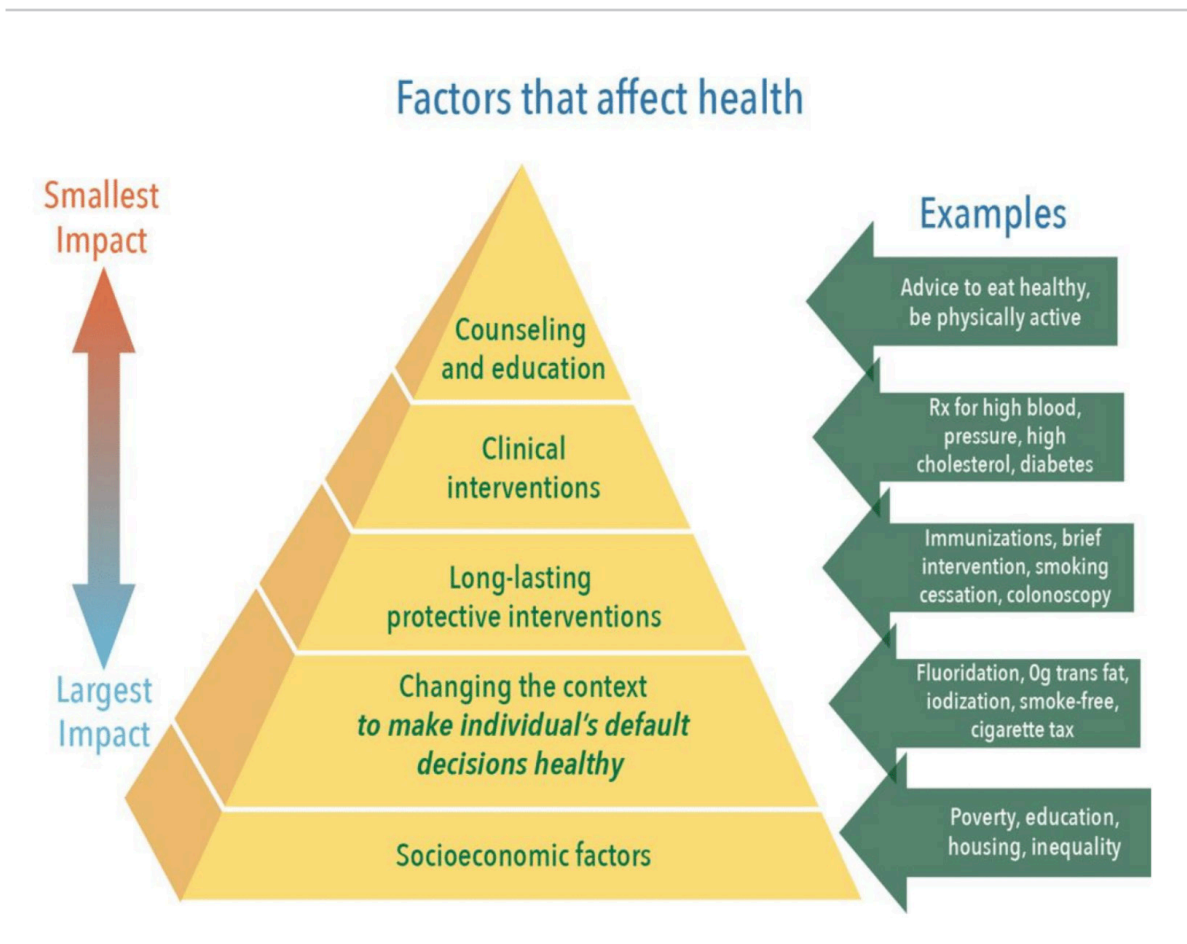


IMAGE ADAPTED FROM THE CENTER FOR DISEASE CONTROL AND PREVENTION

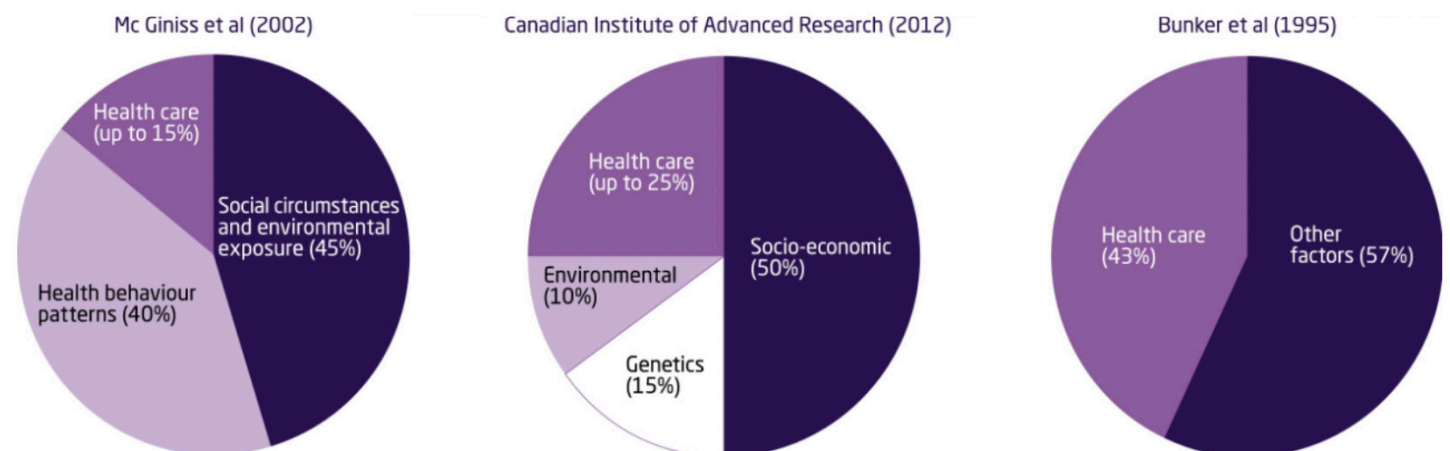
Interventions in the middle and at the base of the pyramid are geared toward improving the health of the entire population by focusing on prevention, making health resources readily available, ensuring the healthcare system is equipped to address health needs, and enacting policies that makes healthy choices the default and addressing socioeconomic factors that affect health. Examples of these resources include safe and affordable housing, access to education, public

safety, availability of healthy foods, local emergency/health services, and environments free of life-threatening toxins. (HealthyPeople, 2019). These interventions can have the greatest potential to affect health because they influence the entire population, in contrast to focusing on one individual at a time. However, it may take generations to see the effects of interventions designed to change socioeconomic factors.

The public health and health care systems implement strategies on multiple levels to improve the health of individuals and families, as well as the population at large. The five-tier pyramid, shown, illustrates how different types of interventions affect health.

The pie charts are from several studies that estimated the impact of social determinants on population health. Based on the estimates

below, 60-85% of health status is determined by social circumstances, health behavior, and/or environmental factors. Although prevention and health care services do contribute to healthy people and communities, the most effective way to impact health and health equity at the population level is to focus on social determinants of health.



MARMOT, M., & ALLEN, J. (2014). SOCIAL DETERMINANTS OF HEALTH EQUITY. AMERICAN JOURNAL OF PUBLIC HEALTH, S517 - S519

The Central Oregon RHIP incorporates strategies from all levels of the pyramid. Interventions in the top two tiers of the pyramid commonly occur in a healthcare setting. These interventions are essential to protect and improve an individual's health, but they often have a limited impact on the population's achievement of optimal health.










Central Oregon aspires to create a place where health is attainable for all people. This improvement plan represents an effort to assess the current state of health and identify ways to improve.

“Education is the single most important modifiable social determinant of health. Income and education are the two big ones that correlate most strongly with life expectancy and most health status measures”

- Anthony Iton, MD, JD, MPH,
Senior Vice President for healthy communities at the California Endowment

SOCIAL DETERMINANTS FACTORS THAT INFLUENCE YOUR HEALTH

The conditions in which you live, learn, work and age affect your health. Social determinants such as these can influence your lifelong health and well-being.

| | | |
|--|---|---|
| <p>HOUSING</p>  | <p>INCARCERATION</p> <p>The incarceration rate in the U.S. grew by more than 220% between 1980 and 2014, though crime rates have fallen.</p>  | <p>POVERTY</p>  |
| <p>HEALTHY FOOD</p> <p>6.5 million children live in low-income neighborhoods that are more than a mile from a supermarket.</p>  | <p>ENVIRONMENT</p>  | <p>GRADUATION</p>  |
| <p>LITERACY</p>  | <p>ACCESS TO CARE</p>  | <p>HEALTH COVERAGE</p>  <p>More than 89% of U.S. adults had health coverage in 2014. But 33 million Americans still lacked insurance.</p> |

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Clinical-Community Linkages

Clinical-community linkages receive special attention because they are required to ensure the success of strategies identified in the RHIP. The Agency for Healthcare Research and Quality recommends building clinical-community linkages that connect healthcare providers, community organizations, and public health agencies. Creating sustainable, effective linkages between the clinical and community settings can improve patients' access to preventive and chronic care services by developing partnerships between organizations that share a common goal of improving the health of people and the communities in which they live.

The goals of clinical-community linkages include:

- Coordinating healthcare delivery, public health, and community-based activities to promote healthy behavior.
- Forming partnerships and relationships among clinical, community, and public health organizations to fill gaps in needed services.
- Promoting patient, family, and community involvement in strategic planning and improvement activities.

Strategies that improve access to clinical preventive services (such as screening and counseling), community-level activities, and appropriate medical treatment have been shown to reduce and prevent disease in communities.



IMPLEMENTATION AND ACCOUNTABILITY

The RHIP includes specific measurable metrics (current and future states) for each of the six priority areas that will be addressed from 2020 through 2023. This allows us to track our progress, celebrate achievements, and change course when desired outcomes are not being met.

The COHC and its committees will take the lead on implementing and tracking progress and provide updates to the community. Further, regional health partners have committed to using the RHIP as a guiding document for developing their organization's specific strategic plans. Each priority area workgroup will synergistically implement the RHIP, as well

as collaborate across workgroups and sectors to implement systems changes, address policy improvement, and support innovative projects throughout our region.

The 2020-2023 RHIP was created with partnerships from individuals representing almost thirty different organizations in our region. As a result, each priority area has the same layout, but you will notice it also has its own unique voice. We are grateful to the content and health equity experts who took their time to create and review each priority section of the RHIP. This development and review allows the unique nature of the topic area to shine through, while also providing collaborative strategies across priority areas, to encourage future efforts that have greater impact on the health of all residents in Central Oregon.



KURT WINDISCH PHOTO

ADDRESS POVERTY AND ENHANCE SELF-SUFFICIENCY

THE PROBLEM

Overview: Central Oregon has grown rapidly and changed markedly over the past two decades. But this growth, and the impacts of the growth, varies throughout the region. Individual communities face many different economic and social challenges associated with the increased residential, commercial and industrial development. Growth is a double-edged sword; too little and it can cause economic stagnation, too much and systems, and infrastructure struggle to keep up with the increased demand.

There is a demonstrated relationship between socioeconomic status and health outcomes. Low socioeconomic status such as living at or below the poverty level greatly increases an individual's risk for disease and premature death (Singh and Siahpush, 2006). There is significant evidence linking income inequality to health disparities and poor outcomes. Poverty is a social determinant of health and a key public health concern. Healthy People 2020 highlighted the importance of economic stability (the context of which includes employment, food security, housing stability, and poverty status) as an essential component to consider when developing strategies to positively impact health outcomes (HealthyPeople, 2019).

Between 2013 and 2017, 9-17% of residents in Crook, Deschutes and Jefferson Counties

lived in poverty according to US Census Bureau data. In this same timeframe, housing costs skyrocketed as a result of significant in-migration and insufficient stock of housing options (US Dept. of Housing and Urban Development (HUD), 2018). The recent recession resulted in little building and a loss of employment in the construction field which is now struggling to catch up with recent population growth. This has led to low rental vacancy rates and rising rents. Rental prices for one, two and three bedroom units average at \$1,400, \$1,735 and \$2,066/ month respectively (HUD, 2019). Almost 50% of the region's renters are considered to be cost burdened, spending more than 30% of their household income on housing related costs (Regional Housing Needs Assessment, 2019). This cost burden and the potential for additional transportation costs for households living far from their place of work further constrained incomes of already vulnerable households living below, at, or near to, the poverty level. With high housing and transportation costs, individuals and families are left with little extra to spend on their other needs like groceries. It is also deeply concerning that racial and ethnic minorities living in poverty experience even more negative impacts to their health and wellness (Williams et al, 2014) than the racial majority. Communities of color also face additional stressors such as discrimination and racism further impacting health outcomes (Smedley, 2012).

While over the course of a lifespan, it is not uncommon for an individual to experience adversity or even economic strain, prolonged, stress can have a devastating health impact. Toxic stress is when there is a sustained and/or a frequent stress response within both the body and the brain. Examples of toxic stress may include physical or emotional abuse, chronic neglect, mental illness or substance use within the home, and exposure to violence can even result from long-term and significant financial hardship particularly within a household that lacks adequate relational supports (Center on the Developing Child, 2019). Research on how toxic stress and poverty change and impair brain development mean there is a growing body of evidence that there are significant long-term health impacts for children raised in poverty (Blair and Raver, 2016).

Local Context/Background:

Central Oregon has grown rapidly and is one of the fastest growing regions anywhere in the United States. Much of this growth is the result of roughly 7,000 new residents moving to this region each year since about 2010 (Population Research Center, 2019).

Individual communities face different economic and social challenges associated with the increased residential, commercial and industrial development related to this rapid growth. In Central Oregon the more urban communities of Bend and Redmond are consistently the fastest-growing in the state while the neighboring communities of Madras, Sisters, La Pine, and unincorporated areas are growing at a comparatively slower rate yet still experiencing the impacts of this growth (Population Research Center, 2019). The rural community of Prineville is facing significant changes to the local economy

that exacerbate the shortage of available affordable housing or strain community infrastructure following construction of several Facebook and Apple data centers (Peacher, 2017).

Rather than simply asking whether this region's rapid growth is good or bad for poverty and self-sufficiency, we need to better understand how different types of economic development have both positive and negative consequences as well as unequal impact across the region. For example, Bend and Sisters boast the highest median household incomes (\$55,625, \$54,500) for the region while Prineville has the lowest (\$31,669). The community of Warm Springs has the highest percentage of people living below the federal poverty level. Sadly almost 25% of the civilian labor force in Warm Springs is experiencing unemployment compared to 15.2% unemployment in the neighboring community of Madras. La Pine experiences an 11.8% unemployment rate, yet the region's lowest unemployment is, as expected, in the city of Bend, just 5.6% (RHA, 2019, p. 36).

“Access to quality and comprehensive health care is vital to achieving health equity and increasing quality of life for all”

(RHA, 2019, p. 24).

Regional growth has increased the median income in many communities and driven down unemployment rates, however, these statistics do not fully capture the regional economic context. The underlying economic structure of the region has shifted, moving from an extraction economy of timber and wood products to one driven by technology, trade, transportation, leisure and hospitality (2019 Central Oregon Economic Profile, Economic Development for Central Oregon). With high levels of in-migration, those with higher salaries have moved from out of the area for jobs in emerging and growing businesses. Unfortunately, longtime residents some of whom have been displaced as the economy has changed may not have the education, training, or necessary skillset to take advantage of available employment

opportunities. With this influx, many Central Oregonians are being pushed to the limits of what they can afford; paying higher rents and navigating longer commutes, due to an unsustainable cost of living.

The 2019 Regional Health Assessment outlines indicators that emphasize the need for resources across the region to support the basic needs of those living in poverty for the benefit of their health and well-being and to increase access to preventive health care services as well as positively influence health outcomes.

The focus of the Addressing Poverty and Enhancing Self-sufficiency priority area is to help people and households to move from scarcity to self-sufficiency for the benefit of their long term health and wellness.



AIM/GOAL

Individuals and families in Central Oregon experiencing poverty are provided equitable access and connected to appropriate resources that help them overcome obstacles to self-sufficiency and address health-related challenges.

CURRENT STATE

1. In the 2017-18 school year Central Oregon graduation rates among economically disadvantaged students were:

| 2017-18 4-year Graduation Rate by County (weighted) | | |
|---|--------------|----------------------------|
| | All Students | Economically Disadvantaged |
| Crook | 78.10% | 73.60% |
| Deschutes | 82.50% | 74.30% |
| Jefferson | 80.20% | 80.40% |

Source: OR Dept. of Education 2017-18

2. Food Insecurity by County (Source, Map the Meal Gap, Feeding America):

| County | 2018 Children <18% Food Insecure | % of (total) Population Food Insecure |
|-----------|----------------------------------|---------------------------------------|
| Crook | 24.5% | 15% |
| Deschutes | 20.6% | 13% |
| Jefferson | 24.2% | 13.3% |

FUTURE STATE

1. By December 2023, Central Oregon graduations rate among economically disadvantaged students will improve by 3 percentage points to:

| 2023 Central Oregon Graduations Rate for Economically Disadvantaged | |
|---|--------|
| Crook | 76.60% |
| Deschutes | 77.30% |
| Jefferson | 83.40% |

- 2a. By December 2023, decrease the % of total population reported as food insecure by 2 percentage points to:

| County | % of (total) Population Food Insecure |
|-----------|---------------------------------------|
| Crook | 13% |
| Deschutes | 11% |
| Jefferson | 11.3% |

Source: OR State Population Health Indicators County Tables



KURT WINDISCH PHOTO

3. Current percent of total population Asset Limited Income Constrained, Employed (Source, ALICE, 2016):

Crook: 29%
 Deschutes: 26%
 Jefferson: 34%

4. Current housing and transportation costs combined as a percent of income are:

Crook: 67% of income
 Deschutes: 58% of income
 Jefferson: 58% of income

(Source: 2019 Housing + Transportation (H+T®) Affordability Index)

2b. By December 2023, develop a regional metric to evaluate food insecurity among seniors in our community (ages 65+).

3. By December 2023, decrease the population of households living at the poverty level and income constrained by 2 percentage points to:

Crook: 27%
 Deschutes: 24%
 Jefferson: 32%

4. By December 2023, reduce combined housing and transportation cost for residents as a percent of income in their respective counties to no more than:

Crook County: 64%
 Deschutes: 55%
 Jefferson: 55%

| ACTION AREA | POTENTIAL STRATEGIES TO ADDRESS PRIORITY AREA |
|--|--|
| <p>Health Promotion and Education (Messaging)</p> | <ol style="list-style-type: none"> 1. Invest in programs addressing social determinants of health (e.g. TRACEs, Families Forward) 2. Offer Cultural Humility training (topics of diversity, language access, CLAS standards) 3. Raise awareness and expand access to health insurance enrollment and insurance benefits education services 4. Community messaging on self-sufficiency supports 5. Raise awareness and expand access to low cost exercise opportunities in our communities |
| <p>Access to Preventive Health</p> | <ol style="list-style-type: none"> 1. Expand access to primary care clinics (locations, hours such as nights/weekends, school-based health centers) 2. Invest in and expand Community Health Worker/Navigator Peer Support programs 3. Expand access to health insurance enrollment and insurance benefits education services 4. Increase access to qualified/certified interpreters for limited English proficient populations 5. Simplify or create a common form for financial assistance programs regionally (social service programs, healthcare programs) 6. Expand access to and increase affordability of healthy, nutritious foods 7. Reduce barriers to transportation to health services; consider Uber Health and other options 8. Promote and expand telemedicine options for medical, mental health, substance and alcohol abuse treatment and dental care 9. Create peer recovery support programs for individuals who are high system utilizers and/or who are engaged in Medication Assisted Treatment |

Policy Improvement

1. Advocate for affordable housing tax increment financing
2. Advocate for changes to policy regarding Single Dwelling Units (SDU) and tiny homes in Central Oregon
3. Advocate for the creation of a shared living program that would pair individuals seeking affordable housing with those who have spare rooms and need assistance with daily living (elderly and people with disabilities)
4. Encourage the utilization of Community Benefits Agreements (CBA) to ensure that development projects create meaningful opportunities for local workforce/communities.
5. Advocate for policies addressing the social determinants of health and health inequities (early child development, fair employment, and decent work, nutrition/food access, social protection, and the living environment)
6. Increase family-friendly work policies
7. Strengthen economic supports for families
8. Advocate and incentivize affordable child-care

Redesigning Models of Services

1. Expand access to vocational training programs, apprenticeship programs and pre-apprenticeship programs
2. Invest in and expand Community Health Worker/Navigator programs (training, add positions, task-specific roles)
3. Expand access to health insurance enrollment and insurance benefits education services
4. Increase co-location or close proximity of health and social services
5. Leverage anchor institutions and social enterprise for the benefit of marginalized populations
6. Expand access to high quality childcare and pre-school programming within the workplace
7. Partner with local community colleges and universities to increase access and promotion of higher education

Collaboration Across Systems

1. Develop/expand access to dropout prevention programs and activities (e.g. ninth-grade retention initiatives, bridge programming, first generation post-secondary programs, vocational programs)
2. Increase exposure to career pathway programming for high growth and high wage jobs such as trades, technology, health careers, etc.
3. Expand access to asset development programs such as Individual Development Accounts (IDA) and Child Savings Accounts (CSA)
4. Reduce barriers to transportation to allow individuals and families to access available services; consider Uber Health and other options
5. Reduce barriers to enrollment in social services programs such as streamlining paperwork or financial eligibility or verification documents. (e.g. multi-agency collaborations on enrollment/eligibility paperwork to reduce “red tape” of qualifying for services)
6. Explore how to develop a system of diversion, “focusing efforts on frequent utilizers represent an opportunity for targeted, resource-saving interventions that can improve their health and well-being.” (<https://www.naco.org/resources/data-driven-justice-playbook>)

Equitable Access to Services

1. Cultural Humility Training
2. Increase access to qualified/certified interpreters for Limited English Proficiency populations
3. Offer training on working with individuals in poverty (e.g. Bridges out of Poverty Training)
4. Increase the voices of those served within program planning, process improvement conversations, etc. Examples might include advisory councils and development of stipend based roles or adjustment of hiring practices to support those from lived experience in gaining roles within organizations
5. Develop a housing barrier removal fund (supporting rental assistance, deposit assistance, utility, and property debt forgiveness)
6. Promote and expand telemedicine options for medical, mental health, substance and alcohol abuse treatment and dental care

KEY REGIONAL PARTNERSHIPS:

Health systems, social service providers, county health departments, Central Oregon Community College, Oregon State University-Cascades, Central Oregon Intergovernmental Council, Economic Development for Central Oregon, Chambers of Commerce, law enforcement, recovery organizations, faith-based communities, United Way, HousingWorks, NeighborImpact, Homeless Leadership Coalition, Better Together, Central Oregon TRACES (Trauma Resilience, and Adverse Childhood Experiences), PacificSource, Healthy Beginnings, Mountain Star Family Relief Nursery, Heart of Oregon Corps, the Confederated Tribes of Warm Springs, the Central Oregon Health Council.

All are welcome.

BEHAVIORAL HEALTH: INCREASE ACCESS AND COORDINATION

THE PROBLEM

According to the Centers for Disease Control and Prevention, mental health refers to the psychological, emotional, and social well-being of an individual. It affects how we think, feel, and act. It also helps determine how we handle stress, relate to others, and make choices. Taking care of one's own mental health can make a huge difference in a person's overall health and well-being. Mental health challenges, particularly depression and serious and persistent mental illness (SPMI), can increase the risk of physical health problems such as stroke and heart disease. Likewise, living with a chronic health condition can increase the risk of mental illness (CDC, 2019). In a simple explanation, mental and physical health are very connected.

In Central Oregon from 2012-2015, 35.7%, 23.1% and 28.1% of adults were diagnosed with depression in Crook, Deschutes and Jefferson Counties, respectively (RHA, 2019). Approximately one in four adults over age 55 reported a diagnosis of depression (RHA, 2019). Among adults with diabetes, approximately 50% also reported depression (RHA, 2019). While representing a smaller percentage of the population, just over 1% of individuals with SPMI such as schizophrenia, experience significant struggles managing health conditions resulting in lifespans up to 25 years shorter

than the general population (NIMH, 2019). These individuals benefit significantly from intensive coordination of care and outreach activities, which are centralized in the more populous centers of Central Oregon and less available for those in remote areas.

The 2019 Regional Health Assessment shows that across Oregon and Central Oregon, the percentage of students who reported feeling sad or hopeless every day for two weeks or more has been generally trending upward since the 2011-12 school year (RHA, 2019, Figure 148). In Oregon and Deschutes County, the highest proportion of these students were 11th graders, 35.6% and 36.0%, respectively (RHA, 2019). In Jefferson County, the percentages of 6th and 8th graders were similarly high, 27.3% and 28.4% respectively, and the percentages for 6th, 8th, and 11th graders in Crook County were all very similar, 27.3%, 27.9%, 27.4%, respectively (RHA, 2019). Across Oregon and in Deschutes County, the proportion of 6th, 8th and 11th-grade students who reported seriously considering suicide has increased over time (RHA, 2019, Figure 149). These increases may also be present in Crook and Jefferson Counties; however, the trend is less clear.

Suicide mortality rates, among all ages in Central Oregon, are similar to the rate in Oregon (RHA, 2019). However, the suicide mortality rate in Central Oregon

(2008 and 2017 in particular) is over three times higher among males than females (RHA, 2019), and the mortality rate was higher among American Indian/Alaska Natives, and White, non-Hispanics in Central Oregon than Oregon overall (RHA, 2019). According to the 2018 Annual Health System Report for the Warm Springs Indian Reservation, suicide has been the 3rd leading cause of death for adolescents ages 13-17 from 2003 to 2018 (Annual Health Systems Report for the Warm Springs Indian Reservation, 2016). In Central Oregon, the age-specific suicide mortality rate for 15 to 24 year-olds and 25 to 44 year-olds were significantly higher than in Oregon overall (25.8% and 20.4%, respectively), and more than 50% of suicides were completed using firearms (RHA, 2019).

Research indicates significant opportunities for suicide prevention in primary care and medical settings. For example, 64% of individuals who died by suicide visited their primary care practitioners one year prior to their death and 21% of individuals who died by suicide visited their primary care providers within one month prior to their death (Ahmedani et al, 2014). Standard primary care training has traditionally lacked specific education around managing and supporting the suicidal patient. Recent research indicates the need for and the effectiveness of culturally sensitive messaging and discourse between doctor and patient when addressing firearm safety with the suicidal gun owner (Marino et al, 2016). An opportunity exists for equipping primary care providers in Central Oregon with such culturally sensitive messaging.



In fact, behavioral health concerns are most often discovered in the primary care setting, yet only about 20% of those in need go on to access specialty behavioral health care (Kessler, 2008). Specialty behavioral health is defined as mental health, substance abuse, and developmental services that are delivered outside of primary care. Most primary care clinics in Central Oregon now have integrated behavioral health consultants (BHCs) who provide assessments and short-term interventions. Still, people who need a higher level of behavioral health care often struggle to access and engage in that care outside of the primary care setting.

Central Oregon is experiencing a behavioral health workforce shortage. This makes it difficult for patients to get the behavioral health care they need. This barrier in care is a growing public health issue. The Journal of the American Medical Association reports that the “disease burden” (as defined by cost and outcomes) of mental health and substance use disorders was higher than for any other condition in 2015 (Kamal et al, 2017). Of all the 50 states plus the District of Columbia, Oregon ranks 49th in the nation for access to mental health care. Oregon has less than one mental health professional for every 1,000 people (SAMHSA, 2014). In short, the need for more behavioral health providers is immense. Additionally, there is a shortage of specialty behavioral health providers who are accepting new clients, providing timely access, and currently accepting certain types of insurance plans such as Medicaid and Medicare. There is also a lack of behavioral health providers that specialize in serving certain subpopulations such as young children, seniors, and linguistic and cultural groups such as Native Americans and Latinx (Advancing

Integrated Care in Central Oregon Needs Assessment, 2019).

Primary care and specialty behavioral health are interdependent; however, the promise of integrated behavioral health in primary care settings will not be fully realized without an adequate specialty behavioral health system for patients who need a higher level of care. In order to meet the behavioral health care needs in Central Oregon, the primary care and specialty behavioral health care systems must work together. Further complicating this situation are the differences that exist in coordination between primary care and specialty behavioral health, creating fragmentation and safety concerns. Primary care clinics in Central Oregon are struggling to meet the needs of their patients without adequate access to and coordination with specialty behavioral health care.

Specialty behavioral health providers are often separate from the rest of the health care community. Many smaller providers do not have electronic health records (EHRs) and are often part of “unmanaged” insurance networks that lack quality oversight. To expand on this last point, there are a large number of private specialty behavioral health providers who receive Medicaid, commercial and Medicare contract dollars, but are not held accountable for their performance and have less oversight of appropriate service utilization. These providers are paid fee-for-service (FFS) only, which does not reimburse nor incentivize timely access and care coordination. Behavioral health reimbursement rates are typically lower than physical health reimbursement rates, which can make it financially challenging to develop infrastructure and quality improvement mechanisms. Further, there

are very few value-based payment (VBP) contracts for specialty behavioral health providers outside of Community Mental Health Programs (CMHPs). In addition, currently there is not an Independent Practice Association (IPA) structure for mental health providers in Central Oregon that would allow for more effective group contracting. The result of this is that lower risk individuals have greater ease of access to services. This, therefore, leaves little capacity in the system for those with moderate and serious needs.

In May 2019, Advancing Integrated Care (AIC), a project funded by the Central Oregon Health Council, made four recommendations to improve behavioral health delivery and access to care in our region. The recommendations below summarize the changes that Central Oregon needs to work on:

1. Increase timely access to specialty behavioral health care
2. Increase the number of people successfully engaging and completing behavioral health treatment
3. Increase the use of evidence-based and outcome-oriented behavioral health treatment utilizing measurement-based care
4. Improve coordination across systems of care

The 2020-2023 four-year strategic direction identified in this chapter is intended to increase access and coordination of care such that Central Oregonians receive timely behavioral health care that improves health and well-being outcomes with a reduction in the total cost of care. It seeks to not

only improve and expand the availability of services but also ensure accountability for those who provide them throughout the health care system.

Finally, this chapter references equity, understanding that indicating and suggesting health equity is not sufficient to achieving equity. Health equity must actively be planned for, monitored and supported. Health equity in this work will be realized when all people can reach their full health potential and well-being and they are not disadvantaged by their race, ethnicity, language, disability, gender, gender identify, sexual orientation, social class, intersections among these communities or identities, or other socially determined circumstances. This means that the collaboration and approach to this work in our region must address the equitable distribution or redistribution of resources and power as well as recognition, reconciliation and rectifying historical and current injustices (adapted from OHA Health Equity Committee, 2019). To this end, we recommend the creation of a multi-stakeholder group to lead this work. The stakeholder members will be tasked to ensure equity by adopting a regional work scope and address marginalized populations and geographically diverse areas of Central Oregon. Workgroup members themselves should also represent the areas where work is being planned and implemented as well as represent the population served. We also recommend that as part of this multi-stakeholder group's core values for decision-making that the National Standards for Culturally and Linguistically Appropriate Services (CLAS) in Health and Health Care be adopted (HHS, 2018).



BRANDON NIXON PHOTO

AIM/GOAL

Increase equitable access to skilled and coordinated care between specialty behavioral health and the larger health system, including primary care, while decreasing barriers to ensure an effective and timely response.

Definition of specialty behavioral health: behavioral health, substance abuse, and developmental services that are delivered outside of primary care.

CURRENT STATE

1. The current availability of behavioral health providers is less in the rural areas of the region as measured by ‘mental health providers per 1,000 population’, according to the 2019 Oregon Areas of Unmet Health Care Need Report.

| Mental Health Providers per 1,000 population. | |
|--|------|
| Oregon | 1.33 |
| Oregon rural | 0.62 |
| Bend | 1.83 |
| La Pine | 0.45 |
| Madras | 0.58 |
| Prineville | 0.68 |
| Redmond | 0.58 |
| Sisters | 0.66 |
| Warm Springs | 0.71 |

Source: Oregon Office of Rural Health, 2019

2. Currently, there is no way to measure timeliness and engagement with specialty behavioral health when people are referred from primary care.
3. Currently, there is not a standardized screening process to assure clients receive the appropriate level of care and follow-up across the various array and intensity of services in Central Oregon.

FUTURE STATE

1. By December 2023, improve the availability of behavioral health providers in the marginalized areas of the region (La Pine, Madras, Redmond) to exceed the Oregon average for rural areas of 0.62 in 2019 as measured by ‘mental health providers per 1,000 population’.

2. By December 2023, a method is developed to measure timeliness and engagement with specialty behavioral health referred from primary care.

Source: COHC Behavioral Health Increase Access and Coordination Workgroup

Timeliness is defined by the number of patients who were offered an appointment within one week of a primary care provider referral appointment.

Engagement is defined by the number of patients who had at least three visits/encounters with specialty behavioral health provider within 60 days of the primary care provider referral.

3. By December 2023, a method is developed to standardize screening processes to assure clients receive the appropriate level of care and follow-up across various services in Central Oregon.

Source: COHC Behavioral Health Increase Access and Coordination Workgroup

| ACTION AREA | POTENTIAL STRATEGIES TO ADDRESS PRIORITY AREA |
|--|---|
| <p>Health Promotion and Education (Messaging)</p> | <ol style="list-style-type: none"> 1. Public mental health promotion (Mind Your Mind Central Oregon) 2. Education of medical providers and their leadership to address co-morbid behavioral health conditions as a way to reduce the total cost of care and improve outcomes 3. Provider education, inclusive of privacy officers, to address HIPAA myths so that regulatory obstacles to coordinating care are minimized 4. Bring Peer Certification training to the region more frequently to address the lag time in credentialing which is a cost to providers 5. Incorporate learning opportunities to increase primary care provider and behavioral health clinician confidence in addressing behavioral health conditions 6. Provide networking opportunities between primary care providers and specialty behavioral health providers |
| <p>Access to Preventive Health</p> | <ol style="list-style-type: none"> 1. Expand intern and post-graduate training opportunities in rural areas 2. Maximize sites that offer National Health Service Corps loan reimbursement to attract more mental health providers to our region. Promote these regions in the state and nationally as part of recruitment efforts 3. Establish and expand innovative strategies to increase the workforce (e.g. tele-mental health, tele-psychiatry, Collaborative Care Model (CoCM), Project ECHO, etc.) and access to services 4. Incentivize providers to work in rural areas (e.g. recruitment incentives) |

Policy Improvement

1. Provide education and advocacy to Federal legislators to align 42 CFR part 2 with HIPAA so Substance Use Disorder services can be better coordinated
2. Create value-based contracting that has metrics specifically tied to access, engagement and outcomes
3. Manage the provider panel as part of the array of services available to individuals with clear expectations about priority populations, the intensity of services and lengths of stay appropriate to the level of care
4. Create a financial incentive for behavioral health providers to offer services in rural areas
5. Encourage the development of value-based contracting with a specific focus on closed-loop referral process using a Health Information Exchange (HIE) that incentivizes coordination between specialty behavioral health and medical providers
6. Implement a provider tool that directs individuals to the right level of care and provides guidelines to providers for the right dose of care

Redesigning Models of Services

1. Embed and integrate behavioral health providers in specialty medical clinics, hospital medical-surgical units, emergency departments, intensive care units, and in post-acute care settings
2. Develop the integrated behavioral health model in rural primary care to include increasing the number of Behavioral Health Consultants and Community Health Workers to address low need concerns and co-locate Behavioral Health specialty care (e.g. psychiatric services, telepsychiatry, etc.) to address higher need concerns
3. Develop a Collaborative Care Model (CoCM) of psychiatric systematic case review in primary care
4. Improve bi-directional referrals from primary care to and from specialty behavioral health (maintain Building Bridges work) in rural areas
5. Ensure that contract negotiations pull in both medical and behavioral health providers so that reimbursement and contractual incentives acknowledge their interdependence on health outcomes and total costs of care
6. Provide fiscal contract incentives for the utilization of peers

Redesigning Models of Services

7. Conduct a pilot project to explore ways that Traditional Health Workers (Peer Support Specialists) can be employed by specialty behavioral health organizations and be deployed within primary care clinics
8. Develop more multi-provider, clinic-based practices offering fidelity treatment programs to target populations (e.g. Dialectical Behavior Therapy for Borderline Personality Disorder), without doing away with independent practitioners who can focus on lower risk patients if they choose

Collaboration Across Systems

1. Develop a method to measure timeliness and engagement with specialty behavioral health referred from primary care including:
 - a. Defining the target to achieve based on risk and need,
 - b. Developing a data system which tracks access to care across both community mental health providers and panel providers,
 - c. Closed Loop Referral processes and,
 - d. Piloting this work with primary care and specialty behavioral health to learn and grow from understanding what works
2. Develop a standardized screening process to assure clients receive the appropriate level of care and follow-up across various services to include:
 - a. Creating a community standard of care with a majority of providers,
 - b. Standardized screening tools and workflows,
 - c. Coordinated Care Networks,
 - d. Closed Loop Referral processes,
 - e. Electronic Medical Record technology that tracks referrals and care transitions and,
 - f. Piloting this work with primary care and specialty behavioral health to learn and grow from understanding what works
3. Create a multi-stakeholder workgroup to monitor the development and implementation of the COHC Behavioral Health Increase Access and Coordination work to ensure equity, regional work scope, addressing marginalized populations, and geographically diverse areas of Central Oregon. Workgroup members should represent the areas where work is being planned and implemented as well as represent the population being served

Equitable Access to Services

1. Develop a clear understanding of rural area behavioral health needs and ensure that the strategies employed above are addressing these specific points
2. Develop training strategies to increase the number of behavioral health providers specializing in under-served subpopulations such as young children, seniors, and language and cultural groups such as Native Americans and Latinx
3. Provide services in rural areas. Do not expect people to come to Bend for service
4. Bring behavioral health treatment to people in the comfort and convenience of their homes and within their own communities through telehealth technology and/or home visiting
5. Provide adequate funding for specialty behavioral health care services so that seasoned and licensed providers can be hired by multidisciplinary agencies rather than relying on the least trained and unlicensed providers to treat our most highly impaired patients with Medicaid/Medicare insurance, leading to extremely high, unmanageable patient loads
6. Similar to House Bill 2611 that requires cultural competency training for primary care providers create a parallel requirement for behavioral health providers
7. Use the National Standards for Culturally and Linguistically Appropriate Services (CLAS) in Health and Health Care to drive the decision-making and value system of the workgroup in charge of overseeing this work

KEY REGIONAL PARTNERSHIPS:

Insurance providers covering Central Oregonians, community mental health providers, public health departments, Medicaid Panel Behavioral Health Providers, Health Systems Organizations, specialty substance use providers, academic institutions, Oregon Health Authority, peer run organizations, culturally-specific organizations and populations, school-based health centers, the Confederated Tribes of Warm Springs, the Central Oregon Health Council

All are welcome.

PROMOTE ENHANCED PHYSICAL HEALTH ACROSS COMMUNITIES

THE PROBLEM

Physical health describes the condition of our bodies. It is complex, multi-faceted, and encompasses everything from the absence of disease to fitness level. To optimize health and function, we must take a comprehensive approach that includes prevention and early detection, in addition to treatment. **Primary** prevention prevents a disease or problem in the first place. **Secondary** prevention prevents the progression or reduces the severity of existing disease(s) (e.g. improving blood sugar control for someone with type II diabetes). **Tertiary** prevention eases the impact a disease may have on a person's life (e.g. routine eye exams for people with type II diabetes to detect and treat early diabetic retinopathy). Nationally, over 75% of healthcare dollars are spent treating those with one or more preventable chronic conditions (CDC, 2009, p.2). Six in ten US adults live with at least one chronic

condition (RHA, 2019, p.61). Enhancing physical health throughout our communities improves quality of life and reduces the burden of healthcare and other costs to personal and public health.

Physical health is influenced by genes and biology, health behaviors, social environment, physical environment, and health services or medical care. Each of these determinants of health includes risk and protective factors, and most include changeable measures that positively or negatively influence physical health.

- **Genes and biology** have long been considered unchangeable, however, there is significant research emerging about actions we can take to influence the expression of our genes (e.g. changes responsive to the environment) and how they may be passed on to future generations.

- **Health behaviors** that have a strong influence on physical health and include physical activity, nutrition, substance use (e.g. tobacco, alcohol, and other drugs), and sexual activity.
- **The physical environment** includes the walkability of a community, the quality of air and water, housing, and transportation. Active modes of transportation can help reduce chronic disease and obesity by encouraging commuting options like walking (by itself or combined with public transportation) and bicycling. Decreasing traffic by increasing alternative transportation in communities can also decrease traffic-related pollution, decreasing environmental impacts on those living with chronic respiratory illnesses such as asthma.
- **Health services and clinical care** includes both access to and quality of health care: primary, emergency, specialty, and oral health care. Having access to quality health services means having increased opportunities for screening, early detection, and preventive treatments.



Across Central Oregon, communities experience significant differences in determinants of health, health behaviors, and disease rates. Some examples of these varying disease rates and health behaviors within the region include diabetes prevalence, high blood pressure, obesity, sexually transmitted infections (STI's), physical inactivity, oral health, and tobacco use.

Some background statistics for physical health include:

- Diabetes is more prevalent among adults overall in Central Oregon than Oregon state (8.6%) as a whole. Prevalence in Jefferson (16%) and Crook (13%) is markedly higher than Deschutes (4.8%) (RHA, 2019, Fig 53, p.75).
- Of the three Central Oregon counties, Crook County has the highest percentage of adults reporting high blood pressure (48.8%). This is significantly higher than the rates in neighboring Jefferson County (16.9%) and Deschutes County (24.8%) (RHA, 2019, Fig 57, p.78).
- Approximately 36.5% of Jefferson County residents and 31.2% of Crook County residents are classified as obese (BMI >30), compared to about 21% of Deschutes County residents (RHA, 2019, Fig 62 p.80).
- Rates of chlamydia per 100,000 population are higher in Jefferson County (792.4) than Deschutes (444.1) or Crook (527.4). New cases of syphilis have been steadily increasing in the entire region since 2012, increasing from 3 to 15 annual newly-diagnosed cases during 2018. (RHA, 2019, Fig 80, p.95)
- 29.3% of Crook County and 12.7% of Deschutes County residents report no leisure-time physical activity in the last month (RHA, 2019, Fig 57, p.78).
- 26.3% of adults in Crook County currently smoke, in stark contrast to current smoker rates in Deschutes (17.3%) and Jefferson (12.7%) Counties (RHA, 2019, Fig 58, p.78).
- Injury death rates 2013-2017, were: Deschutes Female 29.5, Male 49.8/100K/ yr.; Crook Female 49.4, Male 64.6/100K per year; and Jefferson Female 46.1, Male 96.2/ 100K/ yr., vs Oregon Female 31.0, Male 55.9/ 100K/yr. (RHA, 2019, Fig 195, p.203).
- Motor-vehicle related deaths were 57% of all 2017 unintentional injury deaths in Jefferson County, versus 38% in Crook, and 27% in Deschutes (RHA, 2019, Fig 197, p.204), and a leading cause of death for almost all age groups in Central Oregon (RHA, 2019, Fig 200, p.207), exceeded by falls in ages 75 years and above.
- Accidental (unintentional) injuries were the leading cause of death for infants, children, and teens among Warm Springs members, 2003-2018 (Confederated Tribes of Warm Springs Annual Health System Report, 2018, p.25).

- The leading causes of death among Warm Springs members for 2018 were:

- ◇ Chronic liver disease and cirrhosis
- ◇ Diabetes Mellitus*
- ◇ Disease of the heart*
- ◇ Accidents *
- ◇ Malignant Neoplasm **

(* tied for 2nd, ** tied for 4th)

Unequal access to services and opportunities (e.g. from health screening, diagnosis, treatment, management; built environment; food supply chain, access to health care) exists within the region. Several communities, including La Pine, Madras, Prineville, and Warm Springs, have higher levels of unmet health care needs than the more urban areas of Central Oregon and Oregon overall. Access to health care is a challenge for residents living in rural areas, especially for veterans, and those with transportation, and/or language and culture barriers.

Physical health-related priorities in Central Oregon have been identified as including:

1. Cardio-Pulmonary Diseases (e.g. asthma and hypertension), diabetes, obesity, sexually transmitted infections (e.g. HPV, Syphilis, and HIV) and preventable diseases. Additionally, highly preventable non-communicable diseases whose prevalence has been linked to health behaviors, (e.g. certain cancers of the breast, lung, colon, skin, and cervix) and injuries should be addressed.
2. Enhancing the physical health of our population across Central Oregon will require a complex, collaborative, and multi-faceted effort involving stakeholders from multiple sectors. These efforts must engage partners that traditionally have not been part of the conversation about health in our communities. These sectors include health care, social and safety services, education, business, transportation, and food systems.



KURT WINDISCH PHOTO

AIM/GOAL

Equitably and measurably support all Central Oregonians to prevent disease by improving health behaviors and reducing risk factors that contribute to premature death and diminish quality of life.

CURRENT STATE

1. Current chronic disease age-adjusted rates by County:

| | Crook County | Deschutes County | Jefferson County |
|----------------------------|--------------|------------------|------------------|
| Asthma (%) | 8.2 | 9.1 | 14.3 |
| Cancer (%) | 7.8 | 7.1 | 5.4 |
| Cardiovascular disease (%) | 9.7 | 4.8 | 5.7 |
| Diabetes | 10.6 | 5.9 | 20.4 |

Source: OR BRFSS 2014-2017

2. (A) Current adult obesity rates in Central Oregon Region are: (Source: OR BRFSS 2014-2017)

- Crook 31.5%
- Deschutes 21.4%
- Jefferson 42.2%

(B) Current youth health behaviors that directly impact obesity rates in Central Oregon region are:

| * 8th Grade Rates * | Crook County | Deschutes County | Jefferson County |
|--|--------------|------------------|------------------|
| Percentage of students reporting 60 minutes or more of physical activity in the last 7 days. | 37% | 28% | 22% |
| Index of 6 fruit and vegetable consumption questions, what percentage of youth are getting at least 5 servings of fruit or vegetables per day. | 28% | 23% | 31% |
| * 11th Grade Rates * | Crook County | Deschutes County | Jefferson County |
| Percentage of students reporting 60 minutes or more of physical activity in the last 7 days | 29% | 16% | 20% |
| Index of 6 fruit and vegetable consumption questions, what percentage of youth are getting at least 5 servings of fruit or vegetables per day. | 21% | 16% | 15% |

Source: OHA, Oregon Healthy Teens Survey, 2019

FUTURE STATE

1. By December 2023, decrease chronic disease rates by 10% in each County, age-adjusted:

| | Crook County | Deschutes County | Jefferson County |
|----------------------------|--------------|------------------|------------------|
| Asthma (%) | 7.4 | 8.2 | 12.9 |
| Cancer (%) | 7.0 | 6.4 | 4.9 |
| Cardiovascular disease (%) | 8.7 | 4.3 | 5.1 |
| Diabetes | 9.5 | 5.3 | 18.3 |

2. (A) By December 2023, reduce adult obesity rates in Central Oregon Region by 7% in each county.

- Crook 29.3%
- Deschutes 19.9%
- Jefferson 39.2%

(B) By December 2023, increase the percentage of Central Oregon youth who meet the physical activity and fruit/vegetable consumption goals by 10 percentage points in each county to:

| * 8th Grade Rates * | Crook County | Deschutes County | Jefferson County |
|--|--------------|------------------|------------------|
| Percentage of students reporting 60 minutes or more of physical activity in the last 7 days. | 47% | 38% | 32% |
| Index of 6 fruit and vegetable consumption questions, what percentage of youth are getting at least 5 servings of fruit or vegetables per day. | 38% | 33% | 41% |
| * 11th Grade Rates * | Crook County | Deschutes County | Jefferson County |
| Percentage of students reporting 60 minutes or more of physical activity in the last 7 days | 39% | 26% | 30% |
| Index of 6 fruit and vegetable consumption questions, what percentage of youth are getting at least 5 servings of fruit or vegetables per day. | 31% | 26% | 25% |

3. Current Risk Factors that contribute to Cardio-Pulmonary Disease and/or Preventable Disease:

| | Crook County | Deschutes County | Jefferson County |
|--|--------------|------------------|------------------|
| Age-adjusted % of adults who currently smoke (OR BRFSS, 2012-2015) | 26.3% | 17.3% | 12.7% |
| The age-adjusted rate of persons hospitalized for stroke per 100k (OR Hospital Discharges Dataset, 2016) | 210.6 | 204.0 | 343.6 |
| The age-adjusted rate of persons hospitalized for diabetes per 100k (OR Hospital Discharges Dataset, 2016) | 92.5 | 64 | 138.5 |

4. Current sexually transmitted infection (STI) rates are:

| | Crook County | Deschutes County | Jefferson County |
|---|----------------|------------------|------------------|
| The 5-year age-adjusted rate of gonorrhea per 100k (OPHAT, 2013-2017) | 65.9 | 29.4 | 119.7 |
| | Central Oregon | | |
| 5-year syphilis case count (Central OR Counties, 2013-2017) | 46 | | |
| 5-year HIV case count (Central OR Counties, 2013-2017) | 26 | | |

3. By December 2023, decrease risk factors that contribute to Cardio-Pulmonary Disease and/or Preventable Disease by 7% in each county:

| | Crook County | Deschutes County | Jefferson County |
|--|--------------|------------------|------------------|
| Age-adjusted % of adults who currently smoke (OR BRFSS, 2012-2015) | 24.5% | 16.1% | 11.9% |
| The age-adjusted rate of persons hospitalized for stroke per 100k (OR Hospital Discharges Dataset, 2016) | 196.0 | 190.0 | 319.0 |
| The age-adjusted rate of persons hospitalized for diabetes per 100k (OR Hospital Discharges Dataset, 2016) | 86.0 | 59.5 | 128.5 |

4. By December 2023, decrease 5-year rates and/or 5-year case counts of STIs by 20%:

| | Crook County | Deschutes County | Jefferson County |
|---|----------------|------------------|------------------|
| The 5-year age-adjusted rate of gonorrhea per 100k (OPHAT, 2013-2017) | 52.7 | 23.5 | 95.8 |
| | Central Oregon | | |
| 5-year syphilis case count (Central OR Counties, 2013-2017) | 37 | | |
| 5-year HIV case count (Central OR Counties, 2013-2017) | 21 | | |

5. The current percentage of PacificSource (Central Oregon CCO) Medicaid members, at any age, who received both an annual wellness visit by a Primary Care Provider and a preventive dental visit by a member of the Oral Health Care Team is (PacificSource, 2018):

- Crook 72.99%
- Deschutes 75.44%
- Jefferson 71.67%

5. By December 2023, increase the percentage of PacificSource (Central Oregon CCO) Medicaid members, at any age, who received both an annual wellness visit by a Primary Care Provider and a preventive dental visit by a member of the Oral Health Care Team by 10 percentage points to:

- Crook 82.99%
- Deschutes 85.44%
- Jefferson 81.67%

ACTION AREA POTENTIAL STRATEGIES TO ADDRESS PRIORITY AREA

Health Promotion and Education (Messaging)

1. Hypertension/Heart Disease:
 - New Blood Pressure awareness campaign (www.knowmybp.org)
 - Increase awareness of the DASH (Dietary Approaches to Stop Hypertension) Diet (https://www.cdc.gov/salt/reduce_sodium_tips.htm)
2. Obesity:
 - Promote worksite programs to improve diet or physical activity and reduce weight among employees
3. Diabetes:
 - Develop a regional HbA1c awareness campaign
 - Ensure access to quality, evidence-based prevention and self-management programs:
 - ◇ Lifestyle change programs to prevent type 2 diabetes among people at increased risk
 - ◇ Lifestyle change and self-management programs for adults with type 2 diabetes as well as other chronic conditions

Health Promotion and Education (Messaging)

4. Physical Activity:

- Implement community-wide campaigns to increase physical activity through social support, screening, and education
- Partner with health care providers to prescribe appropriate exercise for youth and adults
- Offer educational, social, and/or physical activities to older adults in group settings to encourage movement and community engagement
- Support and expand safe walking routes to school and to school buses in all Central Oregon communities
- Pedestrian/ bicycle injury prevention: bicycle helmets, public education
- Encourage children to spend time away from TV and other stationary screen media
- Create and sustain physical activity subsistence programs that connect primary care with community programs and opportunities
- Implement health communication campaigns using multiple channels including mass media to:
 - ◇ Encourage/increase physical activity
 - ◇ Support people in tobacco cessation

5. Sexually Transmitted Infections

- Protect against disease or injury by providing condoms/ promoting barrier methods in conjunction with health communication campaigns
- Implement school education, sustain My Future, My Choice™ and/or other evidence-based Comprehensive Risk Reduction programs

6. Oral Health

- Increase awareness of systemic concerns (e.g. during pregnancy) and potential complications of oral infections (e.g. stroke, cardiovascular, diabetes, respiratory, HPV) through integrated community education to achieve common messaging across the health system.

Access to Preventive Health Services

1. Make blood pressure testing readily and conveniently available in all communities
2. Ensure the recommended frequency of serum glucose and HbA1C screening for at-risk adults
3. Promote annual physical and oral well-care visits for adults and youth. Include both traditional (primary care office) and non-traditional settings (e.g. school based health centers)
4. Create community-clinical linkages to increase provider referrals to evidence-based programs such as the National Diabetes Prevention Program, Walk with Ease, and Living Well Self-Management programs
5. Provide opportunities for implementation and/or expansion of telehealth/telemonitoring/tele-dentistry to reach rural and mobility/travel impaired populations: see Advantage Dental pilot (Collaboration across health systems)
6. Reduce sexually transmitted infections through early screening, early partner treatment, and notification plans (consider regional recommendations for providers, similar to those used widely in Diabetes management)

Policy Improvement

1. Increase physical activity in school settings:
 - Promote active, semi-structured, or structured recess time, after school activities including activity clubs, intramural and extramural sports, and/or physically active classroom breaks to increase activity among school-aged youth.
 - Increase opportunities for classroom modification to accommodate increased movement (built environment and supplies)
2. Increase physical activity in workplace settings:
 - Promote physical or policy changes to make healthy choices easier and target the entire workforce (e.g. adopt standards for healthy foods and beverages, provide more opportunities to be physically active, change health insurance benefits, or provide health club memberships)
3. Increase physical activity in community settings:
 - Support the development of joint-use agreements so that community members can access indoor/outdoor facilities of schools, non-profits or private organizations for exercise and play
4. Increase access to and consumption of fresh, healthy foods:
 - Work with employers, schools, grocery stores or other food retail outlets to make healthier foods less expensive than unhealthy foods (by providing incentives, subsidies, or discounts to healthy foods or increasing prices for unhealthy foods)

Policy Improvement

- Opportunity for expansion of SNAP benefits and farmers markets to double value for vegetables/fruit
 - Expand and support programming participation and availability for cooking classes or farmer's market education with fresh food/vouchers: examples might be Veggie RX or Cooking Matters
 - Increase the number of childcare facilities, schools, hospitals, senior facilities, and worksites that adopt nutrition standards
5. Tobacco Retail Licensing:
 - Including limiting retailer density and proximity to youth
 - Elimination of price promotions and flavors that entice initiation and make cessation more difficult
 6. Increase the price of sugary drinks
 7. Encourage the food industry to voluntarily adopt guidelines for marketing to children (<https://www.publichealthlawcenter.org/topics/healthy-eating/food-marketing-kids>)
 8. Enact water fluoridation in communities that do not fluoridate
 9. Built Environment
 - Physical Activity: Creating or improving places for physical activity (built environment includes a focus on the outdoor environment with complete streets and mixed-use development, zoning regulations)
 - Incorporate Health Impact Assessments (HIA) as a process to evaluate potential health effects of a plan, project, or policy before construction or implementation
 - Incorporate pedestrian and bicycle master plans into city general plans and capital improvement programs
 - Ensure that children can walk and bicycle safely to school, including Safe Routes to School non-infrastructure activities and infrastructure improvements to provide sidewalks and bicycle paths
 - Connect roadways to complementary systems of trails and bicycle paths that provide safe places to walk and bicycle for children, seniors, and the general public
 - Increase access to play areas (i.e. public places, parks, school playgrounds) for children to be active
 - Increase safety infrastructure (i.e. sidewalks, lighting, crossing signals, and crosswalks) to encourage active transportation
 10. Advocacy for reimbursements or formulary changes for things like fluoride toothpaste, preventive medicine, acupuncture/massage/physical therapy.

Redesigning Models of Services

1. Interventions engaging community health workers in a team-based care model to improve key health indicators (i.e. for health education, outreach, enrollment and information agents to increase protective health behaviors (<https://www.thecommunityguide.org/>)

“When interventions engaging community health workers are implemented in minority or underserved communities, they can improve health, reduce health disparities, and enhance health equity.”

<https://www.thecommunityguide.org/findings/cardiovascular-disease-prevention-and-control-interventions-engaging-community-health>

2. Coordination of physical and oral health screenings at the dental office (e.g. blood glucose or HbA1c testing and closed-loop referrals to primary care)

Collaboration Across Systems

1. Collective Impact model:
 - Address the built environment in local planning, transportation planning (regional and state).
 - Jointly promote built environments that encourage exercise and injury (pedestrian, cyclist) prevention (e.g. separation from motor vehicle traffic)
2. Develop collaborations across worksites, coalitions, agencies and communities to change local environments to create opportunities for physical activity (examples include creating or improving walking trails, building exercise facilities, or providing access to existing facilities)
3. Support connections between school and community programs that include physical activity that is accessible to all children, nutrition education, tobacco prevention, and oral health
4. Work with local, state, and federal parks and recreation programs to offer and promote access to physical activity opportunities
5. Coordinate with workplace wellness programs via insurance companies, human resource offices, etc., to offer and incentivize programs that support nutrition, physical activity, preventive care, and tobacco cessation
6. Oral health/connection between family and primary care and oral health

**Collaboration
Across Systems**

7. Prioritize surveillance and epidemiology, maintenance of reliable data
8. Create and maintain a third-party (electronic) platform for closed-loop referrals between health systems and community programs and services
 - Identify pathways to directly link specialty care with resources for food, physical activity, and other social determinants.
 - Identify and collaboratively schedule location of care for a cross section of services from health/oral/vision care to meeting food insecurity needs

**Equitable Access
to Services**

1. Assist with or provide incentives for supermarkets or farmers' markets to establish their businesses in underserved areas (<https://www.cdc.gov/obesity/strategies/healthy-food-env.html>)
2. Increase number of American Indian/Alaska Natives participating in evidence-based lifestyle change programs, including the Diabetes Prevention Program
3. Increase the number of Department of Human Services (DHS) and Oregon Health Authority (OHA) mental and behavioral health service providers that adopt standards for healthy food and beverages, physical activity and breastfeeding for clients and employees
4. Expand mobile food pantry (current High Desert Food and Farm Alliance (HDFFA) model/project)
5. Encourage or Incentivize non-traditional health workers or mid-level provider availability, increasing the workforce of native speakers and population-representative individuals
6. Improve and/or modify existing programs to be more culturally impactful/responsive to micro populations. For example: modifying Veggie Rx/Food Hero information and recipes to include and honor traditions of native people.

KEY REGIONAL PARTNERSHIPS:

Tri-county entities representing health care, social and safety services, education, business, transportation, government, food systems, public health, the Confederated Tribes of Warm Springs, and the Central Oregon Health Council.

All are welcome.

STABLE HOUSING AND SUPPORTS

THE PROBLEM

Stable, healthy housing is a basic need. Insecure housing and an unhealthy living environment impact both an individual's physical and behavioral health conditions.

In Central Oregon the high demand for all levels of housing places significant stress on thousands of individuals and families who cannot afford where they currently live or cannot find a stable, healthy home to call their own. According to the 2019 Central Oregon Regional Housing Needs Assessment, in 2017, 18% of Central Oregonians paid more than half of their income for rent or mortgage and 34,000 low- to moderate-income households experienced "housing needs" including high cost burden, overcrowding, or lack of complete facilities (p. 104, and p.111). By spending much of their income on housing, individuals and families must cut corners on other living expenses such as food, transportation, and medications, which can also significantly influence their health outcomes and overall well-being.

A key driver of the housing crisis is the enormous population growth in Central Oregon since 1990, the majority occurring

in Deschutes County. Between 2000 and 2017, the region added about 75,000 residents and grew by 49% (Central Oregon Regional Housing Needs Assessment, 2019, p. 43). Another key driver is the lack of affordable and specifically multi-family housing. Although some recent state legislation encourages jurisdictions with over 10,000 residents to build more multi-family housing, it does not fully compensate for outdated regulatory barriers and years of unmet housing demand across Crook, Deschutes and Jefferson counties (OregonLive, 2019). Smaller communities like Madras and La Pine, two communities with significant need, still are required to independently amend their development codes to permit a greater variety of housing types.

Additional housing barriers exist for specific populations with the greatest challenges for those at or near the poverty level. The federally-subsidized Housing Choice Voucher (HCV) program, administered locally by Housing Works, allows voucher holders to rent a unit of their choice, assuming the landlord accepts vouchers and the unit meets the program's physical condition and rent guidelines. However, in

2018 only 30% of voucher holders were able to find and lease a home, primarily due to a lack of rental openings but also due to other barriers including poor credit history, lack of security deposits and criminal history (Lesly Gonzalez, Housing Works, personal communication, October 17, 2019).

Many of those experiencing poverty also face compounding barriers. In Central Oregon, minority households experience more housing challenges than their white counterparts. In 2017, 78% of African-American households and 46% of Hispanic households experienced “housing needs” compared to 37% of white households. Native Americans are more likely to spend greater than 50 percent of their income on rent and in Warm Springs 23.3% of renter households live in overcrowded housing conditions, compared to only 3.7% of all renters in Central Oregon (Central Oregon Regional Housing Needs Assessment, 2019, p. 112). Regional social service providers have also documented a growing housing need among youth exiting foster care and LGBTQ+ youth. Although illegal under fair housing laws, marginalized individuals and families may also experience barriers due to language, documentation status and discrimination. New state laws have established stronger anti-discrimination policies, but there is still a need for landlord and tenant education, and enforcement of tenant rights.

The housing crisis is contributing to rising homelessness across the region. The annual Point In-Time (PIT) count provides a snapshot of those sleeping outside or in shelters on a mid-January night. In 2019, 880 people were counted in the

regional PIT (HLC, 2019). In Warm Springs in January 2019, 34 families reported being homeless, and 20 of those families had children under the ages of 17 (CTWS HHS, 2019). While these numbers are acknowledged as being underreported, the overall number has been increasing each year and the primary reason cited by respondents for their homelessness continues to be economic.

Whereas the PIT count provides some useful information regarding patterns of homelessness, Central Oregon lacks a robust data collection strategy. The Homeless Leadership Coalition (HLC) acknowledges the need for a comprehensive homelessness assessment, including more data on racial and ethnic minorities that are likely even more underrepresented than the overall homeless population.

Finally, Central Oregon has a critical shortage of supportive housing units to meet the needs of people with disabilities, with co-occurring mental health or substance use disorders, and/or who have experienced an extended history of homelessness. These individuals are often frequent users of the hospital, law enforcement and other crisis services. Central Oregon’s Coordinated Entry System (CES) (2019), a HUD-mandated assessment and referral system managed by the HLC, found that 220 individuals, or 42% of those referred for assessment last year, had unmet needs that would be best served by supportive housing with wrap-around coordinated services such as case management, health care and transportation.

AIM/GOAL

Central Oregonians experiencing homelessness and those most at-risk of homelessness will have increased and equitable access to housing and supports that offer opportunities for housing stability and increased individual well-being.

CURRENT STATE

1. In 2017, 18% of Central Oregon households were severely rent or mortgage burdened (Central Oregon Regional Housing Needs Assessment, 2019)
2. In 2018, only 30% of Housing Choice Vouchers (HCV) holders were able to find and lease a housing unit (Housing Works, 2019).
3. Currently, no comprehensive system to determine an accurate number of those experiencing homelessness exists in Central Oregon.

FUTURE STATE

1. By December 2023, decrease the combined severely rent and mortgage burdened households in Central Oregon by 2 percentage points to 16%.
2. By December 2023, 50% of Housing Choice Vouchers (HCV) holders will be able to find and lease a housing unit.
3. By December 2023, a comprehensive system for accurately capturing the extent of Central Oregonians experiencing homelessness will be in place and utilized.

| ACTION AREA | POTENTIAL STRATEGIES TO ADDRESS PRIORITY AREA |
|--|--|
| <p>Health Promotion and Education (Messaging)</p> | <ol style="list-style-type: none"> 1. Develop partnerships between traditional health workers and housing providers to allow property-based health promotion and educational opportunities 2. Develop educational opportunities for housing providers and housing advocates on mitigating circumstances such as mental health or substance use disorders during applicant screening processes 3. Develop and support a “Ready to Rent” education program in the region to support rental acquisition for those near the poverty level 4. Develop forums and other opportunities to educate elected officials and other decision-makers on the housing crisis and the nexus between insecure housing and health |
| <p>Access to Preventive Health Services</p> | <ol style="list-style-type: none"> 1. Promote free/low-cost preventive health services to those that are experiencing rent and mortgage burden 2. Provide OHP enrollment assistance at affordable housing units 3. Provide integrated preventive health services at affordable housing units 4. Integrate preventive health services with other wrap-around services for permanent supportive housing |
| <p>Policy Improvement</p> | <ol style="list-style-type: none"> 1. Enact a comprehensive strategy to amend local jurisdiction zoning ordinances to allow for a variety of housing types 2. Align the building of all levels of housing stock with transportation networks, walkable areas, and food access 3. Ensure supportive relocation plans for those individuals who are living on public lands or public rights of way 4. Enforce existing tenant rights regulations 5. Develop policies that more easily allow supportive services for those experiencing homelessness to be reimbursed by the medical system |

Redesigning Models of Services

1. Develop and implement a better process for transitional housing leading to permanent housing
2. Support a more robust regional Continuum of Care program, including shared data, coordination, and prioritization of needs and services
3. Support housing barrier removal funds (rental assistance, first-month deposit, utility, and property debt forgiveness, etc.) and landlord mitigation funds
4. Ensure support for collaborative efforts in building and staffing permanent supportive housing units
5. Incorporate trauma-informed care practices into RHIP housing strategies

Collaboration Across Systems

1. Develop affordable housing units with medical, mental health and/or drug and alcohol treatment providers partnerships to support individuals to keep stable housing.
2. Prioritize hospital collaboration with housing/service community, highlighting the impact of housing instability on ED usage, hospitalization and discharge support
3. Bridge the housing and education systems to focus on working with schools to break the generational poverty cycle. This may entail utilizing existing connections with families at School-Based Health Centers and with Family Access Network (FAN) Advocates embedded in schools.
4. Prioritize law enforcement collaboration with housing and service providers to ensure critical connection for outreach to individuals experiencing homelessness
5. Create a Regional Housing Council that emphasizes collaboration across systems

Equitable Access to Services

1. Ensure that all housing-related outreach materials and educational opportunities are available in Spanish and other languages as appropriate
2. Provide culturally appropriate training, engagement and education for landlords and housing service providers
3. Develop partnerships with agencies that serve marginalized homeless populations

KEY REGIONAL PARTNERSHIPS:

Housing Works, Local and County Governments, BLM, Forest Service and Grasslands, Law Enforcement, St. Charles Health System, Mosaic Medical, Confederated Tribes of Warm Springs, NeighborImpact, Homeless Leadership Coalition, Central Oregon Intergovernmental Council (COIC), Bethlehem Inn, Family Access Network (FAN) Advocates, J Bar J: The Loft, Central Oregon Renters Association, Central Oregon Landlords Association, HUD (Housing and Urban Development), Oregon Housing and Community Services (OHCS), School Districts, FUSE, BestCare Treatment Services, Deschutes County Health Services, Indian Health Services, Cascades East Transit, Latino Community Association, PacificSource, Housing for All, Jefferson County Public Health, Crook County Public Health, the Confederated Tribes of Warm Springs, the Central Oregon Health Council.

All are welcome.



SUBSTANCE AND ALCOHOL MISUSE: PREVENTION AND TREATMENT

THE PROBLEM

Oregon's current Governor, Kate Brown, signed an executive order on March 27, 2018 declaring substance abuse a public health crisis (Governor's Office Newsroom, 2018). According to the Oregon Substance Use Disorder Research Committee's 2017 Report, "Substance Use Disorders in Oregon – Prevention, Treatment and Recovery", one out of every ten Oregonians struggle with drugs or alcohol, and that addiction costs the state approximately \$6 billion per year. That cost is inclusive of health care costs and policing. Additionally, approximately two of every three Oregonians either struggle with a substance use disorder or have a friend that does. Mental health and substance use disorders affect people from all walks of life and all age groups. These illnesses are common, recurrent, and often serious, but they are treatable, and many people do recover. As with other diseases and disorders, the likelihood of developing an addiction differs from person to person, and biological, environmental and other factors increase the risk of addiction (NIDA, Science of Addiction, 2018).

The opportunities to address substance misuse are varied, ranging from the promotion of healthy behaviors to the prevention of substance misuse, the identification of substance misuse and abuse, the provision of treatment, and the support of recovery with aftercare services (National Academies of Science, Engineering, and Medicine, 2019).

According to the National Institutes of Health:

"Addiction is defined as a chronic, relapsing disorder characterized by compulsive drug seeking, continued use despite harmful consequences, and long-lasting changes in the brain. It is considered both a complex brain disorder and a mental illness. Addiction is the most severe form of a full spectrum of substance use disorders, and is a medical illness caused by repeated misuse of a substance or substances."

The American Society of Addiction identifies addiction as:

“a treatable, chronic medical disease involving complex interactions among brain circuits, genetics, the environment, and an individual’s life experiences. People with addiction use substances or engage in behaviors that become compulsive and often continue despite harmful consequences. Prevention efforts and treatment approaches for addiction are generally as successful as those for other chronic diseases.”

Although using alcohol and/or drugs at any age can lead to addiction, research shows that the earlier a person begins using drugs, the more likely they are to develop serious problems (NIDA, 2018). Substance use is the primary public health issue facing adolescents that contributes to the three leading causes of death among teens; accidents, homicides, and suicides (CDC, 2016). Ninety percent of adult addictions and their substance use related problems started in their teenage years, between the ages of 12 and 20 (Dennis, 2007). “Adolescents who are abusing drugs are likely to have other issues such as mental health problems accompanying and possibly contributing to their substance use, and these also need to be addressed. Unfortunately, less than one third of adolescents admitted to substance abuse treatment who have other mental health issues receive any care for their conditions (NIDA, 2014).”

Addressing the risk and protective factors associated with substance misuse is essential to prevent and reduce it. Research indicates that preventing substance misuse can have far reaching implications for individuals, families and our community as a whole, including impact on education, community safety, health care, employment, and quality of life.

Tobacco: Tobacco use is the number-one cause of preventable death and disease in Oregon (OHA Tobacco Facts, 2018). Each year, tobacco use kills nearly 8,000 Oregonians (Oregon Vital Statistics, 2018) and costs \$2.5 billion in medical expenses, lost productivity and early death (CDC, 2008). Tobacco-related death rates per 100,000 population between 2013-2016 were 183.6 in Crook County, 128.7 in Deschutes County, and 160.1 in Jefferson County (Oregon Center for Health Statistics, 2019). E-cigarette use among 11th graders increased three-fold from 2013-2015, from 5% to 17%, with the first decline in e-cigarette use among Oregon youth seen in 2017 (OHA Tobacco Facts, 2018). The percentage of 11th-grade students who report vaping or using e-cigarettes was 22.6% in Crook County (OR Healthy Teens Survey, 2019), 29.4% in Deschutes County (OR Student Wellness Survey, 2018), and 16.6% in Jefferson County (OR Student Wellness, 2015). As of November 26, 2019, 19 cases of vaping related illnesses have been reported in Oregon, 2 of which resulted in death. Some Oregon cases do involve individuals under the age of 18 and include a mix of cannabis-only vaping, nicotine-only vaping and a combination of both (OHA, 2019).

Marijuana/Cannabis: The US Surgeon General issued an advisory on marijuana use and the developing brain. This advisory describes the researched impacts of marijuana on the developing fetus, as well as on children, teens and young adults. Of Central Oregon 11th graders, 14.6% in Crook County, 11.6% in Deschutes County, and 20.5% in Jefferson County reported using marijuana in the past 30 days (OR Healthy Teens Survey, 2015).

Alcohol: According to the 2017 report, “Pain in the Nation: The Drug, Alcohol, and Suicide Crises and the Need for a National Resiliency Strategy”, Oregon ranked third in the nation for alcohol-related deaths. The Oregon Health Authority’s 2018 State Health Assessment highlights a 38% increase in the overall rate of alcohol-related deaths in Oregon since 2001. “Excessive alcohol use can increase a person’s risk of developing serious health problems such as brain and liver damage, heart disease, cancer, fetal damage in pregnant women, and early death. It is a risk factor for injuries, violence, unintended pregnancy, and motor vehicle crashes” (OHA State Health Assessment, 2018). The Centers for Disease Control and Prevention (CDC) reports that opioid misuse is also linked to binge drinking (National Institute on Alcohol Abuse and Alcoholism, 2019). In Central Oregon, 37.5% of people ages 18-34 reported binge drinking on at least 1 occasion in the past 30 days, as compared with 10.8% of people ages 35-54, and people over the age of 55 (RHA, 2019, p.183).

Prescription pain killers (opioid medications): Oregon has one of the highest rates of misuse of prescription opioids in the nation (OHA, 2019). Coupled with the misuse of opioids, the co-use of methamphetamine is on the

rise in rural Oregon (Haelle, 2019). In fact, the simultaneous use of opioids and methamphetamine rose from 19% to 34% between 2011 and 2017 (Haelle, 2019).

Methamphetamine: In Oregon, deaths from methamphetamine overdoses are up 400% between 2012 and 2017 (NIDA, 2019). Data in the Central Oregon Regional Health Assessment for methamphetamine overdoses is only available for Deschutes County, however, the three-year methamphetamine overdose rate in both Deschutes County and in Oregon overall appears to be increasing (RHA, 2019, p.195).

SUBSTANCE USE RELATED HEALTH DISPARITIES IN CENTRAL OREGON

Central Oregon recognizes the impact of factors in our communities which may increase the prevalence of substance misuse among certain populations. These factors may include access to affordable housing, healthy foods, convenient transportation, education, economic stability, childcare, and communities that promote healthy behaviors, as well as other social determinants of health. According to Oregon’s State Health Assessment,

“Social determinants and the places people live, work, learn and play, have the most significant effect on individual and population-level health. People of color and those living with fewer financial resources are more likely to bear the burden of unsafe neighborhoods, substandard housing, lack of transportation, and low-quality schools. As a result, some people and communities with less or no access to these resources experience worse health outcomes, poorer quality of life, and shorter lifespans.”



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According to the Oregon Substance Use Disorder Research Committee's 2017 Report, "Substance Use Disorders in Oregon – Prevention, Treatment and Recovery", the effects of substance use disorder are most acute amongst rural Oregonians.

According to a health disparity analysis of Central Oregonian substance use rates and mortality, completed in conjunction with the Central Oregon Regional Health Assessment, there are disparities among Central Oregonians regarding substance use. A statistically significantly higher percentage of adults in Central Oregon who smoke live at or below the federal poverty level or have a high school or less education, as compared with those who live above the federal poverty level or who are college graduates. The age-adjusted mortality rate from "tobacco-related causes" was statistically significantly higher for males than for females, and lower for Hispanics than among the total population (OR BRFSS, 2014-2017).

The proportion of adults who report binge drinking and past-30 day use of marijuana or hashish was highest among those aged 18-34 (OR BRFSS, 2014-2017). Binge drinking

was lowest among those aged 55+, with statistically significant differences between each of three age groups (ages 18-34, 35-54, and 55+), (OR BRFSS, 2014-2017). Over one-third (37%) of adults aged 18 to 34 in Central Oregon reported binge drinking on at least one occasion over the past 30 days (RHA, 2019, p.180, Figure 168). The mortality rate from alcohol-induced causes is statistically significantly higher among American Indian/Alaska Native non-Hispanics compared to the total population.

Heavy drinking, tobacco use, and drug use are associated with higher rates of all-cause mortality, chronic disease, violence, and abuse. Substance Use Disorder is preventable, treatable, and can be successfully managed (NIDA, 2018). Research shows that individualized treatment to address the physical, psychiatric, environmental, and social factors, provide improved and sustainable outcomes (NIDA, 2018). Engaging a variety of community stakeholders to positively impact the community-level factors which foster healthy mental, emotional and behavioral development will result in better health outcomes for Central Oregonians.



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AIM/GOAL

Create and enhance cross-sector collaborations and programming so that all Central Oregonians have equitable access to skilled, evidence-based substance and alcohol misuse prevention, intervention, treatment, and recovery services that are culturally responsive and trauma-informed.

CURRENT STATE

1. Currently, over one-third (37.4%) of adults aged 18 to 34 in Central Oregon reported binge drinking on at least one occasion over the past 30 days. (Oregon BRFSS, 2012-2015)

FUTURE STATE

1. By December 2023, only 25% of adults aged 18 to 34 in Central Oregon reported binge drinking on at least one occasion over the past 30 days.

2. The current percentage of 11th-grade students who report vaping or using e-cigarettes is *22.6% in Crook County, **29.4% in Deschutes County, and ***16.6% in Jefferson County. (*OR Healthy Teens 2019, **2018 OR Student Wellness, ***2015 OR Student Wellness)

3. Currently, 7.8% of Medicaid members (ages 13 and older) who are newly diagnosed with alcohol or other drug dependence and who began treatment within 14 days of the initial diagnosis, had two or more additional services for alcohol or other drug dependence within 30 days of their initial treatment. (Source: 2016-2017 Quality Incentive Measure (QIM), Initiation/engagement in treatment)

4. Current Mental Health/Substance Abuse Emergency Department visits per 1,000 population are:
 - Warm Springs: 47
 - Prineville 20.1
 - Madras 17.2
 (Source: Oregon Office of Rural Health, 2018)

2. By December 2023, reduce the percentage of Central Oregon 11th grade students who report vaping or using e-cigarettes by 10% percent in each county, resulting in only 20.2% in Crook County, 26.5% in Deschutes County, and 14.9% in Jefferson County (OR Student Health Survey).

3. By December 2023, 30% of Medicaid members (ages 13 and older) who are newly diagnosed with alcohol or other drug dependence and who began treatment within 14 days of the initial diagnosis will have two or more additional services for alcohol or other drug dependence within 30 days of their initial treatment. (Quality Incentive Measure (QIM))

4. By December 2023, Mental Health/Substance Abuse Emergency Department visits per 1,000 will be reduced by 25% in highest rate locations:
 - Warm Springs 35.3
 - Prineville 15
 - Madras 13.8

| ACTION AREA | POTENTIAL STRATEGIES TO ADDRESS PRIORITY AREA |
|---|---|
| <p>Health Promotion and Education (Messaging)</p> | <ol style="list-style-type: none"> 1. Use existing local campaigns to raise awareness and educate the general public or develop new campaigns as needed <ul style="list-style-type: none"> • “Count on It: 0-1-2-3 Low-Risk Drinking Guide” for young adults • “Take Meds Seriously Oregon” • “Heal Safely” • “Reverse Overdose” • “Start the Conversation” • Awareness and education about DUII High Visibility Enforcement events • Youth-focused campaign regarding negative effects of alcohol and other drugs on the body (not just the brain) 2. Provide opportunities for parents to increase skills and knowledge about adolescent substance abuse prevention <ul style="list-style-type: none"> • Connect Parenting Workshop • Central Oregon Family Resource Center substance abuse prevention classes for parents 3. Strengthen prevention education opportunities within school settings <ul style="list-style-type: none"> • Good Behavior Game at elementary schools • Evidence-based curricula at middle and high schools 4. Provide educational opportunities for health and other key community stakeholders <ul style="list-style-type: none"> • Continuing Medical Education for primary care providers regarding harms of alcohol use and referral to treatment workflows • Education for providers on SBIRT highlighting specialty referral to treatment workflows • Continuing Medical Education for medical providers regarding the adoption of Acute and Chronic opioid safe prescribing guidelines • Continuing education for behavioral health providers on evolving evidence-based medication-assisted treatment (MAT) for opioid disorder and alcohol use disorder |

Health Promotion and Education (Messaging)

- Training for alcohol servers regarding responsible beverage service and ID checking
- Training and technical support for law enforcement agencies to conduct DUII high visibility enforcement activities and awareness campaigns
- Increase awareness and education within the judicial system about judicial system approaches to impaired driving
- Increase the number of law enforcement certified drug recognition experts
- Identify contributing factors and explore solutions for traffic fatalities related to impaired driving

Access to Preventive Health Services

1. Strengthen access to effective health care practices
 - Utilize “Bright Futures” Adolescent well-checks for every adolescent, which includes substance use screening
 - Increase the number of board-certified adolescent medicine providers in Central Oregon (internal medicine, family medicine, pediatric medicine)
 - Pre-conception and pre-natal care for women to mitigate risks of premature birth, substance use exposure, etc.
 - Adoption of Universal Drug Screening for all pregnant women as a standard of care
 - Expansion of peer mentor outreach services for pregnant women who screen positive for severe substance use disorder
 - Adoption of safe prescribing guidelines accompanied by appropriate risk mitigation for acute and chronic pain prevention
 - Health systems provide universal patient education regarding medication safe storage and disposal to prevent diversion and non-medical use of illicit substances
 - Provide and/or expand syringe exchange services
2. Strengthen school-based Behavioral Health services and systems
 - Increase school-based access to substance abuse screening, early intervention, and treatment services as opposed to school suspension only
 - Provide “Teen Intervene” curriculum for early intervention on substance misuse among middle and high school youth

Policy Improvement

1. Increase barriers to accessing substances
 - Increase alcohol taxes
 - Decrease alcohol outlet density
 - Tobacco retail licensure (TRL)
 - Tobacco/marijuana-free public spaces – proactive policies
2. Strengthen school-based Behavioral Health services and systems
 - Decrease alcohol promotion
 - Reduce alcohol and marijuana sponsorship of community events
3. Increase housing options and availability
 - Increase availability of sober housing and low-barrier housing
4. Require cultural humility training for all service providers as a part of continuing education
5. Strengthen youth treatment services
 - Advocate for funding and program expectations that would allow for the implementation at all levels of care of the National Institutes of Drug Abuse “Principles of Adolescent Substance Use Disorder Treatment.”
 - Expand nicotine insurance codes to be inclusive of SUD and Behavioral Health providers

Redesigning Models of Services

1. Prevention Specialists/Public Health Educators deliver alcohol, tobacco, and other drugs (ATOD) evidence-based curricula with fidelity in every middle and high school in Central Oregon.
2. Healthcare:
 - Health Systems adoption of policies and procedures that encompass safe acute and chronic opioid prescribing guidelines
 - Health Systems expansion of alternatives to opioids for effective and safe pain management
 - Health Systems integration of primary medical care into behavioral health settings; integration of SUD treatment providers into medical settings
 - Integration of Peer Recovery Mentors into medical and SUD treatment settings
 - Expansion of providers offering medication assisted treatment for both opioid use disorder and alcohol use disorder in medical settings
 - Establish connectivity between universal maternal/child home visiting and prevention strategies for older children, adolescents and young adults
 - Provide closed-loop referrals for substance use disorder (SUD) screening and treatment
 - Peer support specialists for adolescents
 - Expand nicotine insurance codes to be inclusive of SUD and Behavioral Health providers
3. Strengthen evidence-based substance use disorder services within the judicial system
4. Provide Buprenorphine (medication assisted treatment) to incarcerated patients with Opioid Use Disorder

Collaboration Across Systems

1. Strengthen training, enforcement, and community support for the prevention of alcohol sales to minors and over-service of alcohol to adults
2. Multi-stakeholder community prevention coalitions:
 - Addressing ACEs and Trauma
 - Communities Mobilizing for Change on Alcohol
 - Collaboration with the Oregon Dept. of Transportation regarding strategies to reduce DUII rates and increase justice system capacity to address DUII and DUII prevention
 - Regional training regarding substance abuse prevention topics of shared interest/value for coalition partners
3. Coordinated planning and response among diverse stakeholders to drug overdoses and overdose cluster events
 - Support increased capacity of state-level toxicology investigations and reporting at the State Crime and Medical Examiners laboratories

Equitable Access to Services

1. School-based access to screening, early intervention, and treatment services as opposed to school suspension only
 - Provide an evidence-based curriculum for early intervention
 - Increased access to behavioral health and substance use disorder (SUD) services via school-based health centers
 - Increased coordination with out-patient specialty treatment providers
2. Strengthen youth engagement and leadership/resiliency building
 - Youth engaged in prevention strategies in every community
 - Peer support specialists for adolescents in every community
 - Adolescent recovery groups in every community – located at every high school to reduce transportation issues
 - Sober housing/low-barrier housing for youth in all communities

Equitable Access to Services

3. Increase effectiveness and availability of services offered with the appropriate languages and cultural context
 - Expansion of Spanish-language specific services by native speakers
 - Services offered by clinicians who identify with the culture
 - Use screening tools that are validated and culturally relevant
 - Patient/client's preferred language for communication is recorded for both oral and written communication and interpreting services are provided at no cost to the patient/client
 - Patient-facing documents, office signs, etc. are provided in the languages of highest diffusion in this region (English and Spanish)
 - Support for culturally-specific practices, such as "Many Pathways to Follow: Tribal-based Practices Overview"
 - Increase availability of LGBTQ+ specific services
 - Hire professionals who reflect the communities served
 - SUD providers have access to trained, qualified/certified interpreters in accordance with OHA guidelines and interpreters are provided at no cost to the patient/client
 - Increase participation among populations experiencing substance use-related health disparities in substance abuse prevention coalitions
4. Conduct RHIP workgroup meetings throughout the region and not only in Bend.
5. Support the development of increased availability of sober housing and low-barrier housing

KEY REGIONAL PARTNERSHIPS:

Health Systems, SUD Providers, Community Mental Health Providers, Panel Mental Health Providers, academic institutions, RHIP Stable Housing and Supports workgroup, RHIP Upstream Prevention workgroup, RHIP Behavioral Health workgroup Homeless Leadership Coalition, Pain Standards Task Force, Local Public Health, Shared Future Coalition, Crook County Empowered Coalition, the Confederated Tribes of Warm Springs, Best Care Prevention Coalition, Central Oregon school districts, PacificSource Community Solutions, St. Charles Foundation, Let's Talk Diversity, Latino Community Association, Oregon State University Juntos Program, Oregon Dept. of Transportation, law enforcement agencies, judicial systems, the Central Oregon Health Council

All are welcome.



KURT WINDISCH PHOTO

UPSTREAM PREVENTION: PROMOTION OF INDIVIDUAL WELL-BEING

THE PROBLEM

Individual well-being is affected by many aspects and upstream prevention provides opportunities for a healthy start in life and through childhood. Upstream interventions and strategies focus on improving fundamental social and economic structures to decrease barriers and improve supports that allow people to achieve their full health potential. This section focuses on upstream prevention for trauma, maternal health, early childhood, and child health.

Discrimination and racism impact all aspects of a person's health and well-being and intersect with all major systems of society, such as education, governing/political, law enforcement, health care, and others. The impacts of discrimination and racism are deep-rooted and multi-generational. These include health and education inequity, collective historical trauma, toxic stress and lack of representation. The health and well-being of a child begin far before a child is born. It begins generations earlier and is shaped by ancestral experiences (HealthyPeople, 2019).

In addition, trauma has a profound impact on people. Adverse childhood experiences (ACEs) can have long-lasting adverse effects on people and are associated with poor health outcomes. As the understanding of the long-term social and health impacts of trauma grows, trauma-informed care practices, policies, and resources will continue to grow and develop to respectfully and compassionately support the needs of people in our communities (CDC, 2019).

The health of a child begins with a healthy mother and a healthy pregnancy. A mother's health and well-being before, during, and after pregnancy has a direct and sometimes lifelong impact on the health of the child. Maternal health has improved in the United States, yet many women continue to struggle with severe pregnancy complications, and the number of women who are diagnosed with chronic health conditions that can result in high-risk pregnancies has increased (CDC, 2019). Factors like not using tobacco, alcohol, or other drugs, maintaining a healthy weight, receiving prenatal care, maintaining good

oral health, breastfeeding, and preventing injuries, as well as preventing or mitigating ACEs are key to a healthy start of an infant's life.

Maternal health supports fundamental human well-being and is partially dependent on services that allow mothers to access affordable and quality health care and social support before, during, and beyond pregnancy (WHO, 2019). A significant body of evidence demonstrates the relationships between childhood well-being and academic progression. A child's health is a key factor for a successful education. Education is crucial for the social, physical, economic, and mental well-being of an individual. Research has indicated that the educational status (particularly of the mother) provides a significant predictor of health outcomes (Zimmerman, Woolf and Haley, 2015).

In Central Oregon, Jefferson County had the highest rates of preterm birth, gestational diabetes, and pre-pregnancy obesity, and Crook County has the highest rate of mothers who smoke during pregnancy. The percentage of pregnant women receiving prenatal care beginning in the first trimester and adequate prenatal care throughout pregnancy, varied among Central Oregon counties. Deschutes County's rate was the highest while Jefferson County's rate was lower than Oregon's statewide average. (RHA, 2019, p.10) Health care is extremely important during and immediately after birth.

Unintended pregnancy refers to pregnancies that are mistimed, unplanned, or unwanted. About 51% of pregnancies in the United States are unintended (Guttmacher Institute, 2015). Measuring rates of unintended pregnancy helps gauge a population's needs for contraception and

family planning. Unintended pregnancy is associated with an increased risk of health problems for the baby as the mother may not be in good health or delay prenatal care only after learning of the pregnancy (CDC, 2019). Almost 50% of pregnancies in Oregon are unintended and have been for more than three decades (Sonfield et al., 2011). In Central Oregon, the proportion of pregnancies that were intended was 44.8% compared to 44.2% for Oregon (OR PRAMs, 2015).

Immunizations are a key public health measure for preventing the spread of disease. Up-to-date immunization rates for two-year-olds have been increasing in Central Oregon over the past years, and there are opportunities for improvement in childhood, adolescent, and adult immunization rates. The two-year-old up-to-date immunization rate in Oregon is 68%, which is lower than the rates in Crook (70%), Deschutes (69%), and Jefferson (71%) counties. Two-year-old immunization rates have increased over the past three years in all three Central Oregon counties (RHA, 2019, p.88, Figure 70). For adolescents, Jefferson County has higher immunization rates for Tdap, meningococcal, HPV, and influenza, than Crook, Deschutes, and Oregon overall. Across all three Central Oregon counties, less than 25% of all adolescents received a flu vaccine during the 2016-2017 flu season (RHA, 2019, p.89, Figure 72).

Decades of research in neurobiology underscores the importance of children's experiences in laying the foundation for their growing brains. The quality of early experiences shapes brain development which impacts future social, cognitive and emotional competence, and ultimately school and career success. This research points to the value of parental involvement



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during a child's early years, access to family support, and high-quality early care and education programs. These supports provided early in a child's life can improve outcomes, particularly in families that face challenges such as teen or single parenthood, maternal depression, and a lack of social and financial supports (Harvard University, 2015).

Education is a social determinant of health. Key indicators for early school success are letter recognition measured at Kindergarten Readiness Assessment and third-grade reading proficiency. In Central Oregon, early literacy (letter recognition) had a decreasing trend from 2016 to 2018 (RHA, 2019, Table 34). Letter recognition across Central Oregon mirrors the state average at slightly over 14 (of 26 possible) per child. The results vary widely for children from marginalized populations with average scores of 7.4 and 7.8 for Hispanic/Latino children in Jefferson and Crook Counties and 7.7 for Native American children in Jefferson County (Oregon Department of Education, 2019)

Third-grade reading levels offer an important indicator of students' academic trajectories and an opportunity for targeted intervention with at-risk children while they are still in elementary school. This is especially important for certain marginalized populations. Third-grade disparities exist for marginalized, underserved populations by race and economic status (Annie E. Casey, 2013).

Thoughtful and timely upstream prevention strategies will create opportunities that will allow us to unite our efforts around a shared goal. Attainment of the goal will promote the well-being of individuals and thus create a healthier Central Oregon. While we can't change history, we can recognize the role it plays in individual wellness today and into the future. Focusing on prevention and the necessary social, familial, economic, and health care supports allows us the opportunities to impact the history that is happening now.

AIM/GOAL

All communities in Central Oregon have **equitable** access and opportunities to health, education, healthy relationships, community support, and experiences necessary to thrive at every stage of life from prenatal to adulthood.

CURRENT STATE

1. Current letter name recognition at kindergarten readiness assessment by county is:

| Average Number of Upper Case Letters Recognized (scale 0-26) | | | |
|--|------------------|----------------------------|--------------------|
| | Total Population | Economically Disadvantaged | Underserved Races* |
| Crook County | 14.3 | 11.9 | 10.6 |
| Deschutes County | 15.9 | 12.1 | 13.8 |
| Jefferson County | 12.2 | 9.4 | 9.2 |

Source: Early Learning Division, 2018-2019 County Look Back Report

2. Current third-grade reading by county:

| 2018-2019 3rd Grade English Language Arts Proficiency by County (weighted) | | | |
|--|--------------|----------------------------|--------------------|
| | All Students | Economically Disadvantaged | Underserved Races* |
| Crook County | 49.5% | 44% | 29% |
| Deschutes County | 61% | 45% | 41% |
| Jefferson County | 43% | 43% | 35.4% |

Source: Oregon Department of Education, 2018-2019 English Language Arts Performance File

FUTURE STATE

1. By December 2023, letter name recognition at kindergarten readiness will be the following by county:

| Average Number of Upper Case Letters Recognized (scale 0-26) | | | |
|--|------------------|----------------------------|--------------------|
| | Total Population | Economically Disadvantaged | Underserved Races* |
| Crook County | 15.8 | 14.3 | 12.8 |
| Deschutes County | 17.5 | 14.6 | 16.6 |
| Jefferson County | 13.2 | 11.3 | 11.1 |

Overall increase of at least 10% for all students, a 20% increase for students from economically disadvantaged (ED) and underserved races (UR).

2. By December 2023, increase third-grade reading proficiency to the following by county:

| 3rd Grade English Language Arts Proficiency by County (weighted) | | | |
|--|--------------|----------------------------|--------------------|
| | All Students | Economically Disadvantaged | Underserved Races* |
| Crook County | 54.5% | 51% | 33.5% |
| Deschutes County | 67.5% | 52% | 47% |
| Jefferson County | 47.5% | 49.5% | 40.5% |

Increase of 10% overall, and 15% for economically disadvantaged students (ED) and students from underserved races (UR).

- 3. The proportion of pregnancies that were intended in Central Oregon 44.8% (Oregon PRAMS 2015)
- 4. Currently, the two-year-old up-to-date immunization rates in Crook (70%), Deschutes (69%), and Jefferson (71%) Counties (ALERT Oregon Health Authority 2016-2017).
- 5. Currently, there is no established baseline for a metric such as the Child/Youth/Adult Resilience Measure (CYARM).

- 3. By December 2023, increase the proportion of pregnancies that are intended in Central Oregon to 56%.
- 4. By December 2023, increase the Central Oregon two-year-old up-to-date immunization rates to 80%.
- 5. By December 2023, a Resilience Measure, such as the Child/Youth/Adult (CYARM) will be established, and the number of people who feel like they belong in their community (by gender, race, and ability) will increase by 10% from the baseline.

ACTION AREA POTENTIAL STRATEGIES TO ADDRESS PRIORITY AREA

Health Promotion and Education (Messaging)

- 1. Increase awareness of the broad impacts of historical oppression, generational poverty, and trauma through a comprehensive awareness campaign
 - 2. Increase awareness of the positive impacts of healthy pregnancies and early childhood surrounded by caring adults through a comprehensive awareness campaign
 - 3. Increase awareness and promotion of strategies to increase literacy and health literacy for children, youth, and families/caregivers
- *Traditional Health Workers and Youth Advisory Councils (in coordination with School-Based Health Centers) may be strong levers in this area

Access to Preventive Health Services

1. Implement Central Oregon Regional Immunization Rate Improvement Project in Deschutes, Crook, and Jefferson Counties (using the AFIX Model) to increase two-year-old immunization rates
2. Screen for pregnancy intention and ensure timely access to contraceptives, long-acting reversible contraceptives (LARCs), and sexually transmitted infection (STI) support
3. Promote and provide well-child and adolescent well visits with appropriate screenings that include referrals to best matched follow-up services including specialized medical, behavioral, social/emotional and dental
4. Increase awareness and promotional strategies for health and early care providers to incorporate self-care and wellness, thereby providing a positive impact on children and families served
5. Address the barrier of transportation in people's ability to obtain health care and other services when needed

Policy Improvement

1. Promote the inclusion of age-appropriate, medically accurate sexual health education in Central Oregon Schools (ODE, HB 2509 - ORS336.455)
2. Promote the BOOST Program and the IQIP (Immunization Quality Improvement for Providers) programs
3. Promote reproductive health access through all community providers
4. Implement Universally Offered Home Visiting legislative direction in Central Oregon (SB526), with availability to all births by 2024. This includes counties and Confederated Tribes of Warm Springs
5. All health care, behavioral health, public health, education, social service, childcare providers, first responders, law enforcement, community justice, and elected officials will receive four hours of trauma-informed care training
6. Increase parent/caregiver input and review of service design, delivery, and responsiveness in their health and early learning needs

Redesigning Models of Services

1. Expand culturally responsive home visiting programs for prenatal and postnatal women in Central Oregon that includes screening for medical, dental, behavioral, and social services. Leverage peer support specialists, community health workers, and traditional health workers in implementation planning, nurse home visiting programs, and other in-home programs such as Healthy Families of the High Desert
2. Expand and sustain Early Care and Educational resources that are accessible and affordable for families that include best practice business supports and local professional developmental opportunities
3. Apply 2GEN tools and approaches that provide opportunities for and strive to meet the needs of children from families with low incomes and their parents together with the goal of creating educational success and economic stability
4. Deliver preventive dental services to children and pregnant women in a non-traditional setting

Collaboration Across Systems

1. Establish a baseline for a metric such as the Child/Youth/Adult Resilience Measure (CYARM) that will measure a sense of belonging; identify drivers as a community
2. Every child in Central Oregon will participate in developmental screening at AMA recommended intervals and have access to indicated physical, oral, and behavioral health; and therapy and social/emotional services and support

Equitable Access to Services

1. Ensure that households have their basic needs met through community resources, supports and connections to needed services to eliminate disparities
2. Ensure timely barrier-free access to no or low-cost contraceptives and sexually transmitted infection (STI) support to eliminate disparities
3. Identify disparities in the community provision of services and identify strategies to achieve equitable access
4. Ensure access to culturally responsive health and early education information and services for all residents through increased capacity for Spanish language staff and routine translation of materials

KEY REGIONAL PARTNERSHIPS:

Health Systems, SUD Providers, Community Mental Health Providers, Panel Mental Health Providers, academic institutions, RHIP Stable Housing and Supports workgroup, RHIP Upstream Prevention workgroup, RHIP Behavioral Health workgroup Homeless Leadership Coalition, Pain Standards Task Force, Local Public Health, Shared Future Coalition, Crook County Empowered Coalition, the Confederated Tribes of Warm Springs, Best Care Prevention Coalition, Central Oregon school districts, PacificSource Community Solutions, St. Charles Foundation, Let's Talk Diversity, Latino Community Association, Oregon State University Juntos Program, Oregon Dept. of Transportation, law enforcement agencies, judicial systems, the Central Oregon Health Council

All are welcome.



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APPENDIX A: ACRONYMS

2GEN: *The 2Gen approach encourages programs to serve children and their caregivers together, to harness the family's full potential and to put the entire family on a path to permanent economic security.*

ACEs (Adverse Childhood Experiences): *An adverse childhood experience (ACE) describes a traumatic experience in a person's life occurring before the age of 18 that the person remembers as an adult. The ACE score is a measure of cumulative exposure to adverse childhood conditions.*

ACS (American Community Survey): *Helps local officials, community leaders, and businesses understand the changes taking place in their communities. It is one of the main sources for detailed population and housing information about our nation.*

AFIX (Assessment, Feedback, Incentive, and eXchange): *A quality improvement program used to raise immunization coverage levels, reduce missed opportunities to vaccinate, and improve standards of practice at the provider level.*

AIC (Advancing Integrated Care): *A concentrated Central Oregon two-year long initiative focused on improving all aspects of behavioral health care in primary care settings. All primary care clinics in the region can receive individualized technical assistance, training, and consultation based on their quality improvement goals.*

ALERT: *The ALERT Immunization Information System is a statewide immunization registry. At the point of clinical care, ALERT IIS provides consolidated immunization histories for use by vaccination providers in determining appropriate vaccinations for children and adults. At the population level, ALERT IIS provides data that guides public health action to reduce vaccine-preventable diseases by improving vaccination rates.*

ALICE (Asset Limited, Income Constrained, Employed): ALICE, an acronym for **A**sset **L**imited, **I**ncome **C**onstrained, **E**mployed, is a new way of defining and understanding the struggles of households that earn above the Federal Poverty Level, but not enough to afford a bare-bones household budget. Through a standardized methodology that assesses the cost of living in every county, this project provides a comprehensive look at financial hardship across the United States.

AMA (American Medical Association): An organization dedicated to driving medicine toward a more equitable future, removing obstacles that interfere with patient care and confronting the nation's greatest public health crises.

ATOD (Alcohol Tobacco and Other Drugs)

BH (Behavioral Health): Describes the connection between behaviors and the health and well-being of the body, mind, and spirit. This would include how behaviors like eating habits, drinking, or exercise impact physical or mental health.

BHC (Behavioral Health Consultants): Behavioral health generalists who provide treatment within a healthcare setting for a wide variety of mental health, psychosocial, motivational, and medical concerns. BHCs also provide support and management for patients with severe and persistent mental illness and tend to be familiar with psychopharmacological interventions.

BLM (Bureau of Land Management): An agency within the United States Department of the Interior responsible for administering public lands.

BMI (Body Mass Index): Use both weight and height to determine the size of an individual. BMI is divided into four categories: underweight (<18.5), normal (18.5-24.9), overweight (25.0-29.9), obese (30.0 or greater).

BP (Blood Pressure): The pressure of the blood in the circulatory system, often measured for diagnosis since it is closely related to the force and rate of the heartbeat and the diameter and elasticity of the arterial walls.

BRFSS (Behavioral Risk Factor Surveillance System): A phone survey conducted among randomly selected non-institutionalized adults that asks about a variety of health risks and behaviors.

CAC (Community Advisory Council): The overarching purpose of the CAC is to ensure the CCO and COHC remains responsive to OHP consumer and community health needs. The CAC includes healthcare consumers of the CCO as well as representatives of public and private agencies that serve CCO members.

CBA (Community Benefits Agreements): Community Benefits Agreements (CBAs) are complex, multi-party contracts executed by several community-based organizations and one or more developers, including developers' commitments to provide a range of community benefits related to a proposed development project, and usually containing the community-based organizations' commitment to supporting approval of the project.

CCO (Coordinated Care Organization): Is a network of all types of healthcare providers who have agreed to work together in their local communities for people who receive healthcare coverage under the Oregon Health Plan (Medicaid).

CDC (Centers for Disease Control and Prevention): A federal organization that protects the health of the nation's residents and helps local communities do the same.

CES (Coordinated Entry System): A process developed to ensure that all people experiencing a housing crisis have fair and equal access and are quickly identified, assessed for, referred, and connected to housing and assistance based on their strengths and needs.

CFR (Code of Federal Regulations): *The Code of Federal Regulations (CFR) is the codification of the general and permanent rules and regulations (sometimes called administrative law) published in the Federal Register by the executive departments and agencies of the federal government of the United States.*

CLAS (Culturally and Linguistically Appropriate Services): *The National Standards for Culturally and Linguistically Appropriate Services in Health and Health Care (The National CLAS Standards) aim to improve health care quality and advance health equity by establishing a framework for organizations to serve the nation’s increasingly diverse communities.*

CME (Continuing Medical Education): *Continuing medical education consists of educational activities which serve to maintain, develop, or increase the knowledge, skills, and professional performance and relationships that a physician uses to provide services for patients, the public, or the profession.*

CMHP (County Mental Health Program): *An entity that is responsible for planning and delivery of safety net services for persons with mental or emotion disturbances, drug abuse problems, and alcoholism and alcohol abuse in a specific geographic area of the state under contract with the local mental health authority.*

CoCM (Collaborative Care Model): *A systematic approach to the treatment of depression and anxiety in primary care settings that involves the integration of care managers and consultant psychiatrists, with primary care physician oversight, to more proactively manage mental disorders as chronic diseases, rather than treating acute symptoms.*

COHC (Central Oregon Health Council): *The COHC is the governing body of our region’s CCO. The COHC is dedicated to improving the health of the region and providing oversight of the Medicaid population and the Coordinated Care Organization (CCO). The COHC’s mission is to serve as the governing Board for the CCO and to connect the CCO, patients, providers, Central Oregon, and resources.*

COIC (Central Oregon Intergovernmental Council): *A Central Oregon organization that provides services to the counties of Crook, Deschutes, and Jefferson and the cities of Bend, Culver, La Pine, Madras, Metolius, Prineville, Redmond, and Sisters. COIC provides services in the areas of employment and training, alternative high school education, business loans, transportation, and community and economic development.*

CRAFFT (Car, Relax, Alone, Forget, Friends, and Trouble): *A behavioral health screening tool designed for children under the age of 21. Recommended by the American Academy of Pediatrics’ Committee on Substance Abuse for use with adolescents, the screening tool consists of a series of six questions to identify adolescents who many have simultaneous risky alcohol and other drug use disorders.*

CVD (Cardiovascular Disease): *A classification of diseases of the heart and blood vessels that includes chest pain, heart attack, and other conditions that affect the heart muscle, rhythm, or valves.*

CYARM (Child/Youth/Adult Resilience Measure): *A measure of the resources (individual, relational, communal and cultural) available to individuals that may bolster their resilience. The measure was developed as part of the International Resilience Project (IRP) at the Resilience Research Centre (RRC) in 14 communities around the world.*

DUII (Driving Under the Influence of Intoxicants): *A DUII can be due to intoxication from liquor, substances or inhalants. Intoxication can also be from one intoxicant or even a combination of a few.*

ECHO (Extension for Community Healthcare Outcomes): *A collaborative model of medical education and care management that empowers clinicians everywhere to provide better care to more people, right where they live.*

EHR (Electronic Health Record): An electronic version of a patient's medical history.

FAN (Family Access Network): An organization that improves lives by ensuring that local children have access to basic-need services. FAN is unique to Central Oregon, utilizing advocates to efficiently reach and connect disadvantaged children and families with basic needs, such as food, shelter, clothing, health care and more.

FFS (Fee For Service): Fee-for-service is a system of health insurance payment in which a doctor or other health care provider is paid a fee for each particular service rendered.

FUSE (Frequent Users Systems Engagement): A diverse group of Central Oregon stakeholders (the FUSE Workgroup) working together to develop a housing first project model using best practice solutions for people who are experiencing homelessness and who are "frequent users" of healthcare and other services.

HbA1c (Glycated hemoglobin): A form of hemoglobin that is used to measure blood glucose concentration over time.

HCV (Housing Choice Voucher): The housing choice voucher program is the federal government's major program for assisting very low-income families, the elderly, and the disabled to afford decent, safe, and sanitary housing in the private market. Since housing assistance is provided on behalf of the family or individual, participants are able to find their own housing, including single-family homes, townhouses and apartments.

HIE (Health Information Exchange Act): Electronic health information exchange (HIE) allows doctors, nurses, pharmacists, other health care providers and patients to appropriately access and securely share a patient's vital medical information electronically—improving the speed, quality, safety and cost of patient care.

HIPAA (Health Insurance Portability and Accountability Act): HIPAA (Health Insurance Portability and Accountability Act of 1996) is United States legislation that provides data privacy and security provisions for safeguarding medical information. The law has emerged into greater prominence in recent years with the proliferation of health data breaches caused by cyberattacks and ransomware attacks on health insurers and providers.

HIV (Human Immunodeficiency Virus): A virus that causes HIV infection and over time acquired immunodeficiency syndrome (AIDS).

HLC (Homeless Leadership Coalition): The Homeless Leadership Coalition (HLC) is a collaboration of community partners in Crook, Jefferson, and Deschutes counties and the Confederated Tribes of Warm Springs engaging the community through education, advocacy, planning, prioritization and accountability for services to persons experiencing homelessness.

HPV (Human Papilloma Virus): The most common sexually transmitted infection (STI). HPV is a different virus than HIV and HSV (herpes). 79 million Americans, most in their late teens and early 20s, are infected with HPV. There are many different types of HPV. Some types can cause health problems including genital warts and cancers. But there are vaccines that can stop these health problems from happening.

HUD (Housing and Urban Development): The Department of Housing and Urban Development is the Federal agency responsible for national policy and programs that address America's housing needs, that improve and develop the Nation's communities, and enforce fair housing laws. HUD's business is helping create a decent home and suitable living environment for all Americans, and it has given America's communities a strong national voice at the Cabinet level. HUD plays a major role in supporting homeownership by underwriting homeownership for lower- and moderate-income families through its mortgage insurance programs.

ICU (Intensive Care Unit): *An intensive care unit, also known as an intensive therapy unit or intensive treatment unit (ITU) or critical care unit (CCU), is a special department of a hospital or health care facility that provides intensive treatment medicine.*

IDA (Individual Development Accounts): *An asset building tool designed to enable low-income families to save towards a targeted amount usually used for building assets in the form of home ownership, post-secondary education and small business ownership. In principle IDAs work as matched savings accounts that supplement the savings of low-income households with matching funds drawn from a variety of private and public sources.*

IP (Inpatient Hospital Treatment): *Inpatient hospital treatment (IP) In the U.S. inpatient hospital treatment (IP) is focused on medical stabilization and interruption of weight loss, with stays of usually less than 3 weeks.*

IPA (Independent Practice Association): *An association of independent physicians, or other organizations that contracts with independent care delivery organizations, and provides services to managed care organizations on a negotiated per capita rate, flat retainer fee, or negotiated fee-for-service basis.*

LARC (Long-Acting Reversible Contraception): *Birth control methods that provide effective, reversible contraception for extended periods of time without requiring user action.*

LEP (Limited English Proficiency): *A term used in the United States that refers to a person who is not fluent in the English language, often because it is not their native language.*

LGBTQ+ (Lesbian Gay Bisexual Transgender Questioning): *An acronym for lesbian, gay, bisexual, transgender and queer or questioning. These terms are used to describe a person's sexual orientation or gender identity.*

MAPP (Mobilizing for Action through Planning and Partnership): *A community-driven strategic planning process for improving community health. Facilitated by public health leaders, this framework helps communities apply strategic thinking to prioritize public health issues and identify resources to address them. MAPP is not an agency-focused assessment process; rather, it is an interactive process that can improve the efficiency, effectiveness, and ultimately the performance of local public health systems.*

MAT (Medication Assisted Treatment): *A program that combines behavioral therapy and medications to treat substance use disorders.*

MBRFSS (Medicaid Behavioral Risk Factor Surveillance Survey): *The BRFSS conducted among adults enrolled in Medicaid (OHP).*

MV (Motor Vehicle): *A road vehicle powered by an internal combustion engine; an automobile.*

MVI (Motor Vehicle Incident): *An unstable situation that includes at least one harmful event (injury or property damage) involving a motor vehicle in transport (in motion, in readiness for motion or on a roadway but not parked in a designated parking area) that does not result from a discharge of a firearm or explosive device and does not directly result from a cataclysm.*

NACCHO (National Association of County and City Health Officials): *The mission of the National Association of County and City Health Officials (NACCHO) is to improve the health of communities by strengthening and advocating for local health departments.*

NICU (Neonatal Intensive Care Unit): *A hospital ward or department equipped and staffed to provide intensive care to dangerously ill or premature newborn babies.*

NIDA (National Institute on Drug Abuse): A government organization whose mission is to advance science on the causes and consequences of drug use and addiction and to apply that knowledge to improve individual and public health.

NIMH (National Institutes of Mental Health): The lead federal agency for research on mental health disorders.

ODE (Oregon Department of Education): The Oregon Department of Education is responsible for implementing Oregon's public education policies, including academic standards and testing, credentials, and other matters not reserved to the local districts and boards.

OHCS (Oregon Housing and Community Services): Provides stable and affordable housing and engage leaders, to develop an integrated statewide policy that addresses poverty and provides opportunities for Oregonians.

OHP (Oregon Health Plan): Healthcare coverage program for low-income Oregonians.

OPHAT (Oregon Public Health Assessment Tool): A web-based tool that accesses, analyzes and displays Oregon data for community health assessments. It is also a powerful tool for supporting grant proposals, analyzing trends in key public health issues, writing reports, and generating data for program planning and policy development.

OPs (Operations Council): OPs is committee housed within the COHC. Member promotes and facilitate accessible, affordable, quality health services including mental, behavioral, oral, and physical health for Central Oregon residents. This group provides strategic, fiduciary, and operational advice to the COHC in an effort to design and implement key initiatives.

PA (Physical Activity): Defined as any bodily movement produced by skeletal muscles that require energy expenditure.

PCBH (Primary Care Behavioral Health): Integrating behavioral health into primary care settings is a common services integration model. Separate physical and behavioral health systems can lead to fragmented care delivery, poor health outcomes, higher healthcare costs, and duplication of services. Behavioral health integration can increase access to behavioral health services for rural residents, reduce the stigma associated with seeking these services, and maximize resources.

PCC (Perinatal Care Continuum): Crook, Deschutes and Jefferson Counties, and the Central Oregon Health Council (COHC) collaborated to develop and implement a regional approach to a perinatal continuum of care. This project began in OCT 2016 and addresses goals identified in our Regional Health Improvement Plan to improve the health outcomes for women and babies. This project has provided a foundation for a regional referral system that includes: 1) Public Health care coordinators embedded in specific obstetrics provider clinics as well as local Health Departments, providing enrollment and linkages to community resources; 2) Expanded nurse home visiting services for our perinatal women; 3) Regional coordination and data reporting of the perinatal women served by this project.

PCP (Primary Care Provider): A healthcare practitioner who sees people that have common medical problems.

PDMP (Prescription Drug Monitoring Program): A state-run electronic database used to track the prescribing and dispensing of controlled prescription drugs to patients.

PH (Physical Health): Defined as the condition of your body, taking into consideration everything from the absence of disease to fitness level. Physical health is critical for overall well-being, and can be affected by: Lifestyle: diet, level of physical activity, and behavior (for instance, smoking); Human biology: a person's genetics and physiology may make it easier or harder to achieve good physical health; Environment: our surroundings and exposure to factors such as sunlight or toxic substances; and healthcare service: good health care can help prevent illness, as well as detect and treat illness.

PICU (Pediatric Intensive Care Unit): A pediatric intensive care unit, usually abbreviated to PICU, is an area within a hospital specializing in the care of critically ill infants, children, and teenagers.

PIT (Point in Time): The Point-in-Time (PIT) count is a count of sheltered and unsheltered people experiencing homelessness on a single night.

PRAMS (Pregnancy Risk and Monitoring Survey): A survey of mothers who recently gave birth that addresses prenatal care, health behaviors and risks, and post-partum topics.

QIM (Quality Improvement Measure): State defined goals that help measure and track the quality of health care services provided by eligible professionals and eligible providers of Medicaid within our healthcare systems.

SAMSHA (Substance Abuse and Mental Health Services Administration): The Substance Abuse and Mental Health Services Administration is a branch of the U. S. Department of Health and Human Services.

SBIRT (Screening, Brief Intervention, and Referral to Treatment): An evidence-based practice that targets patients in primary care with nondependent substance use.

SDOH (Social Determinants of Health): 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.

SHIP (State Health Improvement Plan): The purpose of a state health improvement plan is to identify population-wide strategies for improving the health of people in Oregon. The SHIP serves as the basis for taking collective action on key health issues.

STI (Sexually Transmitted Infection): An infection transmitted through sexual contact, caused by bacteria, viruses, or parasites.

SUD (Substance Use Disorder): A condition developed when the use of one or more substances leads to clinically significant impairment or distress.

Tdap: A combination vaccine that protects against three potentially life-threatening bacterial diseases: tetanus, diphtheria, and pertussis (whooping cough). Td is a booster vaccine for tetanus and diphtheria. It does not protect against pertussis.

TRACES (Trauma, Resiliency, and Adverse Childhood Experiences): A movement in Central Oregon dedicated to the building of resiliency and trauma awareness.

TRL (Tobacco Retail Licensure): Local tobacco retailer licensing (TRL) is an extremely effective regulatory approach. Under TRL law, government requires all stores that sell tobacco to obtain a special license for the privilege of selling these products to consumers.

VBP (Value-Based Payment): Value-based programs reward health care providers with incentive payments for the quality of care they give to people with Medicaid/Medicare. These programs are part of our larger quality strategy to reform how health care is delivered and paid for.

WHO (World Health Organization): Building a better, healthier future for people all over the world. Working with 194 Member States, across six regions, and from more than 150 offices, WHO staff are united in a shared commitment to achieve better health for everyone, everywhere. Together we strive to combat diseases – communicable diseases like influenza and HIV, and noncommunicable diseases like cancer and heart disease.

WIC (Women, Infants, and Children): A Federal program for low income and nutritionally at-risk women, infants and children. Participants receive education, screening, and support in purchasing nutritious food.

APPENDIX B: REFERENCES

INTRODUCTION

National Association of County and City Health Officials (NACCHO). (2019). Phase 3: Collecting and Analyzing Data. Retrieved from: <https://www.naccho.org/programs/public-health-infrastructure/performance-improvement/community-health-assessment/mapp/phase-3-the-four-assessments>

The World Health Organization (WHO). (2019). Health Equity. Retrieved from: https://www.who.int/topics/health_equity/en/

Robert Wood Johnson Foundation (RWJF). (2017). What is Health Equity? Retrieved from: <https://www.rwjf.org/en/library/research/2017/05/what-is-health-equity-.html>

Marmot, M. and Allen, J. (2014). Social Determinants of Health Equity. Retrieved from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4151898/>

World Health Organization (WHO). (2019). Constitution. Retrieved from: <https://www.who.int/about/who-we-are/constitution>

Healthy People. (2019). Social Determinants of Health. Retrieved from: <https://www.healthypeople.gov/2020/topics-objectives/topic/social-determinants-of-health>

American Public Health Association (APHA). (2016). Education attainment linked to health throughout lifespan: exploring social determinants of health. *The Nation's Health*. Retrieved from: <http://thenationthealth.aphapublications.org/content/46/6/1.3>

ADDRESS POVERTY AND ENHANCE SELF-SUFFICIENCY

Singh GK, Siahpush M. (2006). Widening socioeconomic inequalities in US life expectancy, 1980–2000. *International Journal of Epidemiology*. 2006;35(4):969-979. Retrieved from: <https://www.healthypeople.gov/2020/topics-objectives/topic/social-determinants-health/interventions-resources/poverty#7>

Office of Disease Prevention and Health Promotion. (2019). Healthy People 2020 Topics and Objectives. Retrieved from: <https://www.healthypeople.gov/2020/topics-objectives/topic/social-determinants-of-health/objectives>

U.S. Department of Housing and Urban Development, Office of Policy Development and Research. (2018). Comprehensive Housing Market Analysis Bend-Redmond. Retrieved from: <https://www.huduser.gov/portal/publications/pdf/Bend-RedmondOR-CHMA-18.pdf>

- Central Oregon Intergovernmental Council (COIC). (2019). Central Oregon Regional Housing Needs Assessment. Retrieved from: https://coic2.org/wpcontent/uploads/2019/05/regional-housing-needs-assessment_final-2.pdf.
- Smedley, B.D. (2012). The Lived Experience of Race and Its Health Consequences. *American Journal of Public Health*. Retrieved from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3483928/>
- Williams, Mohammed, Leavell, and Collins. (2014). Race, Socioeconomic Status and Health: Complexities, Ongoing Challenges and Research Opportunities. Retrieved from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3442603/>
- Center on the Developing Child, Harvard University. (2019). Toxic Stress. Retrieved from: <https://developingchild.harvard.edu/science/key-concepts/toxic-stress/>
- Blair and Raver. (2016.) Poverty, Stress, and Brain Development: New Directions for Prevention and Intervention. *Academic Pediatrics*. Retrieved from: [https://www.academicpediatrics.net/article/S1876-2859\(16\)00026-7/fulltext](https://www.academicpediatrics.net/article/S1876-2859(16)00026-7/fulltext)
- Population Research Center, Portland State University. (2019) Population Estimates for Oregon Cities and Counties (2018). Retrieved from: <https://www.pdx.edu/prc/population-reports-estimates>
- Peacher. (2017). Data Centers Boost Prineville’s Economy, But Not Without Growing Pains. Oregon Public Broadcasting. Retrieved from: <https://www.opb.org/news/article/prineville-oregon-facebook-data-centers-economic-problems-housing/>
- Central Oregon Health Council. (2019). 2019 Central Oregon Regional Health Assessment (RHA). Retrieved from: <https://cohealthcouncil.org/regional-assessments/>
- Economic Development for Central Oregon (EDCO). (2019). 2019 Central Oregon Economic Profile. Retrieved from: https://edcoinfo.com/wp-content/uploads/2019/08/2019-EDCO-Central-Oregon-Profile_FINAL.pdf

BEHAVIORAL HEALTH: INCREASE ACCESS AND INTEGRATION

- Centers for Disease Control and Prevention (CDC). (2019). Mental Health. Retrieved from: <https://www.cdc.gov/mentalhealth/index.htm>
- Central Oregon Health Council. (2019). 2019 Central Oregon Regional Health Assessment (RHA). Retrieved from: <https://cohealthcouncil.org/regional-assessments/>
- National Institutes of Mental Health (NIMH). (2019). Mental Illness. Retrieved from: <https://www.nimh.nih.gov/health/statistics/mental-illness.shtml>
- Confederated Tribes of the Warm Springs and Indian Health Service. (2016). Annual Health System Report for the Warm Springs Indian Reservation. Warm Springs, OR. Retrieved from: <https://warmspringsnnsn.gov/program/publications/>

- Ahmedani, B. K., Simon, G. E., Stewart, C., Beck, A., Waitzfelder, B. E., Rossom, R., ... Solberg, L. I (2014). Health care contacts in the year before suicide death. *Journal of general internal medicine*, 29(6), 870–877. doi:10.1007/s11606-014-2767-3. Retrieved from: <https://www.ncbi.nlm.nih.gov/pubmed/24567199>
- Marino, E., Wolsko C., Keys S.G., Pennavaria, L. (2016). A culture gap in the United States: Implications for policy on limiting access to firearms for suicidal persons. *J Public Health Policy*. Retrieved from: <https://www.ncbi.nlm.nih.gov/pubmed/27638246>
- Kessler R., Stafford D. (2008) Primary Care Is the De Facto Mental Health System. In: Kessler R., Stafford D. (eds) *Collaborative Medicine Case Studies*. Springer, New York, NY. Retrieved from: <https://psycnet.apa.org/record/2008-02218-002>
- Kamal, R., Cox, C., Rousseau, D., et al. (2017). Costs and outcomes of mental health and substance use disorders in the US. *JAMA Network Open*. Retrieved from: <https://jamanetwork.com/journals/jama/fullarticle/2646703>
- U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration (2014), *Results from the 2013 National Survey on Drug Use and Health: Mental Health Findings*, NSDUH Series H-49, HHS Publication No. (SMA) 14-4887. Rockville, MD. Retrieved from: <https://www.samhsa.gov/data/sites/default/files/NSDUHmhr2013/NSDUHmhr2013.pdf>
- Creach Consulting, LLC. (2019). *Advancing Integrated Care in Central Oregon (AIC) Needs Assessment Results*. Retrieved from: <http://cohealthcouncil.org/aic-results-for-2019-rha/>
- Oregon Health Authority. (2019). Office of Equity and Inclusion, Health Equity Committee. Retrieved from: <https://www.oregon.gov/oha/OEI/Pages/Health-Equity-Committee.aspx>
- US Department of Health and Human Services Office of Minority Health. (2018). *The National Standards for Culturally and Linguistically Appropriate Services (CLAS) in Health and Health Care*. Retrieved from: <https://minorityhealth.hhs.gov/omh/browse.aspx?lvl=2&lvlid=53>
- Oregon Health and Sciences University. (2019). *Oregon Areas of Unmet Health Care Need Report*. Retrieved from: <https://www.ohsu.edu/sites/default/files/2019-08/2019%20Areas%20of%20Unmet%20Health%20Care%20Needs%20Report.pdf>

PROMOTE ENHANCED PHYSICAL HEALTH ACROSS COMMUNITIES

- National Center for Chronic Disease Prevention and Health Promotion. (2009). *The Power of Prevention: Chronic disease: the public health challenge of the 21st century*. Retrieved from: <https://www.cdc.gov/chronicdisease/pdf/2009-Power-of-Prevention.pdf>
- Central Oregon Health Council. (2019). *2019 Central Oregon Regional Health Assessment (RHA)*. Retrieved from: <https://cohealthcouncil.org/regional-assessments/>

Confederated Tribes of the Warm Springs and Indian Health Service. (2018). Annual Health System Report for the Warm Springs Indian Reservation. Warm Springs, OR.

STABLE HOUSING AND SUPPORTS

Central Oregon Intergovernmental Council (COIC). (2019). Central Oregon Regional Housing Needs Assessment. Retrieved from: https://coic2.org/wpcontent/uploads/2019/05/regional-housing-needs-assessment_final-2.pdf

OregonLive, The Oregonian (2019) 2019 Session, House Bill 2001, Requires cities with population greater than 10,000 or within Metro to allow duplexes in lands zoned for single-family dwellings within urban growth boundary. Retrieved from: <https://gov.oregonlive.com/bill/2019/hb2001>

Central Oregon Homeless Leadership Coalition. (2019). Point In Time Count. Retrieved from: <https://cohomeless.org/agency-tools/point-in-time-count/>

Confederated Tribes of Warm Springs Health and Human Services and Homeless Leadership Coalition. (2019). Homeless Awareness. Retrieved from: <https://kwso.org/wp-content/uploads/2019/10/WS-housing-issue-survey-2019.pdf>

SUBSTANCE AND ALCOHOL USE: PREVENTION AND TREATMENT

Governor's Office Newsroom. (2018) Governor Kat Brown Declares Addiction a Public Health Crisis, Signs Opioid and Substance Use Legislation. Retrieved from: <https://www.oregon.gov/newsroom/Pages/NewsDetail.aspx?newsid=2647>

Oregon Substance Use Disorder Research Committee. (2017). Substance Use Disorders in Oregon – Prevention, Treatment & Recovery. Retrieved from: <https://stateofreform.com/wp-content/uploads/2017/11/SUDs-in-Oregon-Prevention-Treatment-and-Recovery3.pdf>

National Institute on Drug Abuse. (2018). The science of drug use and addiction: The basics. Retrieved from: www.drugabuse.gov/publications/media-guide/science-drug-use-addiction-basics.

National Academies of Sciences, Engineering, and Medicine. (2019). Fostering Healthy Mental, Emotional, and Behavioral Development in Children and Youth: A National Agenda. Washington, DC: The National Academies Press. Retrieved from: <https://doi.org/10.17226/25201>

Banspach S, Zaza S, Dittus P, Michael S, Brindis CD, Thorpe P. (2016). CDC Grand Rounds: Adolescence – Preparing for Lifelong Health and Wellness. CDC Centers for Disease Control cdc.gov; MMWR Morb Mortal Wkly Rep 2016;65:759–762. Retrieved from: <https://www.cdc.gov/mmwr/volumes/65/wr/mm6530a2.htm>

Dennis, M. and Scott, C. K. (2007). Managing addiction as a chronic condition. *Addiction science and clinical practice*, 4(1), 45–55. doi:10.1151/ascp074145. Retrieved from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2797101/>

- National Institute on Drug Abuse (NIDA). (2014). Principles of Adolescent Substance Use Disorder Treatment: A Research-Based Guide. Retrieved from: <https://www.drugabuse.gov/publications/principles-adolescent-substance-use-disorder-treatment-research-based-guide>
- National Institutes of Health, National Institute on Drug Abuse. (2018). What is drug addiction? Retrieved from: <https://www.drugabuse.gov/publications/media-guide/science-drug-use-addiction-basics>
- American Society of Addiction Medicine. (2019). Definition of Addiction. Adopted by the Retrieved from: <https://www.asam.org/resources/definition-of-addiction>
- Oregon Health Authority Public Health Division, Health Promotion and Chronic Disease Prevention Section. (2018). Oregon tobacco facts. Retrieved from: <https://www.oregon.gov/oha/PH/PreventionWellness/TobaccoPrevention/Pages/pubs.aspx>
- Oregon Health Authority. (2018). Oregon Vital Statistics Annual Reports, Volume 2: Chapter 6. Mortality. Table 6-20. Retrieved from: <https://www.oregon.gov/oha/ph/BirthDeathCertificates/VitalStatistics/annualreports/Volume2/pages/index.aspx>
- Centers for Disease Control and Prevention. (2018). Smoking-attributable mortality, years of potential life lost, and productivity losses—United States, 2000–2004. *Morbidity and Mortality Weekly Report* 2008;57(45):1226–8. Retrieved from: <https://chronicdata.cdc.gov/Health-Consequences-and-Costs/Smoking-Attributable-Mortality-Morbidity-and-Econo/4yyu-3s69>
- Oregon Center for Health Statistics, (2019). Oregon Death Data. Retrieved from: <https://www.oregon.gov/oha/PH/BirthDeathCertificates/VitalStatistics/death/Pages/index.aspx>
- Oregon Health Authority. (2019). 2019 Oregon Healthy Teens Survey Results. Retrieved from: <https://www.oregon.gov/oha/PH/BirthDeathCertificates/Surveys/OregonHealthyTeens/Pages/index.aspx>
- Oregon Health Authority. (2018). Oregon Student Wellness Survey. Retrieved from: <https://oregon.pridesurveys.com/>
- Oregon Health Authority. (2019). Oregon Vaping Illness Investigation. Retrieved from: <https://www.oregon.gov/oha/PH/DISEASESCONDITIONS/COMMUNICABLEDISEASE/Pages/vaping-illness.aspx>
- Oregon Health Authority. (2018). State Health Assessment and Indicators. Retrieved from: <https://www.oregon.gov/oha/PH/ABOUT/Pages/HealthStatusIndicators.aspx>
- Centers for Disease Control and Prevention (2019). Alcohol and Public Health: Alcohol-Related Disease Impact (ARDI). Average for United States 2006–2010 Alcohol-Attributable Deaths Due to Excessive Alcohol. Retrieved from: https://nccd.cdc.gov/DPH_ARDI/Default/Report.aspx?T=AAM&P=f6d7eda7-036e-4553-9968-9b17ffad620e&R=d7a9b303-48e9-4440-bf47-070a4827e1fd&M=8E1C5233-5640-4EE8-9247-1ECA7DA325B9&F=&D=

- National Institute on Alcohol Abuse and Alcoholism. (2019) Alcohol facts and statistics. Retrieved from: <https://www.niaaa.nih.gov/alcohol-facts-and-statistics>
- Oregon Health Authority. (2019). Reducing Opioid Overdose and Misuse. Retrieved from: <https://www.oregon.gov/oha/PH/PREVENTIONWELLNESS/SUBSTANCEUSE/OPIOIDS/Pages/index.aspx>
- Haelle, T. (2019). Co-use of opioids, methamphetamines on the rise in rural Oregon, MDEdge/Psychiatry. Retrieved from: <https://www.mdedge.com/psychiatry/article/203701/addiction-medicine/co-use-opioids-methamphetamine-rise-rural-oregon>
- National Institute of Drug Abuse .(2019). Overdose Death Rates. Retrieved from: <https://www.drugabuse.gov/related-topics/trends-statistics/overdose-death-rates>
- Oregon Substance Use Disorder Research Committee. (2017). Substance Use Disorders in Oregon – Prevention, Treatment & Recovery. Retrieved from: <https://stateofreform.com/wp-content/uploads/2017/11/SUDs-in-Oregon-Prevention-Treatment-and-Recovery3.pdf>
- Oregon Health Authority. (2019). Oregon Behavioral Risk Factor Surveillance Survey, 2014-2017. Retrieved from: <https://www.oregon.gov/oha/PH/BirthDeathCertificates/Surveys/AdultBehaviorRisk/county/Pages/index.aspx>
- Oregon Health Authority. (2019) Oregon Behavioral Risk Factor Surveillance Survey, 2012-2015. Retrieved from: <https://www.oregon.gov/oha/PH/BirthDeathCertificates/Surveys/AdultBehaviorRisk/county/Pages/index.aspx>
- Oregon Office of Rural Health. (2018). Data and Publications. Retrieved from: <https://www.ohsu.edu/oregon-office-of-rural-health/data-and-publications>
- UPSTREAM PREVENTION: PROMOTION OF INDIVIDUAL WELL-BEING**
- Healthy People. (2019). Discrimination. Retrieved from: <https://www.healthypeople.gov/2020/topics-objectives/topic/social-determinants-health/interventions-resources/discrimination>
- Centers for Disease Control and Prevention. (2019). Adverse Childhood Experiences. Retrieved form: <https://www.cdc.gov/violenceprevention/childabuseandneglect/acestudy/index.html>
- Centers for Disease Control and Prevention. (2019). Reproductive Health Highlights. Retrieved from: <https://www.cdc.gov/chronicdisease/resources/publications/aag/maternal.htm>
- World Health Organization. (2019). Maternal Health. Retrieved from: <https://www.who.int/health-topics/maternal-health>
- Central Oregon Health Council. (2019). 2019 Central Oregon Regional Health Assessment (RHA). Retrieved from: <https://cohealthcouncil.org/regional-assessments/>

- Zimmerman, Woolf, and Haley. (2014) Understanding the Relationship Between Education and Health. Retrieved from: <https://nam.edu/perspectives-2014-understanding-the-relationship-between-education-and-health/>
- Guttmacher Institute. (2019) United States Unintended Pregnancy. Retrieved from: <https://www.guttmacher.org/united-states/pregnancy/unintended-pregnancy>
- Centers for Disease Control and Prevention. (2019). Unintended Pregnancy. Retrieved from: <https://www.cdc.gov/reproductivehealth/contraception/unintendedpregnancy/index.htm>
- Sonfield, A., Kost, K., Benson Gold, R., and Finer, L.B. (2011). The Public Costs of Births Resulting from Unintended Pregnancies: National and State-Level Estimates. Perspectives on Sexual and Reproductive Health. Retrieved from: <https://www.guttmacher.org/sites/default/files/pdfs/pubs/psrh/full/4309411.pdf>
- Oregon Health Authority. (2019). Oregon PRAMS (Pregnancy Risk Assessment Monitoring System). Retrieved from: <https://www.oregon.gov/oha/PH/HEALTHYPEOPLEFAMILIES/DATAREPORTS/PRAMS/Pages/index.aspx>
- Harvard University. (2015) The Science of Early Childhood Development, Center on the Developing Child. Retrieved from: https://developingchild.harvard.edu/wp-content/uploads/2015/05/Science_Early_Childhood_Development.pdf
- Oregon Department of Education. (2019). Key Dates for Accountability and Reporting. Retrieved from: <https://www.oregon.gov/ode/schools-and-districts/Pages/Key-Dates-Accountability-Reporting.aspx>
- Annie E. Casey Foundation. (2013). Early Reading Research Confirmed, The Importance of Third-Grade Reading. Retrieved from: <https://www.aecf.org/resources/early-warning-confirmed/>

APPENDIX C: MODIFIED-HANLON SCORING GUIDE

2020-2024 RHIP PRIORITIZATION MATRIX SCORING GUIDE

From the information collected in the assessment and the prioritization reference guide, please rate each condition by impact, preventability/controllability, and feasibility. Use the scoring guide (below) for reference.

| Prioritization Matrix Scoring Guide | | | | | | |
|-------------------------------------|---|---------------|---|--------------------------------------|--|---------------------|
| | Impact | | Preventability/Controllability | | Feasibility | |
| <i>What to Reference</i> | Based on the reference guide, how does this disease or condition affect the population? <ul style="list-style-type: none"> Percent of population(s) Percent of subpopulation(s) affected Hospitalizations Estimated Costs Mortality YPLL | | Does evidence exist that this can be prevented or controlled? <ul style="list-style-type: none"> Impact of/ability to influence health behaviors U.S. Preventive Task Force Recommendations Community Guide to Preventive Services Clinical Guidelines Prevention opportunities National Guidelines from CDC, SAMSHA, etc. | | If a prevention strategy exists, is it feasible for Central Oregon health system partners to implement solutions? <ul style="list-style-type: none"> Past experience Community willingness to use intervention/change Political/ legal considerations Healthy People 2020 Objective State Health Improvement Plan Objective Community theme | |
| <i>How to Score</i> | 3 | High Impact | 3 | Very Preventable/ Controllable | 3 | Very Feasible |
| | 2 | Some Impact | 2 | Preventable/ Controllable | 2 | Feasible |
| | 1 | Little Impact | 1 | Moderately Preventable/ Controllable | 1 | Moderately Feasible |
| | 0 | No Impact | 0 | Not Preventable/ Controllable | 0 | Not Feasible |

| | Impact | Preventability/Controllability | Feasibility | A+B+C= Score |
|--|--------|--------------------------------|-------------|--------------|
| Access to transportation | | | | |
| Access: Behavioral Health | | | | |
| Access: Oral Health | | | | |
| Access: Primary Care | | | | |
| Access: Specialty Care | | | | |
| Adverse Childhood Experiences | | | | |
| Air quality/ wildfires | | | | |
| Alcohol use | | | | |
| Asthma | | | | |
| Cancer | | | | |
| Cardiovascular disease | | | | |
| Cerebrovascular disease | | | | |
| Cost of healthy foods/ Food insecurity | | | | |
| Cost of quality housing | | | | |
| Crime and violence | | | | |
| Diabetes | | | | |
| Diarrheal disease | | | | |
| Drought | | | | |
| Employment/ Living Wage Jobs | | | | |
| Health Insurance Coverage | | | | |
| Healthcare-Associated Infections | | | | |
| Hepatitis | | | | |
| High school graduation | | | | |
| Homelessness | | | | |
| Immunizations and Vaccine-Preventable Diseases | | | | |
| Language Spoken | | | | |
| Low birth weight and preterm birth | | | | |
| Mental health | | | | |
| Obesity | | | | |
| Oral health | | | | |
| Other Drug Use | | | | |
| Poverty and Income | | | | |
| Prenatal Care/Preterm Birth | | | | |
| STIs | | | | |
| Suicide | | | | |
| Tobacco use | | | | |
| Unintended pregnancy | | | | |
| Unintended injuries | | | | |

APPENDIX D: MODIFIED-HANLON REFERENCE GUIDE

REFERENCE GUIDE FOR PRIORITIZATION (2020-2024 RHIP)

Please reference the 2019 Regional Health Assessment for more detail

*FoC = Forces of Change was completed by health professionals, CT&S = Community Themes and Strengths was completed with non-health professionals/ community members

| | Quantitative Data to Consider | Themes identified by Community Focus Groups | Healthy People Measures (here) | 2020-2024 State Health Improvement Plan Priorities (Y or N) | PH Modernization Accountability Metrics |
|---------------------------|---|---|---|---|---|
| Access to transportation | <ul style="list-style-type: none"> Most Central Oregonians (77% of Crook County residents, 75% of Jefferson County residents, and 74% of Deschutes County residents) commute alone in a car, truck, or van. Although 4.5% of Oregon residents travel to work using public transportation, less than 0.5% of Central Oregonians commuted to work using this means. | FoC, CT&S | | Y | Percent of commuters who walk, bike or use public transportation to get to work |
| Access: Behavioral Health | <ul style="list-style-type: none"> Across the state of Oregon, there are 1.7 mental health providers per 1,000 people. In Central Oregon, Bend (2.38 per 1,000 population) was the only service area with a mental health provider rate higher than the state average. Prineville had the lowest number of mental health providers per 1,000 population in Central Oregon (0.3), followed by La Pine (0.4). | CT&S | | Y | |
| Access: Oral Health | <ul style="list-style-type: none"> Oregon, on average, has 0.45 dentists per 1,000 people. In Central Oregon, only Bend (0.51) has a higher rate of dentists per 1,000 population than the state. The La Pine service area had the lowest number of dentists per 1,000 population (0.19) followed by Madras (0.21 per 1,000). | | Children, adolescents, and adults who visited the dentist in the past year (age-adjusted, percent, 2+ years). Baseline: 44.5%/ Goal: 49% | Y | Percent of children age 0-5 with any dental visits |
| Access: Primary Care | <ul style="list-style-type: none"> A primary care capacity ratio of 1 or higher means that there are enough primary care providers to meet the current primary care demands in the area. In Central Oregon, Bend (1.14) and Warm Springs (1.33) are the only areas with a primary care capacity ratio >1. Sisters (0.5), Madras (0.8), Redmond (0.6), Prineville (0.5), and La Pine (0.5) all had primary care capacity ratios lower than the state average (0.9). | | Persons with a usual primary care provider. Baseline: 76.3%/ Goal: 83.9% | Y | |

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| <p>Access: Speciality Care</p> | <ul style="list-style-type: none"> • There are four trauma-designated hospitals in Central Oregon. • Warm Springs had the lowest overall unmet health care need score (33) in the region, indicating the highest level of unmet needs. • La Pine, Madras, Prineville, and Warm Springs all had lower scores (indicating higher levels of unmet health care needs) compared to Oregon as a whole (mean 46.2) | <p>CT&S</p> | | | |
| <p>Adverse Childhood Experiences</p> | <ul style="list-style-type: none"> • Central Oregon had high rates of child abuse victimization (Jefferson 18.6, Deschutes 18.0, and Crook 15.2 per 1,000 children) compared to Oregon (14.4) in 2018. | <p>FoC</p> | <p>Reduction of non-fatal child maltreatment per 1,000. Baseline: 9.4 Goal: 8.5</p> | <p>Y</p> | |
| <p>Air quality/ wildfires</p> | <ul style="list-style-type: none"> • In Central Oregon, the number of unhealthy air quality days for asthma or other lung disease increased from 2008 to 2017. Based on data from 2018 in Bend, particulate matter in the air was highest in the summer months (August and September). • Increased frequency of wildfires and longer wildfire seasons are expected to result in a greater risk of wildfire smoke exposure, reduced air quality, and increased respiratory illness. | <p>FoC</p> | <p>Air Quality Index >100 (# of days, weighted by population and Air Quality Index value). Baseline: 2,200,000,000/ Goal: 1,980,000,000</p> | | |
| <p>Alcohol use</p> | <ul style="list-style-type: none"> • During 2015-2017, the age-adjusted alcohol-induced mortality rate was similar in Deschutes and Crook counties and Oregon overall (16.0, 17.1, 17.7 per 100,000, respectively), however, the rate in Jefferson County was twice that (33.2 per 100,000 population). In Deschutes County, over half of all alcohol/drug-related deaths were from alcohol. • Over one-third (37%) of adults aged 18 to 34 in Central Oregon reported binge drinking on at least one occasion over the past 30 days, compared to around 7% of those over 55 years of age. • More than half of all Central Oregon 8th graders report abstaining from alcohol use, ranging from 68.5% in Crook County (2015) to 55.6% in Jefferson County (2016). • In 2015, nearly 30% of Central Oregon County 8th graders reported having used alcohol in the past 30 days. The same survey indicated that 70% refused alcoholic drinks during the past 30 days. | <p>FoC</p> | <p>Binge drinking in the past month—Adults (percent, 18+ years). Baseline: 27.1%/ Goal: 24.4%</p> <p>The proportion of 8th-grade adolescents who disapprove of having alcohol drinks. Baseline: 78.5 Goal: 86.4</p> | <p>Y</p> | |
| <p>Asthma</p> | <ul style="list-style-type: none"> • In Oregon, 10.9 % of adults have asthma. In Central Oregon, the prevalence of asthma (9.7%) is lower in Deschutes County than across Oregon as a whole. The prevalence in Crook County (12.5%) and Jefferson (17.3%) County is higher than across Oregon as a whole. • In Central Oregon, a higher proportion of adults living below the poverty line have asthma (16.6%) compared to those living below the federal poverty line (9.7%). | | | | |

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| Cancer | <ul style="list-style-type: none"> Crook County had higher incidence rates of cancer per 100,000 population (468.2) compared to Oregon (428.4). Deschutes County had higher incidence rates of melanoma (42.4) and prostate (114.8) cancer than in Oregon (21.3, 109.0) and the US. Cancer was a top-five leading cause of death in Central Oregon. | | Adults receiving colorectal cancer screening based on the most recent guidelines (age-adjusted, percent, 50–75 years). Baseline: 52.1%/ Goal: 70.5% | | |
| Cardiovascular disease | <ul style="list-style-type: none"> All three Central Oregon counties had a lower prevalence of cardiovascular disease (including angina, heart attack, or stroke) compared to Oregon as a whole In 2017 Crook County had a significantly higher mortality rate from ischemic heart disease (97.4 per 100,000) compared to Oregon (65.0 per 100,000). CVD was a top-five leading cause of death in Central Oregon. | | Adults with hypertension whose blood pressure is under control (age-adjusted, percent, 18+ years). Baseline: 43.7%/ Goal: 61.2% | Y | |
| Cerebrovascular disease | <ul style="list-style-type: none"> In 2017, Crook County’s age-adjusted mortality rate (86.8 per 100,000 population) of cerebrovascular disease was significantly higher than Oregon’s rate (39.9 per 100,000 population). Cerebrovascular disease was a top-five leading cause of death in Central Oregon. | | | | |
| Cost of healthy foods/ Food insecurity | <ul style="list-style-type: none"> Nearly 1 out of 4 children in Crook and Jefferson Counties, and 1 out of 5 children in Deschutes County are food insecure. All three Central Oregon counties have a higher proportion of adults and children who are food insecure compared to Oregon as a whole. Over 15% of Central Oregon, residents have low access to grocery stores. | FoC, CT&S | | Y | |
| Cost of quality housing | <ul style="list-style-type: none"> Sisters has the highest percentage (35%) of people who spend more than 35% of their income on a mortgage, followed by Prineville and Bend (26%). La Pine and Prineville have the highest percentage (51%) of people who send more than 35% of monthly income on rent, followed by Redmond (48%), and Bend (41%). | FoC, CT&S | | Y | |
| Crime and violence | <ul style="list-style-type: none"> The total number of annual calls to the sexual and domestic violence emergency hotline among Central Oregonians increased from 2,201 in 2013 to 2,759 in 2017. | | | Y | |
| Diabetes | <ul style="list-style-type: none"> Of the three Central Oregon counties, Jefferson County has the highest prevalence of diabetes (16.0%), which is also higher than Oregon overall (8.6%). Deschutes County has the lowest prevalence (4.8%) | | Persons with diagnosed diabetes whose A1c value is greater than 9 percent (age-adjusted, percent, 18+ years). Baseline: 18%/ Goal: 16.2% | Y | |

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|----------------------------------|---|--------------|--|---|---|
| Diarrheal disease | <ul style="list-style-type: none"> The Oregon Climate Change Research Institute suggests that extreme temperatures and increased frequency of heatwaves are expected to lead to increased heat-related illness and death, as well as the potential for increased risk of exposure to certain vector-and water-borne diseases. Over the past ten years, Crook, Deschutes, and Jefferson Counties had significantly higher rates of Campylobacteriosis, E. Coli (STEC), giardiasis, and vibriosis (non-cholera) than Oregon as a whole. | | | | Percent of community water systems meeting health-based standards |
| Drought | <ul style="list-style-type: none"> Annual precipitation is expected to increase slightly, but summers are expected to warm more than the annual rate and are likely to become drier. Precipitation in the mountains is expected to fall less as snow and more as rain, affecting the timing and amount of water resources. This could result in a greater risk of water scarcity. | FoC | | | |
| Employment/ Living Wage Jobs | <ul style="list-style-type: none"> Unemployment is higher in Jefferson County (13.3) and Crook County (11.3%) compared to Oregon (8.1%). Almost 60% of households in Crook County, 52.3% of households in Jefferson County, and 46.7% of households in Deschutes County earn less than \$50,000 per year. | FoC, CT&S | | Y | |
| Health Insurance Coverage | <ul style="list-style-type: none"> There were no central line-associated bloodstream infections in Madras, Redmond, or Prineville hospitals in 2017. The Prineville hospital had a significantly higher standard infection ratio for hospital-onset C. difficile infection compared to the national baseline. | | Persons with medical insurance (percent, <65 years). Baseline: 83%/ Goal: 100% | Y | |
| Healthcare-Associated Infections | <ul style="list-style-type: none"> There were no central line-associated bloodstream infections in Madras, Redmond, or Prineville hospitals in 2017. The Prineville hospital had a significantly higher standard infection ratio for hospital-onset C. difficile infection compared to the national baseline. | | | | |
| Hepatitis | <ul style="list-style-type: none"> Central Oregon's rate of chronic hepatitis B (4.0 per 100,000 population) and chronic hepatitis C (118.0 per 100,000 population) were significantly lower than Oregon as a whole (0.9 per 100,000 and 128.2 per 100,000, respectively). | | | | |
| High School Graduation | <ul style="list-style-type: none"> Deschutes County has a higher proportion of the population with high school graduation (93%) compared to Crook (87.6%) and Jefferson (83.5%) Counties, as well as Oregon overall (90%). | FoC | Students graduating from high school 4 years after starting 9th grade. Baseline: 79%/ Goal: 87% | | |

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|--|---|-----------|---|---|--|
| Homelessness | <ul style="list-style-type: none"> The 2018 point-in-time homeless indicated 787 people experienced homelessness in Central Oregon, a 1% increase from 2017. The primary reported causes of homelessness were economic, including the inability to pay rent, and unemployment. Around 28% of Central Oregonians who experienced homelessness in 2018 were children. | | | Y | |
| Immunizations and Vaccine-Preventable Diseases | <ul style="list-style-type: none"> The immunization rate in Central Oregon has increased over the past three years. In 2017, the rates in Central Oregon were 70% for Crook, 69% for Deschutes, and 71% for Jefferson Counties. Across all three Central Oregon counties, less than 25% of all adolescents aged 13-17 received a flu vaccine during the 2016-2017 flu season. In Central Oregon, Jefferson County had the highest proportion of adolescents (aged 13-17) who had three or more HPV doses (57%), followed by Deschutes County (43%) and Crook County (21%). The incidence rate of pertussis was significantly lower in Central Oregon (7.8 per 100,000 population) than in Oregon overall (11.2 per 100,000 population) | | Children receiving the recommended doses of DTaP, polio, MMR, Hib, HepB, varicella and PCV vaccines by age 19-35 months (percent). Baseline: 68%/ Goal: 80% | Y | Percent of two-year-olds who received recommended vaccines |
| Language Spoken | <ul style="list-style-type: none"> Within Central Oregon, Jefferson County had the highest proportion (4.6%) of residents who spoke a language other than English and spoke English less than "very well." Around 14% of Jefferson County residents speak Spanish, compared to 3.2% of Crook County, and 4.4% of Deschutes County. | FoC, CT&S | | Y | |
| Low birth weight and preterm birth | <ul style="list-style-type: none"> Within Central Oregon in 2017, both Crook and Jefferson County had significantly higher pregnancy rates among 18 to 19 year-olds compared to Oregon as a whole. | | Total preterm live births (percent, <37 weeks gestation). Baseline: 12.7%/ Goal: 11.4% | Y | |
| Mental health | <ul style="list-style-type: none"> In Central Oregon from 2012-2015, roughly one in three adults in Crook County, and one in four adults in Deschutes and Jefferson counties were diagnosed with depression. In Crook and Deschutes Counties, a higher proportion of females reported having a depression diagnosis compared to males, however, in Jefferson County, the ratios were reversed (Figure 145). Among adults with diabetes, approximately 50% also reported depression The percent of students who reported feeling sad or hopeless every day for two weeks has been generally increasing. The percent of students who reported seriously considering attempting suicide was highest among 8th graders compared to 6th and 11th grader in Central Oregon from 2012-2018. | CT&S | Adolescents with a major depressive episode in the past 12 months (percent, 12-17 years). Baseline: 8.3%/ Goal: 7.5% | Y | |

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|---------------------------|--|----------------------|--|----------|--|
| <p>Obesity</p> | <ul style="list-style-type: none"> • Around 73% of Jefferson County residents are classified as overweight, and 37% obese. In Crook County, about 63% are overweight and 31% obese, and in Deschutes County, 55% and 21% are overweight and obese. • 65% of Oregon residents are classified as overweight, and 27% are obese. • In Central Oregon, the prevalence of obesity is significantly higher among those living below the FPL and those with lower levels of education. | | <p>Obesity among adults (age-adjusted, percent, 20+ years). Baseline: 33.9%/ Goal: 30.5%</p> <p>Obesity among children and adolescents (percent, 2-19 years). Baseline: 16.1%/ Goal: 14.5%</p> | <p>Y</p> | |
| <p>Oral health</p> | <ul style="list-style-type: none"> • In Central Oregon, Jefferson County had the highest percentage of adults who had at least one permanent tooth removed due to tooth decay or gum disease (40%), while Crook County had the highest percentage of adults who had all permanent teeth removed due to tooth decay or gum disease (7%). • In Central Oregon, Jefferson County had the lowest percent of 8th graders (54.5%) and 11th graders (66.8%) who visited a dentist or dental hygienist for a checkup or exam in the previous year. | | | <p>Y</p> | |
| <p>Other Drug Use</p> | <ul style="list-style-type: none"> • In Central Oregon and Oregon overall, methamphetamine overdose deaths increased, and opioid overdose deaths decreased between 2011-2016. All-drug overdose hospitalization rates fluctuated but have increased in both Oregon and in Central Oregon counties since 2005-2007. • Risky prescribing practices have decreased across Central Oregon and Oregon. The number of individuals who received an opioid prescription (including tramadol) in Central Oregon decreased between 2014 to 2018. • In 2015, 14.1% of Central Oregon County adolescents (8th/11th graders) reported having used marijuana/hashish during the past 30 days. | <p>FoC, CT&S</p> | <p>Adolescents using alcohol or illicit drugs in the past 30 days (percent, 12-17 years). Baseline: 18.4%/ Goal: 16.6%</p> <p>The proportion of adolescents (age 12-17) reporting the use of marijuana during the past 30 days. Baseline: 6.7 Goal: 6.0</p> | <p>Y</p> | <p>Prescription opioid mortality rate per 100,000 population</p> |
| <p>Poverty and Income</p> | <ul style="list-style-type: none"> • Warm Springs had the highest percentage of people overall and less than 18 years old living below the Federal Poverty Level. La Pine has the highest percentage of people over 65 years old living below the Federal Poverty Level. • Almost 60% of households in Crook County, 52.3% of households in Jefferson County, and 46.7% of households in Deschutes County earn less than \$50,000 per year. | <p>FoC, CT&S</p> | | <p>Y</p> | |

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| <p>Prenatal Care/Preterm Birth</p> | <ul style="list-style-type: none"> Central Oregon Counties should increase adequate prenatal care rates from the observed 2017 levels, Jefferson 59.8%, Crook 70.7%, and Deschutes 74.0%. Jefferson County prenatal care begun in the 1st trimester (73.9%) was low compared with the Oregon average (79.9%) in 2017 Jefferson County preterm birth rates (<37 weeks & 32-36 weeks) and Crook County (less than 32 weeks) for live births were higher (11.4%, 10.6%, and 2.0%, respectively, per 100 live births) versus Oregon averages (8.1; 7.0; 1.2) in 2016-201 | | <p>The proportion of pregnant women who receive adequate prenatal care: Baseline: 70.5 Goal: 77.6</p> <p>Pregnant women who have prenatal care in the first trimester. Baseline: 70.8% Goal: 77.9%</p> <p>Total preterm births per 100 live births. <37 weeks: Baseline - 10.4%; Goal- 9.4% At 32-36 weeks. Baseline - 8.7%; Goal - 7.9% Less than 32 weeks: Baseline - 1.7%; Goal- 1.5%</p> | <p>Y</p> | |
| <p>STIs</p> | <ul style="list-style-type: none"> Chlamydia rates have an increasing trend in both Oregon and Central Oregon, and in 2017, Jefferson County's chlamydia incidence rate was significantly higher than Oregon's. Chlamydia rates in Central Oregon are more than double among women than among men. The gonorrhea rate in Jefferson County (119.7 per 100,000) is nearly double the rate in Crook County (65.9 per 100,000) and over four times the rate in Deschutes County (29.4 per 100,000). The number of new syphilis cases in Central Oregon has been increasing steadily since 2012. | | | <p>Y</p> | <p>Gonorrhea incidence rate per 100,000 population</p> |
| <p>Suicide</p> | <ul style="list-style-type: none"> The suicide mortality rate in Central Oregon is similar to the rate in Oregon. The suicide mortality rate in Central Oregon (2008 and 2017) is over three times higher among males than females. The mortality rate was higher among American Indian/ Alaska Natives and White non-Hispanics and was lower among Hispanics in Central Oregon than Oregon overall. More than 50% of suicides were completed using firearms. | | <p>Suicide (age-adjusted, per 100,000 population). Baseline: 11.3/ Goal: 10.2</p> | <p>Y</p> | |
| <p>Tobacco use</p> | <ul style="list-style-type: none"> In Central Oregon, 26.3%, 17.3%, and 12.7% of adults report current cigarette smoking in Crook, Deschutes, and Jefferson Counties, respectively. In Oregon, 17.9% of adults report smoking. Between 2008-2017, tobacco-related mortality rates decreased by 21% in Crook County, 10% in Deschutes, 33% in Jefferson, and 11% across Oregon Among 8th graders, approximately 90% in Crook County, 87% in Jefferson County, and 94% in Deschutes County have never smoked a whole cigarette. | | <p>Tobacco Use Adult cigarette smoking (age-adjusted, percent, 18+ years). Baseline: 20.6%/ Goal: 12%;</p> <p>Tobacco Use Adolescent cigarette smoking in the past 30 days (percent, grades 9-12). Baseline: 19.5%/ Goal: 16%</p> <p>Tobacco Use Children exposed to secondhand smoke (percent; nonsmokers, 3-11 years). Baseline: 52.2%/ Goal: 47%</p> | | <p>Percent of adults who smoke cigarettes</p> |

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| <p>Unintended pregnancy</p> | <ul style="list-style-type: none"> In Central Oregon, around 45% of women who recently had a baby indicated they wanted to be pregnant at the time they got pregnant. Around 5.6% indicated they did not want to be pregnant at that time or any time in the future, and around 38% indicated they wanted to be pregnant at a different time. | | <p>Sexually active females receiving reproductive health services (percent, 15-44 years). Baseline: 77%/ Goal: 87%</p> | <p>Y</p> | <p>Percent of women at risk of unintended pregnancy who use effective methods of contraception</p> |
| <p>Unintentional injuries</p> | <ul style="list-style-type: none"> The number of unintentional injury deaths in Central Oregon has risen between 2008 and 2017. In 2017, there were 131 deaths due to unintentional injury in Central Oregon (50.6 deaths per 100,000 population). Jefferson County had the highest rate of unintentional injury (61.8 per 100,000 population). Across the three Central Oregon counties, the highest proportion of unintentional injury deaths were from falls, followed by motor vehicles, and accidental poisonings. In all three counties and across Oregon as a whole, the unintentional injury mortality rate among males was higher than females. | | <p>Injury deaths (age-adjusted, per 100,000 population). Baseline: 60%/ Goal: 54%</p> <p>Homicides (age-adjusted, per 100,000 population). Baseline: 6.1/ Goal: 5.5</p> | | |

