Moving from Understanding to Action on Health Equity: Social Determinants of Health Frameworks and THRIVE

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Prevention Institute
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Prevention Institute is a nonprofit, national center dedicated to improving community health and wellbeing by building momentum for effective primary prevention. Primary prevention means taking action to build resilience and to prevent problems before they occur. The Institute's work is characterized by a strong commitment to community participation and promotion of equitable health outcomes among all social and economic groups. Since its founding in 1997, the organization has focused on community prevention, injury and violence prevention, health equity, healthy eating and active living, positive youth development, health system transformation and mental health and wellbeing.

National Network of Public Health Institutes

The **National Network of Public Health Institutes'** (NNPHI) mission is to support national public health system initiatives and strengthen public health institutes to promote multi-sector activities resulting in measurable improvements of public health structures, systems, and outcomes. Created in 2001 as a forum for public health institutes, NNPHI convenes its members and partners at the local, state, and national levels in efforts to address critical health issues.

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INTRODUCTION

In 2002, the Office of Minority Health funded Prevention Institute to develop a community resilience assessment tool that could capture the assets in a community environment in order to "close the health gap" in communities of color.[1] Under this contract, Prevention Institute developed THRIVE – the Tool for Health and Resilience in Vulnerable Environments. Since 2002, THRIVE has proven to be a valuable tool for cultivating shared understanding among diverse stakeholders, and then moving into assessment and action to address community level conditions to promote health and safety outcomes and equity in these outcomes. Since the time of THRIVE's initial development, a wide range of additional frameworks have been developed that recognize the role of factors beyond access to quality healthcare in shaping health outcomes. These factors constitute the Social Determinants of Health (SDOH).[2]

Since the time of THRIVE's inception, there has been greater acknowledgement and burgeoning attention to elements outside of the healthcare system that impact health, safety and health equity – the social determinants of health (SDOH).

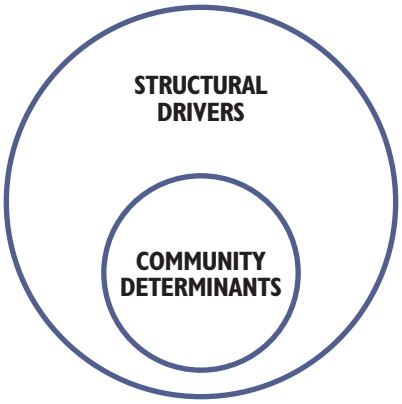
This paper provides an overview of the development of THRIVE, and reviews its purposes and uses. It briefly introduces SDOH frameworks that have been developed, highlights similarities and differences among and between the frameworks, and provides examples of how SDOH frameworks are influencing local, regional and national health and public health initiatives. The paper concludes by highlighting the added value of THRIVE as a tool that translates a complex set of ideas and research into a practical resource for communities. As emphasis on addressing SDOH grows, THRIVE can continue to serve as a tool for improving health and safety and achieving healthy equity through community-informed, measurable, and actionable strategies.

A GROWING UNDERSTANDING OF SOCIAL DETERMINANTS OF HEALTH

THRIVE was initially developed in 2002, at a time when the body of research and literature on SDOH in the US was limited. The World Health Organization was spurring global dialogue about SDOH and the Healthy Cities movement was gaining momentum in several countries.[3] However, public health theory and practice in the US was just beginning to shift away from the idea that health is shaped primarily by medical factors and individual behaviors and exposures.

Since the time of THRIVE's inception, there has been greater acknowledgement and burgeoning attention to SDOH. While there are variations in terminology and definitions, SDOH are largely understood as the broad set of factors that influence health outcomes directly and that shape community environments.[4] [5] These factors reach far beyond the healthcare system, and include structural drivers (e.g., the inequitable distribution of power, money, opportunity, and resources) and conditions of daily life (e.g., the environments in which people are born, live, work, play, worship, and age).[6] [7]

Figure 1: The Social Determinants of Health: Structural Drivers and Community Determinants



STRUCTURAL DRIVERS

Structural drivers, sometimes referred to as structural determinants, are the distribution of power, money, and other resources nationally and globally that, "together fashion the way societies are organized."[8] Structural drivers include economic and social policies, and processes and norms, particularly at the national and international levels, that reflect historic and present day systems of inequality, such as racism, classism, sexism and heterosexism. Structural drivers not only fuel chronic stress – such as from the stressors associated with living in poverty and with racism – they are also the fundamental root causes of inequities in community conditions and, consequently, health and safety outcomes.[9]

COMMUNITY DETERMINANTS

Structural drivers shape conditions at the community level – the daily living conditions where people live, work, learn, play, and age – including education, employment, housing, food, and transportation.[10] Community conditions, or community determinants, further translate into unequal opportunities, choices, and access to resources that would allow people to pursue healthy, thriving lives. Focusing on community determinants enables communities to alter the way that structural drivers affect daily living conditions, thus providing the opportunity to improve health and safety and reduce inequities.

Health Inequity and Health Equity

Health inequity refers to the differences in health which are not only unnecessary and avoidable but, in addition, are considered unfair and unjust. Health inequity is related both to a legacy of overt discriminatory actions on the part of government and the larger society, as well as to present day practices and policies of public and private institutions that continue to perpetuate a system of diminished opportunity for certain populations.[11]

Health equity means that every person, regardless of who they are – the color of their skin, their level of education, their gender or sexual identity, whether or not they have a disability, the job that they have, or the neighborhood that they live in – has an equal opportunity to achieve optimal health.[12]

THE DEVELOPMENT AND USE OF THRIVE

THRIVE was developed to examine linkages between medical conditions and community-resilience factors and to identify specific factors at the community level that could support health and safety, and reduce inequities in health outcomes associated with race/ethnicity and socio-economic status. The tool was initially developed through an iterative process conducted from July 2002 to March 2003 that included a review of peer-reviewed literature, key informant interviews, and an internal cluster and thematic analysis, beginning with Healthy People 2010 Leading Health Indicators and McGinnis and Foege's identification of "actual causes" of death.[13] Prevention Institute developed a model for understanding how root factors such as racism, poverty and other forms of oppression play out at the community level to shape community conditions, which in turn shape health and safety outcomes.[14] A national expert panel reviewed and rated community factors that were identified, which were then incorporated into an interactive tool to support practitioners, community leaders and residents in identifying priorities and action steps.

The THRIVE tool was successfully piloted in a rural, suburban, and urban site in New Mexico, California, and New York respectively. The pilot events confirmed that THRIVE broadens the understanding of what constitutes and determines community health and safety; demonstrates the value of upstream, resilience-based approaches; challenges the traditional assumption that health education is the sole means of promoting health; organizes difficult concepts; enables systematic planning; applies to rural, suburban and urban settings; is useful for both practitioners and community members; and maximizes strategic planning at community and organizational levels.[15]

THRIVE Implementation Partners, 2012-2015

1. Delaware Public Health Institute
2. Hawaii Public Health Institute
3. Health Research, Inc., New York
4. Health Resources in Action, Massachusetts
5. Illinois Public Health Institute
6. Institute for Wisconsin's Health, Inc.
7. Louisiana Public Health Institute
8. Medical Care Development Public Health, Maine
9. Public Health Institute, California
10. Public Health Management Corporation, Pennsylvania
11. Public Health Solutions, New York
12. Texas Health Institute

In 2011, the Office of Minority Health granted a cooperative agreement to the National Network of Public Health Institutes (NNPHI) and Prevention Institute to update the THRIVE tool, train NNPHI's member public health institutes to use THRIVE, and disseminate the tool through NNPHI's membership and networks. During 2011-2012, the research supporting THRIVE was updated, including a review of literature on SDOH. Additional tools and materials were developed to support communities in using THRIVE, including sample indicators and examples of actions that can be taken across multiple levels using Prevention Institute's Spectrum of Prevention tool. A training-of-trainers (TOT) was developed, piloted, and refined for public health institutes. The TOT also included training on additional Prevention Institute tools to help participants identify strategies to change community determinants, including strategies to engage multiple sectors in developing joint strategies.

Since 2012, twelve public health institutes have been trained to use THRIVE. The twelve public health institutes in turn conducted THRIVE trainings in their communities, and integrated THRIVE into ongoing organizational processes and programmatic efforts. Between 2012 and 2015, THRIVE trainings and processes have been conducted in urban, suburban and rural communities, with participation from community partners and residents from low-income communities of color, including youth, and residents who are immigrants and refugees with limited English proficiency. These trainings and processes have contributed to a wide range of outcomes, including the formation of multi-sector coalitions, the development of long-term action plans, and local and state policy and practice change initiatives.

THRIVE – A FRAMEWORK AND TOOL

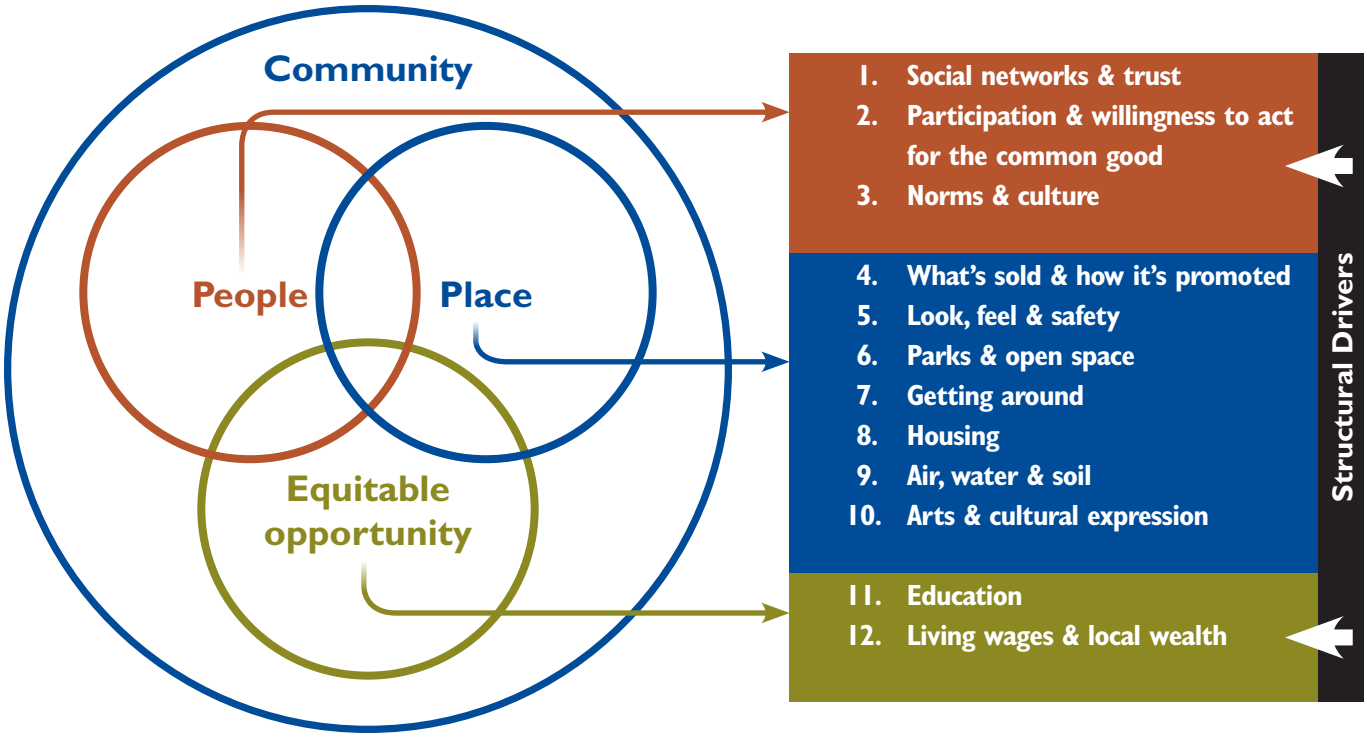
THRIVE is a place-based and action-oriented framework and tool that engages community leaders and residents, public health practitioners, and multiple sectors to assess and improve community determinants that can promote the fair and just distribution of opportunities and resources and facilitate better health and safety. THRIVE is:

- *A framework* for understanding how structural drivers play out at the community level to impact community determinants, and consequently, health and safety outcomes, and inequities in outcomes.
- *A tool* for engaging community members and practitioners in assessing the status of community determinants, prioritizing them, and taking action to change them to improve health, safety, and health equity.

THRIVE places communities at the center, focuses at the community level, and emphasizes action to address community determinants. THRIVE supports communities in understanding how structural drivers play out at the community level and impact daily living conditions, and consequently, shape neighborhood outcomes for health, safety and equity. THRIVE helps communities in moving from understanding to action, to identify strengths and assets, prioritize concerns, and develop an action plan to make investments to improve community determinants. By using THRIVE, communities can apply a health equity lens to analyze community determinants, including the ways in which structural drivers shape determinants to diminish opportunities for health and safety for low-income people and people of color. THRIVE helps communities build on this analysis to identify strategies to change policies and practices to promote the fair and just distribution of opportunities and resources and support health and safety.

THRIVE is organized into three, interrelated clusters: 1) *People* (the social-cultural environment); 2) *Place* (the physical and built environment); and, 3) *Equitable Opportunity* (the economic and educational environment). The three clusters are comprised of twelve community level factors (See Figure 2).

Figure 2: THRIVE Clusters and Factors



THRIVE CLUSTER & FACTOR DEFINITIONS

People – This cluster represents the social-cultural environment. People are healthier in neighborhoods where people feel connected and are empowered. Communities with strong social networks and connections have longer life expectancies, and better physical and mental health.

Factors:

- **Social Networks & Trust –** Trusting relationships among community members built upon a shared history, mutual obligations, opportunities to exchange information, and that foster the formation of new, and strengthen existing, connections.
- **Participation & Willingness to Act for the Common Good –** Individual capacity, desire, and ability to participate, communicate, and work to improve the community; meaningful participation by local/indigenous leadership; involvement in the community such as through local community and social organizations and participation in the political process.
- **Norms and Culture –** Broadly accepted behaviors to which people generally conform that promote health, wellness and safety among all community residents; discourage behaviors that inflict emotional or physical distress on others; and reward behaviors that positively affect others.

Place – This cluster represents the physical and built environment. The places people live, work, play, and learn directly impact health and safety and shape behaviors, which in turn influence health and safety outcomes.

Factors:

- **What's Sold & How It's Promoted –** Availability and promotion of safe, healthy, affordable, culturally appropriate products and services (e.g. food, pharmacies, books and school supplies, sports equipment, arts and crafts supplies, and recreational items); and the limited promotion, availability, and concentration of potentially harmful products and services (e.g. fast food, tobacco, firearms, alcohol, and other drugs).
- **Look, Feel & Safety –** Surroundings that are well-maintained, appealing, perceived to be safe and culturally inviting for all residents.
- **Parks & Open Space –** Availability and access to safe, clean parks, green space and open areas that appeal to interests and activities across the generations.
- **Arts & Cultural Expression –** Abundant opportunities within the community for cultural and artistic expression and participation, and for positive cultural values to be expressed through the arts; and arts and culture positively reflect and value the backgrounds of all community residents.
- **Getting Around –** Availability of safe, reliable, accessible and affordable ways for people to move around, including public transit, walking, biking and using devices that aid mobility.
- **Housing –** High-quality, safe and affordable housing that is accessible for residents with mixed income levels.
- **Air, Water & Soil –** Safe and non-toxic water, soil, indoor and outdoor air.

Equitable Opportunity – This cluster represents the economic environment and the level and equitable distribution of opportunity and resources in the community. Differences in access to resources and opportunity, particularly related to factors that impact socio-economic status, impact health and safety over a lifetime.

Factors:

- **Education –** High quality, accessible education and literacy development for all ages that effectively serves all learners.
- **Living Wages & Local Wealth –** Local ownership of assets; accessible local employment that pays living wages and salaries; and access to investment opportunities.

Applying the THRIVE tool in communities includes five-parts:

1. *Engage and partner:* identify and engage the support of key participants and decision-makers, including diverse members of the community.
2. *Foster shared understanding and commitment:* cultivate a shared understanding of the determinants of health and foster buy-in for addressing them as an effective, equitable approach to improving health and safety outcomes.
3. *Assess:* identify the assets and needs of the community or neighborhood and its particular health and safety concerns and inequities.
4. *Plan and act:* clarify vision, goals, and directives; establish decision-making processes and criteria; and implement multifaceted activities to achieve desired outcomes.
5. *Measure progress:* ensure that communities use resources in the most effective, efficient manner and that efforts accomplish the desired outcomes.

THRIVE includes supporting resources, including a worksheet to assign effectiveness scores and priority ratings for each of the 3 overarching clusters, and each of the 12 factors... The tool also allows communities to add in factors that they deem applicable and important.

THRIVE includes supporting resources, including a worksheet to assign effectiveness scores and priority ratings for each of the 3 overarching clusters, and each of the 12 factors. The worksheet, which can be completed through a self-guided or facilitated process, walks participants through steps to select top priorities for action among the 12 community factors. The tool also allows communities to add in factors that they deem applicable and important, within each of the clusters, or as an overarching factor that cuts across the clusters.

THE EMERGENCE OF SOCIAL DETERMINANTS OF HEALTH FRAMEWORKS

In its initial development, THRIVE captured and synthesized an approach which is consistent with what public health now recognizes as a SDOH approach. Since then, as attention to SDOH has grown, a wide variety of local, state, federal, and international SDOH frameworks have emerged. As a part of updating THRIVE in 2011, Prevention Institute reviewed twenty-two SDOH frameworks, including overarching frameworks as well as frameworks that focus on a specific jurisdiction or scope, i.e., at the local, regional, state, national, and/or international levels. Determinants identified in each framework were mapped on to the THRIVE clusters and factors, to show common factors across the frameworks (See Appendix B). The frameworks that were examined are described briefly (and are not intended to provide a thorough explanation of each framework):

OVERARCHING FRAMEWORKS

1. ***County Health Rankings and Roadmaps***, Robert Wood Johnson Foundation and the University of Wisconsin Population Health Institute: Launched in 2009, this framework was developed to support localities in creating solutions to support residents in being healthy in their communities. Their online website provides a nationally comparable ranking of health in the majority of U.S. counties based on available county-level data linked to factors that have been known to influence health.[16]
2. ***Healthy Cities / Healthy Communities***, World Health Organization: Building upon key elements of the Ottawa Charter, developed in 1986, and then considered the "Constitution" of Healthy Cities/Healthy Communities,

this theoretical framework outlines components and steps for an inclusive, participatory process of developing a healthy community. It highlights loosely defined strategies that advance two key premises: a comprehensive view of health, and a commitment to health promotion.[17]

3. ***Conceptual Framework of Community Effects on Health***, PolicyLink: Originally released in 2002 in *Reducing Health Disparities through a Focus on Communities*,[18] this framework outlines four clusters at the community level – economic, social, physical, and service environments – that are embedded within seminal documents, such as *Why Place and Race Matter.*[19]
4. ***America's Health Rankings: A Call to Action for People and their Communities***, United Health Foundation, American Public Health Association, and Partnership for Prevention: Released in 2013, this framework is a peer reviewed methodology for measuring population health (applied at the state level specifically for this report) based on four groups of health determinants including behaviors, community and environment, public and health policies, and clinical care. One unique aspect of this methodology is that it identifies policy, and public health funding more specifically, as a determinant of health.
5. ***Health Disparities and Inequalities Report***, Centers for Disease Control and Prevention: Released in 2013, this framework measures health disparities and inequalities in the U.S. across a range of determinants, including SDOH, environmental hazards, health care access and preventive services, behavioral risk factors, and health outcomes for morbidity and mortality. The measurements are broken down among many different variables, including race, gender, socioeconomic status, age, geography, and disability status.[20]
6. ***What Drives Health***, Robert Wood Johnson Foundation: This framework outlined in *Commission to Build a Healthier America* (released in 2008 and updated in 2015), identifies key conditions and social factors that impact health directly and indirectly, to inform national understanding and policy direction.[21]

LOCAL AND REGIONAL FRAMEWORKS

7. ***Life and Death from Unnatural Causes: Health and Social Inequity in Alameda County***, Alameda County Public Health Department: Published in 2008, this report: 1) documents health disparities within the county by neighborhood, income level, and race/ethnicity; 2) provides evidence of the links between disparities and social and economic inequities; and, 3) suggests goals and multi-sector policy interventions to address inequities in the county. It includes historical context, county-level evidence, and suggested action steps to address key SDOH.[22]
8. ***Health Inequities in the Bay Area***, Bay Area Regional Inequities Initiative: This 2008 report identifies social and community factors influencing health in the Bay Area and suggests policy interventions critical to reducing disparities across, between, and within populations and improving overall health.[23]
9. ***Health Atlas for the City of Los Angeles***, Los Angeles County Department of Public Health: Released in 2013, this health atlas framework was developed to illustrate geographic variation in a range of determinants of health, with a heavy emphasis on community and environmental conditions, as well as corresponding health outcomes, to help city officials better understand the city's health issues and inform decision making.[24]
10. ***Reparable Harm: Assessing and Addressing Disparities Faced by Boys and Men of Color in California,*** RAND Corporation: Released in 2009, RAND developed this framework specifically to quantify and analyze disparities faced by boys and men of color in California along the categories of socioeconomic disparities, health disparities, safety disparities, and ready to learn disparities. This report and its methodology are unique in the heavy emphasis placed on issues of safety, violence, and incarceration and their correlations with health outcomes for these demographics.[25]
11. ***Equity, Opportunity, And Sustainability in the Central Puget Sound Region***, The Kirwan Institute and the Puget Sound Regional Council: Released in 2012, this framework was developed to analyze which communities are opportunity-rich and opportunity-poor in the central Puget Sound region along a variety of dimensions. The analysis and corresponding maps can guide investments to improve conditions in opportunity-poor neighborhoods.[26]
12. ***14 Determinants of Equity***, King County, Washington: This 2012 Equity and Social Justice Annual Report identifies a set of core community conditions to which equal access is critical for all community residents to thrive.[27]

13. ***Healthy Communities: A Framework for Meeting Community Reinvestment Act Obligations***, Federal Reserve Bank of Dallas: Published in 2014, this guide includes a healthy communities checklist that defines the components that are integral to healthy, vibrant, resilient communities. The list builds on concepts from the book, *Designing Healthy Communities*, by Richard Jackson and Stacy Sinclair.[28] The Federal Reserve Banks of other cities, including San Francisco and Boston also have comparable frameworks to address how where people live, learn, work, and play affects health.[29]
14. ***Building Healthy Communities***, The California Endowment: The California Endowment's Building Healthy Communities initiative is a 10-year, $1 billion place-based grant making initiative to transform several domains through drivers of change in 14 targeted neighborhoods, and foster thriving communities where children and their families can live healthy, safe and productive lives.[30] The initiative seeks to transform several domains, including land use, safety, and food access, through drivers of change such as people power and youth leadership.

STATE AND FEDERAL FRAMEWORKS

15. ***A Healthy Communities Framework***, California Department of Public Health: Developed in consultation with the Health in All Policies Task Force and key stakeholders, this state framework outlines core components of a healthy community in order to establish common definitions and metrics around which partners and coalitions can coordinate efforts and strategic directions.[31]
16. ***Promoting Health Equity: A Resource to Help Communities Address Social Determinants of Health,*** Centers for Disease Control and Prevention: This 2008 workbook is for practitioners, advocates, and partners who are interested in addressing SDOH and achieving health equity. It includes extensive public health research affirming the link between SDOH and health outcomes, and case examples.[32]
17. ***Connecticut Health Equity Index***, Connecticut Association of Directors of Health (CADH): Released in 2009, this framework is a unique online tool that allows for the measurement of a set of SDOH at the state and municipal/town levels and reveals correlations with specific health outcomes. The tool generates community specific scores and allows them to be mapped using GIS. The index also provides direction for the collection of qualitative data to complement the quantitative data.[33]
18. ***Health Opportunity Index (HOI)***, Virginia Department of Health: In 2012 the Virginia Department of Health released the *Virginia Health Equity Report 2012* and included the HOI as a methodology for assessing the impact of a set of SDOH on a community's overall health. The HOI is composed of ten composite indicators that reflect an array of SDOH.[34]
19. ***Approach to Social Determinants of Health,*** Healthy People (HP) 2020: Released in 2010, HP 2020 identifies five key areas of determinants that comprise a "place-based" organizing framework.[35]

INTERNATIONAL FRAMEWORKS

20. ***Social Determinants of Health: The Canadian Facts***, York University School of Health Policy and Management: Published in 2010, this framework outlines 14 key social determinants that have been found to strongly affect population health across Canada.[36]
21. ***Healthy, Productive Canada: A Department of Health Approach,*** Canadian Subcommittee on Population Health: Released in 2009, this report outlines 10 key determinants of health that directly and indirectly impact health and well-being of the population, integrating these factors into a life course stages framework that is linked to community-based policy recommendations.[37]
22. ***Closing the Gap in a Generation: Health Equity through Action on the Social Determinants of Health,*** World Health Organization (WHO) Commission on Social Determinants of Health: This landmark report published in 2008 provides an international framework and common language to understand and address SDOH including key structural drivers of health inequity and daily living conditions.[38]

The increase in the number of SDOH frameworks reflects a growing collective understanding of the determinants that must be addressed to promote health and safety and achieve equitable outcomes. A number of similarities and differences among the frameworks were identified through the review process.

SIMILARITIES AMONG THE FRAMEWORKS

As shown in Appendix B, there is strong alignment and consistency across the frameworks that were examined. Collectively the frameworks:

1. **Confirm that a broad set of factors outside of the healthcare system shape health and safety outcomes, and inequities in these outcomes.** Understanding these factors is necessary for improving health and safety and achieving health equity.

2. **Identify a consistent core set of factors that shape health.** The most commonly noted factors among the frameworks are: education and schools; socioeconomic indicators (e.g. employment and income); housing, food access; and transportation.

3. **Point to the need for multi-sector engagement and solutions.** By virtue of the scope of the factors, participation from public health and key sectors, such as education, housing, transportation, health care, and the private sector, are all needed to influence health outcomes.

4. **Reflect a shift in language use from the term health disparities toward the terms health inequity and health equity.** Efforts to address health disparities often focus on addressing narrow measurable differences in specific health outcomes.[39] In contrast, the language of health inequity and health equity explicitly recognizes that health disparities are created by inequities at the structural and community levels that are avoidable, unjust and unfair.

DIFFERENCES AMONG THE FRAMEWORKS

While there are significant similarities among the frameworks, there are also some useful variations.

1. **There are distinctions among the frameworks in the level of jurisdiction, scope, and focus of recommendations**:
   - **a.** Local frameworks emphasize community determinants, local action and local policies. Frameworks at this level include indicators such as social cohesion, voter participation, and civic engagement, and emphasize community-driven participatory processes.
   - **b.** County-level frameworks focus on analysis within jurisdictional boundaries, and emphasize the role of local health department policies and community leadership.
   - **c.** National and international frameworks emphasize the importance of national economic and social policies as drivers of inequities in health and safety.

2. **The frameworks serve differing purposes and make unique contributions.** For example, international and national frameworks help to bring broad scale credibility and aid in institutionalizing SDOH frameworks into public initiatives, and state and county-level frameworks aid in assessing and measuring health status and tracking progress. THRIVE's distinction among the frameworks is that it both captures the core set of factors that shape health consistent

with the other frameworks, and, serves as a tool with supporting resources, to move communities from understanding to assessment to action.

3. **Three additional sets of factors were included in some, but not all frameworks:**
   - **a.** *Health Care:* Health care factors, such as access to primary care and health care services, were included in a few frameworks.
   - **b.** *Behavior:* A smaller number of frameworks included individual behavioral factors, such as smoking and physical activity.
   - **c.** *Global Drivers*: National and international frameworks highlight global structural drivers, such as institutional power hierarchies, political economy, and marketing and media practices.

THE TIDE IS TURNING

Understanding of how elements outside of the healthcare system impact health and safety outcomes and inequities in these outcomes has fueled new research, literature, frameworks, language, policies, and practice. For example:

- Following the passage of the Affordable Care Act, the National Prevention Strategy was released in 2011 to serve as a guide for the nation to improve health through engaging multiple sectors in collaborative efforts, including twenty federal agencies, such as education, housing, and transportation.[40]
- The development of approaches such as Health in All Policies also exemplifies a shift in understanding that health is shaped by factors beyond the clinic walls. Health in All Policies (HiAP) improves the health of all people by engaging leaders from multiple sectors in collaborative decision-making to consider health implications of policy decisions. When using a HiAP approach, decision makers consider the health, equity, and sustainability of policy options. [41, 42]
- Federal initiatives and programs supported through the Prevention and Public Health Fund, philanthropic efforts including The California Endowment's Building Healthy Communities, and others, have been developed and implemented to engage multiple sectors in influencing the community determinants that shape health, safety, and health equity.

THRIVE continues to be utilized by public health institutes and their state and local partners – including community health workers, community development corporations, community organizers, health clinics, hospitals and others – to focus on community determinants of health and develop community-informed, measurable, and actionable strategies. The number and diversity of communities utilizing THRIVE as a framework and tool continues to grow.

All of these developments, and many more across the US, fuel support for multi-sector efforts at the community level and generate greater need for practical tools to support communities in shaping their understanding of SDOH, and then, in moving from understanding to action. THRIVE continues to be utilized by public health institutes and their state and local partners – including community health workers, community development corporations, community organizers, health clinics, hospitals and others – to focus on community determinants of health and develop community-informed, measurable, and actionable strategies. The number and diversity of communities utilizing THRIVE as a framework and tool continues to grow.

CONCLUSION

Our collective understanding of the factors that influence health, safety, and health equity has deepened significantly over the past decade, and a growing number of SDOH frameworks have emerged. These frameworks have significant consistency as well as useful variation. THRIVE in particular, affirms that the social-cultural, physical/built, and economic/educational environments at the community level – i. e. the community determinants of health – have a significant impact on health and safety outcomes and their inequitable or equitable distribution.

THRIVE's focus on community determinants through a health equity lens places communities at the center of action. By synthesizing and translating a large body of research into an accessible framework and tool with supporting materials, THRIVE helps communities to analyze the pathways by which structural drivers shape daily living conditions, and as a result, influence inequities in health and safety outcomes. Building on this analysis, THRIVE helps communities identify strategies to change policies and practices toward greater health equity. With the continued implementation of the Affordable Care Act, deepening income inequalities, and a rapidly aging and diversifying population, comprehensive multi-sector efforts to address underlying determinants of health have never been more critical. In this environment of growing opportunity for change, THRIVE can continue to help more communities develop a shared understanding, and then move from understanding to assessment, and ultimately to action, to improve health and safety and promote health equity.

APPENDIX A: ADDITIONAL RESOURCES

Prevention Institute. *THRIVE Overview and Background*. Oakland, CA. 2014.

Prevention Institute. *THRIVE Clusters and Factors*. Oakland, CA. 2013.

Prevention Institute. *THRIVE Assessment Worksheet*. Oakland, CA. 2013.

National Network of Public Health Institutes. *THRIVE Empowers Youth to Improve Community Safety: A California Case Example*. Washington, D.C. 2015.

National Network of Public Health Institutes. *THRIVE Advances a Shared Understanding of Social Determinants of Health: A Louisiana Case Example*. Washington, D.C. 2015.

APPENDIX B: ALIGNMENT OF THRIVE CLUSTERS AND FACTORS WITH COMPARISON FRAMEWORKS

Table 1: Alignment of THRIVE People Cluster and Factors (Social-Cultural Environment) with Comparison Frameworks

Table 1 lists the comparison frameworks that were reviewed for this paper in column A and indicates with a "✓" in subsequent columns if the factors in these frameworks align with the THRIVE overarching people cluster and/or the three people cluster factors. (See THRIVE Clusters and Factors, page 7, for full THRIVE factor names. See The Emergence of SDOH Frameworks, pages 8-10, for full framework titles. See Appendix C for the corresponding names of the clusters and factors used in the comparison frameworks.)

	People Cluster (Social-Cultural Environment)			
Comparison Frameworks (Column A)	**Overarching People Cluster**	**Social Networks & Trust**	**Participation & Willingness to Act**	**Norms & Culture**
Overarching Frameworks				
1. County Health Rankings	✓	✓		
2. Healthy Cities/Communities	✓		✓	
3. Community Effects on Health	✓	✓	✓	✓
4. America's Health Rankings				
5. Health Disparities & Inequalities				
6. What Drives Health				
Local and Regional Frameworks				
7. Health & Social Inequity in Alameda County	✓	✓	✓	
8. Bay Area Health Inequities	✓	✓		
9. Los Angeles Health Atlas				✓
10. Disparities Faced by Men of Color in California				
11. Equity & Opportunity in Central Puget Sound				
12. Determinants of Equity, King County				
13. Community Reinvestment Act	✓	✓	✓	
14. Building Healthy Communities				
State and Federal Frameworks				
15. Healthy Communities, CA	✓	✓	✓	
16. Promoting Health Equity	✓			
17. Health Equity Index, CT			✓	
18. Health Opportunity Index, VA				
19. Approach to SDOH	✓	✓	✓	
International Frameworks				
20. Canadian Model of SDOH	✓			
21. Healthy, Productive Canada				✓
22. WHO Closing the Gap			✓	

Table 2: Alignment of THRIVE Place Cluster and Factors (Physical/Built Environment) with Comparison Frameworks

Table 2 lists the comparison frameworks that were reviewed for this paper in column A and indicates with a "✓" in subsequent columns if factors in these frameworks align with the THRIVE overarching Place Cluster and/or the seven Place Cluster factors. (See THRIVE Clusters and Factors, page 7, for full THRIVE factor names. See The Emergence of SDOH Frameworks, pages 8-10, for full framework titles. See Appendix C for the corresponding names of the clusters and factors used in the comparison frameworks.)

	Place Cluster (Physical/Built Environment)							
Comparison Frameworks (Column A)	Overarching Place Cluster	What's Sold	Parks	Air, Water, & Soil	Safety	Arts & Culture	Housing	Getting Around
Overarching Frameworks								
1. County Health Rankings	✓			✓	✓			
2. Healthy Cities/Communities	✓	✓		✓	✓		✓	
3. Community Effects on Health	✓	✓	✓	✓	✓		✓	✓
4. America's Health Rankings				✓	✓			
5. Health Disparities & Inequalities		✓		✓	✓			
6. What Drives Health							✓	
Local and Regional Frameworks								
7. Health & Social Inequity in Alameda County	✓	✓		✓			✓	✓
8. Bay Area Health Inequities	✓	✓	✓	✓			✓	✓
9. Los Angeles Health Atlas	✓	✓	✓	✓	✓		✓	✓
10. Disparities Faced by Men of Color in California					✓			
11. Equity & Opportunity in Central Puget Sound		✓	✓	✓	✓		✓	✓
12. Determinants of Equity, King County	✓	✓	✓	✓	✓		✓	✓
13. Community Reinvestment Act		✓	✓	✓	✓	✓	✓	✓
14. Building Healthy Communities, The California Endowment	✓	✓	✓	✓	✓		✓	✓
State and Federal Frameworks								
15. Healthy Communities, CA	✓	✓	✓	✓	✓	✓	✓	✓
16. Promoting Health Equity		✓					✓	✓
17. Health Equity Index, CT				✓	✓		✓	
18. Health Opportunity Index, VA		✓		✓	✓		✓	✓
19. Approach to SDOH	✓	✓		✓	✓		✓	✓
International Frameworks								
20. Canadian Model of SDOH		✓					✓	
21. Healthy, Productive Canada	✓						✓	
22. WHO Closing the Gap	✓	✓		✓			✓	✓

Table 3: Alignment of THRIVE Equitable Opportunity Cluster and Factors (Economic/Educational Environment) with Comparison Frameworks

Table 3 lists the comparison frameworks that were reviewed for this paper in column A and indicates with a "✓" in subsequent columns if the factors in these frameworks align with the THRIVE overarching Equitable Opportunity Cluster and/or the two Equitable Opportunity Cluster factors. (See THRIVE Clusters and Factors, page 7, for full THRIVE factor names. See The Emergence of SDOH Frameworks, pages 8–10, for full framework titles. See Appendix C for the corresponding names of the clusters and factors used in the comparison frameworks.)

	Equitable Opportunity Cluster (Economic/Educational Environment)		
Comparison Frameworks (Column A)	**Overarching Equitable Opportunity Cluster**	**Education**	**Living Wages, Local Wealth**
Overarching Frameworks			
1. County Health Rankings	✓	✓	✓
2. Healthy Cities/Communities	✓	✓	✓
3. Community Effects on Health	✓	✓	✓
4. America's Health Rankings		✓	✓
5. Health Disparities & Inequalities	✓	✓	✓
6. What Drives Health		✓	✓
Local and Regional Frameworks			
7. Health & Social Inequity in Alameda County		✓	✓
8. Bay Area Health Inequities			✓
9. Los Angeles Health Atlas	✓	✓	✓
10. Disparities Faced by Men of Color in California		✓	✓
11. Equity & Opportunity in Central Puget Sound		✓	✓
12. Determinants of Equity, King County		✓	✓
13. Community Reinvestment Act		✓	✓
14. Building Healthy Communities, The California Endowment		✓	✓
State and Federal Frameworks			
15. Healthy Communities, CA		✓	✓
16. Promoting Health Equity		✓	✓
17. Health Equity Index, CT		✓	✓
18. Health Opportunity Index, VA		✓	✓
19. Approach to SDOH	✓	✓	✓
International Frameworks			
20. Canadian Model of SDOH		✓	✓
21. Healthy, Productive Canada		✓	✓
22. WHO Closing the Gap		✓	✓

APPENDIX C: TERMS USED IN COMPARISON FRAMEWORKS THAT CORRESPOND TO THE THRIVE CLUSTERS AND FACTORS

The terms used in comparison frameworks that correspond to the THRIVE clusters and factors are shown below. The number(s) after each term refers to the number assigned to each of the comparison frameworks in The Emergence of SDOH Frameworks, page 8-10.

People Cluster (the social-cultural environment)

People Cluster (the social-cultural environment):

- Social factors[1]
- Social environment[2, 3, 8, 13, 16]
- Social capital[3]
- Social neighborhood conditions[7]
- Social and community context[19]
- Social exclusion[20]
- Social safety network[20]
- Social protection across the life course[22]

Social Networks and Trust:

- Family and social support[1]
- Social cohesion[3, 19]
- Social support and networks[3]
- Social relationships[7]
- Strong ties[8]
- Social networks[13]
- Socially cohesive and supportive relationships, families, homes, and neighborhoods[15]

Participation and Willingness to Act for the Common Good:

- The political environment[2]
- Community action[2]
- Community leadership and organization[3]
- Political power[3]
- Community capacity[7]
- Democracy-building[13]
- Community engagement[13]
- Social and civic engagement[15]
- Civic involvement[17]
- Civic Participation[19]
- Political empowerment, inclusion and voice[22]
- Fair participation in policy-making[22]

Norms & Culture:

- Cultural characteristics[3]
- Access to key cultural institutions[3]
- Adult role models and peer networks that are influential to young people[3]
- Linguistic isolation[9]
- Culture[21]

Place Cluster (the physical/built environment)

Place Cluster (the physical/built environment):

- Built environment[1, 2, 3]
- Physical environment[1, 3, 8, 16, 21]
- Infrastructure[3]
- Urban design that supports physical activity[3]
- Physical activity and neighborhood conditions[7]
- Land use[8]
- Land use mix[9]
- Healthy built and natural environment[12]
- Land use[14]
- Access to affordable and safe opportunities for physical activity[15]
- Neighborhood and built environment[19]
- Healthy places[22]

What's Sold and How It's Promoted:

- Food[2]
- Supermarkets[3]
- Retail[3]
- Access to healthier food retailers[5]
- Food access[7,9,14]
- Liquor stores[7]
- Retail outlets[8]
- Retail food locations[9]
- Fast food[9]
- Alcohol outlets[9]
- Percent of area that is within a food desert[11]
- Access to affordable, healthy, local food[12]
- Access to healthy foods[13, 19]
- Accessible and nutritious, healthy foods[15]
- Access to resources[16]
- Food security[18,20]
- Retail planning[22]

Parks & Open Space:

- Access to local parks[3]
- Open space[8]
- Parks and park access[9]
- Distance to nearest park or open space[11]
- Access to parks and natural resources[12]
- Parks and playgrounds, brownfields and open spaces[13]
- Green and open spaces including healthy tree canopy and agricultural lands[15]

Air, Water & Soil:

- Environmental quality[1,3, 17]
- Stable ecosystem[2]
- Natural environment[2]
- Healthy, clean environment[3]
- Air pollution[4]
- Residential proximity to major highways[5]
- Air quality[7]
- Toxic exposure[8]
- Proximity to truck routes and industrial and manufacturing lands[9]
- Pollution burden[9]
- Proximity to toxic waste release[11]
- Healthy natural environments[12]
- Air, soil, and water quality[13]
- Environmental justice[14]
- Safe, drinkable water[15]
- Clean air, soil, and water and environments free of excessive noise
- Tobacco and smoke-free environments[15]
- Minimized waste, toxics, and greenhouse gas emissions[15]
- Affordable and sustainable energy use[15]
- Environmental Protection Agency environmental indicator[18]
- Environmental conditions[19]
- Environmental design and regulatory controls[22]

Place Cluster (the physical/built environment) *continued*

Look, Feel & Safety:

- Community safety[1, 17]
- Peace[2]
- Public safety[3, 19]
- Desired and necessary amount of police and fire protection[3]
- Little crime[3]
- Street/sidewalk activity and interaction[3]
- Violent crime[4]
- Occupational fatalities[4]
- Non-fatal work-related injuries and illnesses[5]
- Fatal work-related injuries[5]
- Neighborhood safety[9]
- Homicide[9]
- Crime rate index[9,11]
- Exposure to other forms of violence[10]
- Firearms-related death rate[10]
- Homicide-related death rate[10]
- Community and public safety[12]
- Aesthetics[13]
- Clean and well-maintained environment[13]
- Personal/public safety[13]
- Landscaping[13]
- Safety[14]
- Aesthetically pleasing[15]
- Safe communities free of crime and violence[15]
- Accidents and violence[17]
- Perceived safety[18]
- Crime and violence[19]

Arts and Cultural Expression:

- Art[13]
- Culture[13]
- Opportunities for engagement with arts, music, and culture[15]

Housing:

- Shelter[2]
- Access to affordable, high-quality housing[3]
- Housing[6, 7, 8, 13, 16, 17, 20, 21]
- Housing density and diversity[9]
- Housing cost[9]
- Homelessness[9]
- Vacancy rate[11]
- Foreclosure rate[11]
- High cost loan rate[11]
- Housing stock condition[11]
- Affordable safe, quality housing[12]
- Quality housing[14]
- Affordable, high-quality, socially integrated and location-efficient housing[15]
- Affordability of housing[18]
- Quality of housing[19]
- Residential segregation[19]
- Housing stability[19]
- Affordable housing[22]

Getting Around:

- Geographic access to opportunities throughout the region[3]
- Practical opportunities to walk, run, and bicycle[3]
- Convenient location and mobility allowing access to services, employment, and cultural and recreational resources[3]
- Transportation[7, 8, 14, 16]
- Walkability[9]
- Commute[9]
- Zero-vehicle households[9]
- Access to transit[9]
- Injuries and fatalities from collisions with motor vehicles[9]
- Transportation index[9]
- Cost per commute[11]
- Proximity to express bus stops[11]
- Average transit fares[11]
- Percent of commuters who walk[11]
- Access to safe and efficient transportation[12]
- Public transportation, including transit-oriented development[13]
- Complete streets[13]
- Pedestrian walkways and bike trails[13]
- Safe, sustainable, accessible and affordable transportation options[15]
- Local commute of workers [18]
- Transportation options[19]
- Active transport[22]

Equitable Opportunity Cluster (economic/educational environment)

Equitable Opportunity Cluster (economic/educational environment):

- Economic factors[1]
- Economic environment[2, 3]
- Neighborhood economic conditions[3]
- Economic segregation[3]
- Concentrated poverty[3]
- Education and economic environment[5]
- Hardship index[9]
- Economic stability[19]

Education

- Education[1,2,5,6, 7,12,13, 16, 17, 20, 21]
- Quality education[12]
- Schools[3]
- High school graduation[4]
- Academic performance[9]
- Free and reduced price lunches[9]
- Educational attainment[9, 18]
- Maternal education[10]
- High school non-completion[10]
- Student achievement: below reading proficiency (grade 4 and 8), below math proficiency (grade 4 and 8) [10]
- School suspension[10]
- Grade retention[10]
- Math and reading test scores[11]
- Teacher qualification[11]
- Graduation rates[11]
- Job training[12]
- Early childhood development (education and care)[12, 13, 20, 21, 22]
- School climate[14]
- School wellness[14]
- Comprehensive education supports[14]
- Opportunities for high quality and accessible education[15]
- High school graduation rates[19]
- Enrollment in higher education[19]
- School environments that are safe and conducive to learning[19]
- School policies that support health promotion[19]
- Quality primary and secondary education[22]
- Training for work[22]

Living Wages, Local Wealth:

- Employment[1,5,6,7, 9, 16, 17, 19,20, 21]
- Income[1,5,2, 6, 7, 8, 9, 16, 20, 21]
- Work environment[2]
- Public and private investment[3]
- Wealth[3,8]
- Living-wage jobs with health benefits[3]
- Safe workplaces[3]
- Savings, retirement and homeownership[3]
- Children living in poverty[4, 10]
- Children in single parent households[10]
- Student poverty[11]
- Workplace conditions[7]
- Economic development and redevelopment[8,12]
- Poverty[9, 19]
- Children living with unemployed parents[10]
- Access to living wage jobs[11]
- Unemployment rate[11]
- Family wage jobs[12]
- Financial products that build/maintain assets[13]
- Economic opportunity[14]
- Living wage[15]
- Safe and healthy job opportunities for all[15]
- Economic security[17]
- Household income[18]
- Job participation[18]
- Material deprivation[18]
- Working conditions[20, 21]
- Income distribution[20]
- Job security[20]
- Fair employment and decent work
- Healthy living wage[22]

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